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# Development and implementation of an early intervention program for a selected group of kindergarten children.

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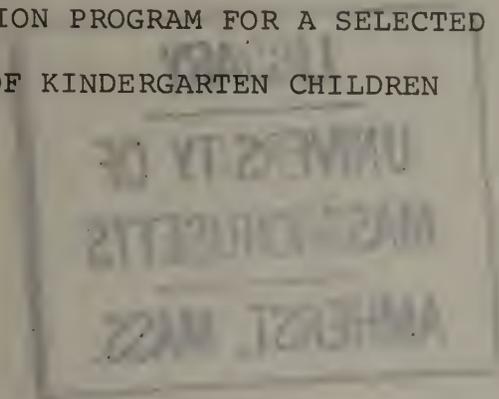


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DEVELOPMENT AND IMPLEMENTATION OF AN EARLY  
INTERVENTION PROGRAM FOR A SELECTED  
GROUP OF KINDERGARTEN CHILDREN



By

MARIANNE ELLIS RUD

A Dissertation Submitted to the Graduate School  
of the University of Massachusetts in partial  
fulfillment of the requirements for  
the degree of

DOCTOR OF EDUCATION

School of Education  
Amherst, Massachusetts

May, 1973

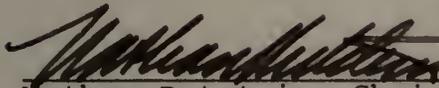
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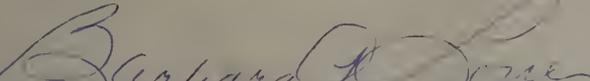
by

Marianne Ellis Rud

Approved as to style and content by:



Nathan Rutstein, Chairman of Committee

  
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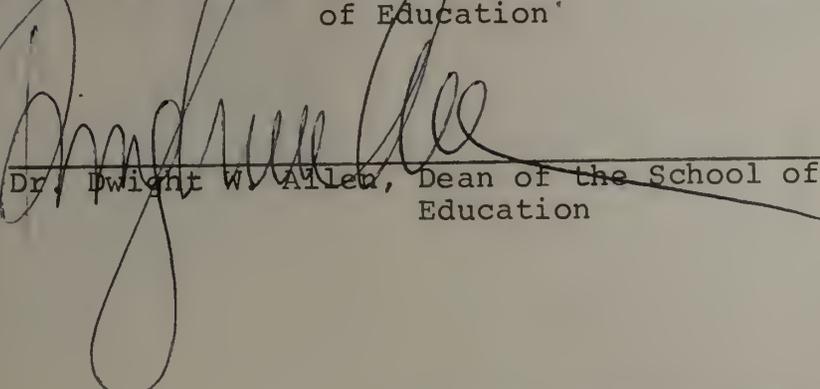
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School of Education  
Amherst, Massachusetts

May, 1973

The Development and Implementation of an Early-Intervention  
Program for a Selected Group of Kindergarten Children

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This paper describes an actual program used to identify kindergarten children with potential language disabilities and to remediate these weaknesses while the children's education was continued in the regular classroom. The school district's reading specialists identified children with inadequate language skills and/or undeveloped motor coordination by administering three tests: a 38-item in-house inventory adapted from the Valett Inventory of Basic Learning Abilities; the Anton Brenner Developmental Gestalt Test of School Readiness, and the Metropolitan Readiness Test. These identifications were supplemented by reports submitted independently by the district's kindergarten teachers and by information gained in interviews with parents. The 70 children thus selected then took part in a physical learning readiness program during their kindergarten year. Results of the program, as evidenced by tests at the end of kindergarten and at the end of the two subsequent years, indicated that substantial improvements in learning were possible. In presenting the genesis and organization of this motor-

language program, the dissertation provides an exhaustive compilation of teaching games organized to parallel the sub-tests of the Illinois Test of Psycholinguistic Abilities. It also presents the writer's observations on the "ego needs" of the teacher who works with children who have learning problems; and in conclusion, summarizes the strengths and weaknesses of the program herein outlined.

For

E.E.E. and G.W.E.

A.G.R.

## PREFACE

The underlying concern of this dissertation is to describe a program for children who do not meet the generally accepted criteria for admission to special education classes, but who, nevertheless, display problems in learning. Currently, programs geared to these children are entitled "Programs in Learning Disabilities" or "A Program for the Learning Disabled." Rather than accentuate the negative, this paper will describe the history, organization, teaching methods and teacher ego needs of a motor-language program for those children who have demonstrated inability to perform certain tasks usually found within the range of capability of children of comparable mental ability and chronological age--for, in short, children with learning problems.

It is hoped that those school systems which implement kindergartens will provide programs for children with potential learning problems within their regular classrooms. Such programs may eliminate negative diagnostic labels and the weakening of pupil-teacher egos, and may save financial expenditures by avoiding duplication of specialized services. Briefly, the plan of the dissertation is as follows:

Chapter I presents an overview emphasizing the need to

provide a program for the child whose academic achievement is significantly below his potential.

Chapter II reviews the literature relating to programs for children with learning disabilities. Six topics are investigated: Organization of programs, the multiple causation theory, early remediation, overlearning, motor development and language development.

Chapter III presents the genesis and organization of a current motor-language program which has evolved throughout the last six years in a rural public school setting.

Chapter IV provides an extensive compilation of teaching games organized to parallel the sub-tests of the Illinois Test of Psycholinguistic Abilities. These games provide a nucleus of teaching approaches for the program.

Chapter V presents this writer's observations on the very special ego needs of the teacher who is asked to work with and inspire children who have learning problems.

Chapter VI describes the strengths and weaknesses of a motor-language program designed to help the child with a learning problem become all he is capable of being.

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## CHAPTER I

## INTRODUCTION

The Problem: Detecting Potential Learning Disabilities in Kindergarten Children. What to do with the 10 per cent or more of pupils whose academic achievement is significantly below their potential has become an increasing concern of educators, psychologists, and physicians--not to mention the pupils themselves and their families.

Evidence is mounting that the causes of learning disabilities are multiple, and that the effectiveness of remedial programs may depend directly upon understanding the nature of the learning difficulty and its sources.

Since the materials and activities presented in school classrooms are so often symbolically based, some educators are inclined to look primarily at the symbolic aspects of children's performance when they plan an instructional program. But in placing so much stress upon symbols and sounds, they may be neglecting an important component of their pupils' learning difficulties: the children's faulty adjustment to their physical surroundings, and their immaturity in language development. The basic difficulty, in short, may be physical and expressive as well as mental. It may derive as much from

inadequate motor and verbal skills as from inadequate symbol manipulation.

"Greater attention to the child's methods of handling the mechanics of our tasks might result in less frustration for us and more learning for the child."<sup>1</sup>

As it happens, a program that takes account of the physical and early-language aspects of learning is fully compatible with the educational philosophy of the Department of Education of the Commonwealth of Massachusetts. That philosophy calls for continuous progress for each child in the commonwealth, coupled with consideration of each child's individual needs. Thus the schools of the state, charged by mandate to provide kindergarten education for all eligible children by September 1, 1973, may be receptive to an innovative program designed to identify and remediate their pupils' multi-causal learning disabilities as they relate to inadequate motor and/or language development.

The Purpose of the Dissertation: The purpose of this dissertation is to describe a program for identifying kindergarteners with potential language disabilities and to outline the results of the program's attempt to remedy these disabilities while the children's education was continued in the regular classroom.

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<sup>1</sup>Newell C. Kephart, "Perceptual-Motor Aspects of Learning Disabilities," Exceptional Children, Vol. 31, No. 4 (December, 1964), 206.

The foundation for such a program was laid by previous federal projects dedicated to meeting children's individual needs. These projects resulted in several new departures, including the formation of a reading department staffed by eight specialists selected by this writer; the establishment of fully-equipped reading centers in all seven buildings of a school district; the institution of summer programs employing an eclectic teaching approach; and the screening of all incoming kindergartners to identify those with potential language disabilities.

The first such screening took place in September 1970, when the District Supervisor of Reading and eight reading specialists in the school system identified 70 of the 200 children entering kindergarten as having weak language skills and/or undeveloped motor coordination. The prime tool used in this identification was a 38-item inventory adapted to local needs from the Valett Inventory of Basic Learning Abilities as described in detail in Chapter III.

In addition, the school district's kindergarten teachers were asked to name children who might benefit from remedial work. Their independent evaluations tended to corroborate the test results. For example, every child whose "Inventory of Basic Learning Abilities" was substandard was also nominated by a teacher as a candidate for remedial reading.

Further information about the 70 children was obtained through interviews with their parents, who were asked to describe all they could recall about their children's growth and

physical activity in their early years. Topics touched upon included duration of pregnancy, weight at birth, age when the child first walked, right- or left-handedness, and ability to jump rope or catch a ball. An expansion of this material is found in Chapter III.

Once the 70 children had been selected for further training, materials for teaching physical learning readiness were prepared by the kindergarten teachers. A reading specialist and the District Supervisor of Reading wrote and compiled teaching methods sequenced to the Illinois Test of Psycholinguistic Abilities. These materials were used by the staff and the physical education teachers in working on physical and language readiness with the 70 selected children during their kindergarten year. Detailed teaching techniques will be found in Chapter IV.

The results of the program, as evidenced by tests administered in May of the children's kindergarten year, and in October and May of the two subsequent years, indicate that early intervention can indeed effect significant improvements in learning.

While general conclusions necessarily are limited by the comparatively small sample of children involved and by discrepancies among the tests themselves, the program did demonstrate that effective remedial work can be done with children in a normal classroom situation. It also pointed the way for further research, including work with larger groups and

follow-up studies designed to ascertain how much of the recorded learning gain is carried through the children's subsequent school years.

The above-described program supplements and advances work done to date in this field, according to research of the literature. The literature indicates that:

1. Educational programs sequenced strictly according to chronological age of pupils are virtually certain to suffer, resulting in learning loss.
2. Learning disabilities have many causes.
3. Remediation should begin early in a child's school career.
4. Teaching methods should be matched to a child's specific developmental needs.
5. A child who fails in his initial school experiences will tend to avoid further reading and learning activities.
6. Weak motor skills lower a child's self-estimate and hinder his participation in the learning process.
7. Overlearning of a skill beyond initial mastery is needed to make the skill automatic and allow attention to be directed elsewhere.
8. Children who have not followed an orderly pattern of language learning manifest disordered or delayed language ability. Research indicates that early childhood experiences have a strong influence upon language development.

Hence a motor-language-development program based upon

early identification of kindergarten children with potential language disabilities would appear an appropriate subject for further investigation and follow-up study.

### Definition of Terms

acuity: the ability to hear sounds accurately.

agitographia: a writing disability characterized by very rapid writing movements and the omission or distortion of letters, words, or parts of words.

agnosia: cannot identify familiar objects through a particular sense organ.

auditory agnosia (nonverbal): cannot recognize the ring of the telephone.

auditory-verbal agnosia: can hear what is said, but cannot comprehend the meaning.

color agnosia: cannot name and sort colors.

geometric-form agnosia: cannot make correct-form discrimination.

picture agnosia: cannot perceive pictures correctly.

tactile agnosia: cannot recognize objects by touch.

tactile-verbal agnosia: cannot trace a word or read braille.

visual or optic agnosia: cannot recognize objects, persons, or places by sight.

agrammalogia: inability to recall the structure of sentences.  
Same as agrammatism.

agraphia: inability to recall the kinesthetic patterns that go into writing, i.e., cannot relate the mental images of words to the motor movements necessary for writing them.

alexia: loss of ability to receive, associate and understand visual language symbols as referents to real objects and experiences, i.e., a severe reading disability usually considered the by-product of brain dysfunction.

angular gyrus: area of the brain (left hemisphere) which governs some speech functions.

automatization of complex functions: the performance of interconnected acts without conscious control.

anoxia: deficiency or lack of oxygen.

aphasia: loss of ability to comprehend, manipulate or express words in speech, writing or signs. Usually associated with injury or disease in brain centers controlling such processes.

auditory aphasia: cannot comprehend spoken words; same as word deafness and receptive aphasia.

expressive aphasia: cannot remember the pattern of movements required to speak words even though one knows what he wants to say.

formulation aphasia: cannot properly formulate sentences; confusion occurs in relationships and tenses rather than in words themselves (e.g., Betty give I flowers).

nominal aphasia: cannot recall the names of objects.

paraphasia: substitution of inappropriate words which maintain a structural relationship to words replaced; when parts of words are substituted the result is garbled speech; severe paraphasia is sometimes called jargon aphasia.

articulation: the ability to speak distinctly without noticeable pronunciation problems.

asymbolia: loss of ability to use or understand symbols, such as those used in mathematics, chemistry, music, etc.

auding: listening, recognizing, and interpreting spoken language; not merely hearing and responding to sounds.

auditory: of or related to hearing sounds.

auditory association: the ability to respond in a meaningful way to sounds or spoken words.

auditory discrimination: ability to identify and accurately choose between sounds of different frequency (pitch), intensity (volume) and pattern; includes the ability to distinguish one speech sound from another.

auditory imperception: failure to understand oral verbal communication and failure to understand the significance of familiar sounds.

auditory perception: ability to receive and understand sounds and their meaning.

body image: awareness of one's own body (conscious mental picture or subconscious knowledge of one's position in space and time); includes the impressions one receives from internal signals as well as feedback resulting from contact with others; how one thinks he looks is referred to as body concept.

classification: the ability to establish logical relationships among classes of objects.

closure: the process of achieving completion in behavior or mental act; the tendency to stabilize, close, or complete a situation.

cognitive: the ability to apprehend, know or perceive.

cognitive style: an individual's characteristic approach to problem solving and cognitive tasks (e.g., some persons tend to be analytical, seeing parts, while others tend to be wholistic, seeing things in their entirety with little awareness of components).

comprehension: the ability to grasp an idea mentally and to understand it fully; the ability to reason in an everyday situation.

compulsiveness: insistence on performing or doing things in habitual ways.

concept: the manipulation of previously stored impressions combining elements into the idea of one object.

coordination: synchronized movement patterns.

cross-lateral movement: the ability to produce simultaneous movements of different limbs on opposite sides of the body or the movement of the same limbs but in opposite directions.

crossing-over: crossing the midline or center line of the body with body extremities or with eyes.

decoding: the process involving the child's ability to receive sensory impression--the ability to derive meaning from visual and auditory symbols.

developmental needs: the requirements of a human being in terms of his physiological stage of growth.

differentiation: the ability to sort out and use visual and auditory stimuli in a specific and controlled manner.

directionality: the ability to develop an internal awareness of directions projected into space; what the child sees has a definite position relative to his position.

discrimination: the process of detecting differences.

auditory discrimination: sometimes referred to as ear training, involves identifying sounds with respect to their likenesses and differences.

visual discrimination: discriminating between different objects, forms, and/or letter symbols.

disinhibition: the removal of a conditioned inhibition (in classical studies an animal might be inhibited from making normal responses to food; retraining would remove the inhibition); educators link the term closely with impulsivity; many use the term to mean lack of ability to restrain oneself from responding to distracting stimuli; thus, a child may pursue his impulse to look out the window, go to another child, vocalize, run to the door, and many others, in spite of the situation or circumstances; in other words, he would not inhibit these responses from within.

dissociation: the inability to see things as a whole, as a unity, or as a gestalt; the tendency to respond to a stimulus in terms of parts or segments; also difficulty in bringing two or more parts together into a relationship to complete a whole.

distractibility: the tendency for one's attention to be easily drawn to extraneous stimuli or to focus on minor details with a lack of attention to major aspects; often used synonymously with short attention span although the latter suggests an inability to concentrate on one thing for very long even without distractors.

dominance: preferred side determined by cortical development.

dysarthria: defect in articulation stammering.

dysgraphia: partial inability to express ideas by means of writing or written symbols. Usually associated with brain dysfunction.

dyslalia: refers to speech impairment due to defects in the organs of speech; not the same as slovenly speech.

dyslexia: partial inability to read, or to understand what one reads silently or aloud; condition is usually, but not always, associated with brain impairment (some authors

refer to genetic dyslexia, affective dyslexia, experiential dyslexia, congenital dyslexia, etc.).

dysnomia: the condition when an individual knows the word he is trying to recall, recognizes it when said for him, but is unable to recall it at will.

eclectic approach: a way of using what appears to be the best from diverse sources, systems, or styles.

emotional blocking: inability to think or make satisfactory responses due to excessive emotion, usually related to fear.

encoding: the process involving the child's ability to express himself--the ability to use verbal or manual symbols to transmit an idea or concept.

etiology: the study of causes and origins, especially of a disease.

expressive language: the ability to develop skills of expressing thoughts for others in speech and in writing.

eye-hand coordination: the ability to coordinate hand movements with visual perceptual and visual motor activities.

figure-ground perception: the ability to perceive objects in the background and foreground and separate them in a meaningful way.

fine motor skills: the ability to coordinate precise control of delicate muscle systems.

form perception: the ability to conceive a given form with all of its parts; to break it down into individual parts or bring it together as a whole unit.

frustration level: the level at which the child is not capable of performing or completely breaks down.

Gerstmann's syndrome: a combination of disabilities including finger agnosia, right-left disorientation, acalculia and agraphia.

gestalts: term used to express any unified whole whose properties cannot be derived by adding the parts and their relationships; the something which is more than the sum of its parts (e.g., wheelbarrow is more than just a wheel + handles + basket).

gross motor skills: the ability to achieve a sense of balance and direction, to develop large muscle control and freedom, and to prepare for movement within the world.

handedness: the dominant hand.

haptic: the integration of tactile (skin sense) and kinesthetic (muscle sense).

hemianopia: the condition where one has only one half of the field of vision in one or both eyes.

hemispherical dominance: refers to the fact that one cerebral hemisphere generally leads the other in control of body movement, resulting in the preferred use of left or right (laterality).

hyperactivity - excessive activity: the individual seems to have a surplus of energy.

imperception: lack of ability to interpret sensory information correctly; a cognitive impairment rather than a sensory impairment.

integration: the organization of present and past stimuli into a complete response.

kinesthetic: pertaining to the sense by which muscular motion, position, or weight are perceived.

kinesthetic method: a method of treating reading disability by having pupils trace the outline of words or in other ways systematically incorporate muscle movement to supplement visual and auditory stimuli.

laterality: the ability to develop an internal awareness of right and left sides and the ability to use each separately or both sides together as the task demands.

locomotion: the ability to develop skills involving movements of the body through space.

learning disability: that condition in which a child with normal or potentially normal intelligence, who displays no gross motor, emotional or neurological defects, cannot master the basic skills of elementary school.

learning systems: the different modes through which learning occurs, such as visual, auditory, haptic, kinesthetic, tactile, etc., or any combination of the above.

longitudinal study: a plan to be carried out over a progressive period of time.

maturational lag: the concept of differential development of areas of the brain and of personality which mature according to recognized patterns longitudinally; a lag signifies irregularity in this pattern without a structural defect, deficiency, or loss.

memory span: the number of related or unrelated items that can be recalled immediately after presentation.

midline: vertical center line of the body; children develop from the midline of the body out, and from the head to the feet.

mixed cerebral dominance: the theory that language disorders may be due wholly or partly to the fact that one cerebral hemisphere does not consistently lead the other in the control of bodily movement (i.e., hemispheric dominance has not been adequately established).

motility: body motion.

neuromuscular: the relationship of the nerves to the muscles; development depends upon the quality and quantity of use.

nonlocomotor: movement in place, i.e., bending, pushing, etc.

orientation: the ability to locate oneself in relation to one's surroundings or in relation to time; the ability to stabilize the environment so that it remains more or less constant.

overlearning: a process whereby regular practice and less intensive training establish an idea previously taught.

patterning: sequential neuromuscular development.

perception: the interpretation of sensory information; the mechanism by which the intellect recognizes and makes sense out of sensory stimulation; the accurate mental association of present stimuli with memories of past experiences.

perception of position in space: the accurate interpretation of an object as being behind, before, above, below, or to the side.

perception of spatial relationships: comprehending the position of two or more objects in relation to oneself and in relation to each other.

perceptual constancy: the accurate interpretation of

objects as being the same in spite of their being sensed in various ways (i.e., being turned, partially concealed, etc.).

figure-ground perception: the accurate selection from the mass of incoming stimuli, which should be the center of attention; these selected stimuli form the figure in the person's perceptual field, while the majority of stimuli form a dimly perceived ground; the figure is that part of the field of perception that is the center of the observer's attention; a disturbance in figure-ground may result because the individual confuses figure and background, reverses them, or is unable to see any difference between figure and ground.

perceptual motor: the process which includes sensory decoding and motor or muscular encoding.

perseveration: the child is unable to shift his attention to new stimuli; he is repetitious.

phobic response: a fearful reaction.

position in space: the ability to perceive the relationship between an object and the observer; to perceive an object to be behind, before, above, below or to the side of.

programming approaches:

etiologiical: programming concerned with basic physiological and psychological causes.

diagnostic-remedial: programming concerned with in-depth diagnosis of learning problems and how and what to teach as a result of diagnosis.

task-analysis: programming based on a behavioristic approach in which emphasis is placed on analyzing the tasks to be taught in sequential steps.

rating scale: an instrument used to systematically record observations of a child's behavior.

readiness: specific skills expected of a child in order to successfully perform a given task.

reauditorization: the ability to recall the name or sounds of visual symbols (letters); some individuals remember what letters look like, but not which sound they make.

recall: to summon back to awareness of, or concern with, the subject or situation at hand.

receptive language: the ability to develop skills of listening beyond the skill of auditory acuity.

space: the area immediately surrounding the child in which he moves.

spatial orientation: the internal awareness of direction projected into space; it has a definite position relative to the child's position.

specific language disability: usually the term is applied to those who have found it very difficult to learn to read and spell, but who are otherwise intelligent, and usually learn arithmetic more readily; more recently any language deficit, oral or receptive.

strephosymbolia: twisted symbols - a reversal of symbols observed in the reading and writing performance of children with learning disabilities (e.g., was for saw).

structuring: the arrangement of activities so that they are easily performed and meaningful to the child.

tactile: the ability to identify objects by touching and feeling.

visual: relating to the use of the eyes.

## CHAPTER II

## REVIEW OF THE LITERATURE

Organization of Programs: The literature dealing with the organization of remedial programs indicates that a child with a learning disability usually demonstrates a "discrepancy between expected and actual achievement in one or more educational areas and significant deficits in terms of accepted diagnostic procedures in education and psychology."<sup>2</sup>

In an evaluation of the achievement of a sample of neurologically handicapped pupils who participated in special classes, Lambert and Grossman conclude:

. . . the education of these pupils can successfully proceed in classes for children with a variety of learning and behavior problems. In addition, these data support the conclusion that a special educational category for neurologically handicapped pupils separated from other pupils with school difficulties is not necessary for the successful remediation of the learning and behavior problems of the pupils in school.<sup>3</sup>

Since no significant information is given regarding

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<sup>2</sup>Charles A. Ullmann, "Measures of Learning Disability for Different Purposes," Journal of Learning Disabilities, Vol. 4, No. 4 (April, 1971), p. 188.

<sup>3</sup>Nadine Lambert and Herbert Grossman, "Problems in Determining the Etiology of Learning and Behavior Handicaps," monograph (Sacramento: California State Department of Education, 1964).

this remedial program other than the use of small classes, it is probable that the teacher in the instance cited was able to individualize her instruction for different children. Conclusive answers are difficult to obtain. The influence of individualized teaching patterns upon pupil learning cannot be adequately examined without taking into account the issue of pupil-teacher interaction.

Intensive pupil-teacher interaction is particularly desirable at the kindergarten level, where so many children differ from each other in important respects. One way to maximize this interaction is through tutoring services provided by specialists and paraprofessionals.

In addition to emphasizing self-help and socialization, such tutoring services may utilize every available opportunity to develop the intellectual abilities usually deficient in young children with a language disability. For those children needing special help for special deficiencies, individual prescriptions may be written and taught on a one-to-one basis.

Diagnosis, observation, special services, and individual prescriptions should emphasize the following areas: communications, basic skills, and emotional adjustment.

In general, children with learning disabilities are placed in regular grades until they have demonstrated failure for two or three years. When it becomes evident that the children are "exceptional," the parents may be told that their children have not matured enough to profit from the kindergarten.

The parents are advised to keep their children home until they have matured. Like most children, these children are sent to school and placed in the first grade at the age of six. In many instances, their slow mental development is not recognized or accepted until they fail. They may remain under failure conditions until they create enough difficulty to require special attention by the school officials.<sup>4</sup>

Often the learning and developmental problems of handicapped children are difficult to diagnose. Some children have several handicaps for which special plans must be made if their schooling is to be successful. As a basis for such planning, there is great advantage in early identification of children who have mental, emotional and physical impairments. In order to detect such handicaps, a program should be established to evaluate vision, hearing, speech, physical, social, and intellectual development.<sup>5</sup>

In addition to the careful attention given to the children while they are learning in the group situation, it is sometimes necessary to offer special help on an individual basis to children needing clinical educational treatment. Diagnosis and observation of these children should determine their areas of weakness. Clinical education means special training

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<sup>4</sup>Samuel A. Kirk and G. Orville Johnson, Educating the Retarded Child, Houghton Mifflin Company, New York, 1951, Ch. 1.

<sup>5</sup>Romaine P. Machie, "Opportunities for Education of the Handicapped Under Title I Public Law 89-10," Exceptional Children (May, 1966).

in the area in which the child has potentialities and needs assistance in an individual or group situation.

There are certain general principles that apply to the teaching of any kindergartener with a learning problem:

1. It is important to begin at a level at which he can experience success. If a child begins to fail and appears anxious, the teacher should drop back to the level at which he experiences success and proceed from that point. Children with learning problems almost always have had a great deal of failure experience and must be taught that they can be successful.

2. The teacher's self-concept or ego estimate will, in part, determine the success of a program.

3. Training should begin with activities involving gross skills and proceed to those requiring finer skills.

4. Learning proceeds from the concrete to the abstract.

5. The development of language ability and of symbolic skills should proceed simultaneously.

6. Successful kindergarten teaching will depend upon viewing parents as major educational and therapeutic agents.

Parent aides are used in many projects. It is felt that hiring local people serves to free the teacher from many of the routine, non-instructional tasks of the classroom, and to help parents and those with whom they associate in the community to understand what the school is doing.

The family situation is significant for the child's development. It is in the family that the child first acquires a

culture and develops his unique approach to the tasks of life. It is here that he learns the primary social skills. The family affects the child's feelings about personal adequacy and provides the first models for his behavior. Parents are the first teachers: The child learns not only from what they say but from observing their behavior. Parents should have a vital part in the kindergarten program so that parents and teachers can work together for the good of the children.<sup>6</sup>

Parents must be sufficiently involved in the kindergarten to understand its importance for their children and to give support and reinforcement to the tasks of the school. Parents should be so committed to the school that they are willing to do everything possible to insure the continuity of the child's school experiences. It would be well for parents to learn appropriate communication patterns so that they can do much of this on their own with their own children. When parents can provide stimulating home environments for the development of their children, then one may foresee the time when special nursery school-kindergartens will not be so widely needed. For this reason, every effort should be made to have parents serve as part-time assistants and observers in these schools.<sup>7</sup>

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<sup>6</sup>Ira J. Gordon, "Stimulation Via Parent Education," Children, XVI, No. 2 (March-April, 1969), 57-59.

<sup>7</sup>R. A. Klaus and S. W. Gray, "The Early Training Project for Disadvantaged Children," monograph (Society for Research in Child Development), XXXIII, No. 4, 1968.

Securing the cooperation of parents takes skill, for among these parents are some who themselves did not do well in school and dropped out; many now fear or resent the school. Some work long hours outside the home and have little energy left for their families' school interests. They venture out timidly and at great effort, but are basically appreciative of opportunities to talk among themselves and with the teacher about their children. Home visits to relate the school and the home, to hold or facilitate individual or group conferences with parents, to help plan programs and opportunities for the education of parents, and to help parents understand and accept the handicaps of their children are a necessity for those working with children who have a language disability. The parents of multiply-handicapped children can receive guidance and counseling from a single source. But, most important, the child can be given improved service based upon a sound assessment of his handicaps and potentialities.<sup>8</sup>

Remedying all deficits of the language-disabled child during the short period of time spent in kindergarten is not a simple task and is unrealistic. Everyone concerned, including parents, must make an intensive attack upon those shortcomings most crucial to classroom performance.

School administrators often stress the need to involve

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<sup>8</sup>Erich Schopler and Julie Loftin, "Thinking Disorders in Parents of Young Psychotic Children," Journal of Abnormal Psychology, LXXIV (1969), 281-287.

the parents of the learning-disabled child in the school program. Without parental cooperation, the work of the school can be difficult. Schools with high parent involvement attempt to fit programs to parental schedules, constantly keeping the parents informed of school activities, and in some cases even providing baby sitting services at school.<sup>9</sup>

Many school programs require participation in a parent program as a requisite to the children's attendance in kindergarten. By taking advantage of most parents' desire to do anything possible to help their children (which includes, of course, sending the children to school), the school program has a lever with which to influence parents as well as children. In one school-parent education project, the purpose of the parent meetings is to teach parents about language, and ways in which they can help to improve their children's language. The task, as many school people see it, is to get the parents active in the program and thus increase their total interest in the school's work. Parents are educated to the idea that long-term programs, not short-term programs, are effective.

Lichtenberg and Norton summarize the literature on the efficacy of long-term programs most definitively.

Intervention programs are able to provide only a basis for future progress in schools and home that can build upon that early intervention. It would seem more appropriate to the sense of these reports to devote efforts

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<sup>9</sup>Schopler and Loftin, "Thinking Disorders."

toward showing the necessity for broad and profound changes on a long-term basis for these children rather than to expend much energy in pushing forward programs that promise what they cannot deliver. It may be feasible to gain financing for a demonstration program or even a widespread program of intervention for a short period of time in the lives of some children. But such programs are wasteful insofar as they leave the long term unattended. They are actually harmful in that they pretend to achievements that they cannot in fact attain; and they therefore call forth reactions that are detrimental to social programs that might be effective. One cannot be a little bit dead, a little bit pregnant, or almost to the moon. Similarly, short-term programs are as nothing in the life span of those most in need of help.<sup>10</sup>

Planning for any program will reflect an understanding of the multi-causal nature of learning problems.

Multiple causation: The pupil-parent-teacher interaction described in the foregoing section is more constructive when teachers are aware that a learning disability may stem from several sources, rather than merely one. Children exhibiting similar performance difficulties in specific educational areas may have derived these difficulties from widely varying backgrounds and causes.

For example, letter or word reversals in one child's reading may be so closely associated with neurotic conflicts that a specialized program will accomplish little until the emotional problems are resolved. Yet for another child, similar reading patterns may reflect perceptual-motor difficulties on a developmental basis, and no amount of treating emotional

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<sup>10</sup>Philip Lichtenberg and Dolores Norton, Cognitive and Mental Development in the First Five Years of Life (Washington, D. C.: National Institute of Mental Health), 1972, 93-94.

conflicts will effect appreciably the acquisition of more efficient reading skills.<sup>11</sup> Here, more specific training and practice in perceptual-cognitive organization may be helpful. It is imperative, at this adolescent stage of knowledge regarding learning problems, to avoid a commitment to unitary causation and unitary remediation of the many problems gathered together under the single rubric, "learning disabilities."

Since symbolic thinking is an internalized system which need not have an outward manifestation, the typical kindergarten setting may offer a cover-up for children handicapped in their cognitive functioning. The teacher may tell the boys to take large steps across the room and the girls to take small steps. The child who does not comprehend can still perform by imitation. Even if the deficit is detected by the teacher, a group situation limits what can be done for the child. Individual prescriptions taught on a one-to-one basis can attempt to correct this deficit.

There are many factors which affect a child's lack of readiness for school. In many cases, because of parent frustrations, unfavorable parent-child relationships have developed. Also, the children in the neighborhood may have rejected the learning-disabled child because of his inability to participate adequately in play with other children of his age. If efforts are not made to overcome the stunting effects of his

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<sup>11</sup>Katrina de Hirsch, Predicting Reading Failure (New York: Harper and Row, 1966), pp. 52-55.

surroundings, the child with a specific language disability is likely to experience failure in the present elementary and middle school program. If he is to survive in school, he must develop his basic skills to the highest possible level, including the basic skills of communication.<sup>12</sup>

The educationally disadvantaged child has a variety of learning difficulties. Research shows that the outstanding difficulty is in abstract thinking, because the child lacks an internal symbolic system by which to organize and codify his world. Disadvantaged children do not have the opportunities for development provided by the "typical" middle-income environment. Since the opportunities are not available, these weaknesses in abstract thinking become entrenched.<sup>13</sup>

If legal provisions are made so that early discovery can be implemented, then early treatment and related services will probably mean fewer children in special education classes. This will also mean that special education will be in a better position to serve "exceptional" children in the regular classroom.<sup>14</sup>

Scattered evidence indicates that children with learning

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<sup>12</sup>Richard Corbin and Muriel Crosby, "Language Problems for the Disadvantaged," monograph (Chicago: National Council of Teachers of English, 1965).

<sup>13</sup>Barbara Bateman, "Learning Disorders," Review of Educational Research, XXXVI, No. 1 (February, 1966), 95.

<sup>14</sup>Donald D. Hammill and Lafayette S. Powell, "A Screening Device for Early Detection of Emotional Disturbance in a Public School Setting," Exceptional Children, XXXVII, No. 2 (May, 1967), 648.

Scattered evidence indicates that children with learning disabilities might have made better psychological and social adjustments if a kindergarten program with special education activities had been instituted before the children were permitted to face failure during their initial school career. A kindergarten can offer educationally disadvantaged children experiences which their low socio-economic environment cannot provide, as well as intensive practice in perceptual discrimination, conceptualization and expression. The kindergarten may also provide direct instruction designed to bring the educationally disadvantaged to the level of average children over a period of time.<sup>15</sup>

The "exceptional" child may become painfully aware that he is not living up to his parents' expectations, and that other children his size do not care to play with him. As a consequence, he may shrink from social intercourse, with further crippling effects upon his speech development, his self-confidence, his personality adjustment. It is possible that many children who are unable to adjust to our society today would have been able to make an adequate adjustment had they been given an intensive program of special pre-school education. Pre-school and kindergarten experiences help children

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<sup>15</sup>Michael P. O'Donnell, "The Effectiveness of an Informal Conceptual-Language Program in Developing Reading Readiness in the Kindergarten," Language, Reading, and the Communication Process (Newark, Del. International Reading Association, 1971), 143-148.

cope with school demands.<sup>16</sup>

Gertrude Wyatt reports that:

From four to nine percent of elementary school children with normal to superior intelligence exhibit symptoms of developmental speech and language disorders, such as stuttering (or stammering), severely defective articulation in the absence of hearing loss; and finally the syndrome of multiple perceptual, motor, and language disorder. These developmental deviations or disorders interfere markedly with early school adaptation. If no adequate help is forthcoming, the symptoms may increase in severity and interfere with the achievement and social adaptation of the child concerned.<sup>17</sup>

Early Remediation: Teachers who are aware of the many different causes of learning disabilities usually are receptive to the literature advocating early remediation of learning problems. It is a truism in the field of remedial education that the earlier one institutes remedial work, the more confident one can be that the learning difficulty will be overcome. Pushing this truism a step further, in dealing with those children whose perceptual, cognitive, and motivational resources are too underdeveloped for them to automatize complex functions, educational demands may be delayed until such time as natural maturational processes occur or specialized pre-academic experiences are introduced to aid the formation of such inner resources.

De Hirsch states:

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<sup>16</sup>Robert Hess and Virginia Shipman, "Early Experience and the Socialization of Cognitive Modes in Children," Child Development, XXXVI (December, 1965), 869-886.

<sup>17</sup>Gertrude L. Wyatt, "Speech and Language Disorders in Pre-School Children: A Preventive Approach," Pediatrics, XXXVI, No. 4 (October, 1965), 36.

Maturation unfolds in continuous interaction with stimulation. Thus, the educator cannot afford to wait passively for maturation to occur, as was done in the 1920's, nor should he expose the child to a kind of instruction that is clearly inappropriate at his particular stage of growth. What is desirable is to match teaching methods to the child's specific developmental needs.<sup>18</sup>

Money and Franseth and Koury, among others, emphasize the differential rate of development of cognitive and perceptual functions of different children and of the several functions within a single child. The inference that can be drawn from their work is that educational programs sequenced strictly according to chronological age are virtually certain to result in educational loss for many children. Again, De Hirsch states:

The basic perceptuo-motor functions that underlie reading may be harder to train at the end of the third grade than they are earlier, during "critical" developmental stages. By the end of the third grade, moreover, emotional problems and phobic responses resulting from continued failure may have so complicated the original difficulties that they may no longer be reversible.<sup>19</sup>

Specialists in remedial education generally agree that not only is it desirable to initiate remediation before the third grade, but that between the third and sixth grade, remediation is substantially more laborious and costly. For when the deficit is detected early, the child can be aided in developing the type of behavior required by his environment. A series of activities and experiences provided the child in a one-to-one relationship make it possible for him to complete

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<sup>18</sup>De Hirsch, Predicting Reading Failure, p. 85.

<sup>19</sup>Ibid., pp. 91-92.

his tasks successfully.<sup>20</sup> Careful choice of a varied and broad range of activities helps keep interest and motivation high. Persistence is nurtured when the child experiences success.

Katrina de Hirsch and her associates have demonstrated "that valid prediction of reading, spelling and writing achievement can be made by evaluating children's perceptual motor and language behavior at early years," and that many "intelligent but educationally disabled children . . . would not have required help had their difficulties been recognized at early ages. Early identification would have obviated the need for later remedial measures."<sup>21</sup>

Overlearning: Another argument for early training is the need for overlearning if differentiation of symbols is to be effected automatically. A child who has experienced failure and discouragement initially will tend to avoid reading, thus reducing the opportunity for repeated practice and for overlearning. The achievement of automatism with regard to written symbols and reading skill is therefore impaired and its further development stalemated. In a study by Whiting, which compared "dyslexic" children with others showing no reading difficulty, the latter group performed significantly better on simple

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<sup>20</sup>Newell C. Kephart, The Slow Learner in the Classroom, (Columbus, Ohio: Charles Merrill Publishing Co., 1960), pp. 3-17.

<sup>21</sup>De Hirsch, Predicting Reading Failure, p. 92

repetitive tasks such as naming colors on cards or pictures of objects.<sup>22</sup>

Kephart cautions:

During initial learning, great care must be taken to see that the child absorbs the fundamentals of the skill on which he is working. During this period, progress is rapid and performance improves markedly.

Following this initial spurt, however, there is a long period in which practice and repeated, less intensive training are required. This latter period serves to establish and fix the learning initiated in the former period. The period of "overlearning" of the skill is extremely important since the child must internalize the specific skills which he has learned and come to use them continuously in all the activities in which he engages. During this latter period, left to his own devices, he is apt to slip back into the poor habits which he had established formerly. Therefore, it is necessary that training be continued for a considerable period of time after the initial skills have been learned. During this long period of "overlearning," however, group activities and activities involving less of the teacher's time are possible.<sup>23</sup>

Higher-order skills and accomplishments depend upon automatization of the lower-order component functions. Collwell and Bensberg point out that automatization in walking, speech, the arts, sports, and so on, requires considerable practice--that is, overlearning beyond initial mastery until a skill comes into play automatically. Before this point is reached, recall, motility and perceiving are active, conscious processes requiring expenditure of attentional capacity. More

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<sup>22</sup>David Whiting, "Automatization in Dyslexic and Normal Children," monograph (Wellesley, Mass.: PERC, Inc., 1961).

<sup>23</sup>Kephart, The Slow Learner.

integrated, higher-order organizations cannot be carried out efficiently.<sup>24</sup>

Balance is one of the earliest skills which a child develops. Until this becomes automatic, the child must exert effort and concentration on the process of movement. Development of balance frees him to concentrate on other skills. Walking-beam activities develop balance as well as an awareness of the body's relation to space and of directionality.<sup>25</sup> In addition to this, an "obstacle course" improvised from tables and chairs provides the child with an opportunity to learn about the amount of space his body requires and to discover such concepts as over, under, around, and between as he maneuvers his body under a chair, over a table, between two chairs.

Hartmann observes that perception and thought also become automatized with practice. He writes:

In automatisms we apply meanings which already exist, which we need not create anew at every occasion, and consequently the means-end relations in some areas are, so to speak, not subject to argument. In the case of physiological automatisms, it is known that increased practise decreases their metabolic requirements. These apparatuses achieve what we expect of any apparatus: they facilitate the transformation and the saving of energy. The success of many complicated achievements in central mental regions depends on automatizations.<sup>26</sup>

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<sup>24</sup>Charles N. Collwell and George N. Bensberg, "Teaching Self-Help Activities by Behavior Shaping Techniques," American Journal of Mental Deficiency, XXXV, No. 69 (1965), 674-679.

<sup>25</sup>G. N. Getman, Elmer Kane, Marvin R. Halgren, and Gordon W. McKee, Developing Learning Readiness: Teacher's Manual (Paoli, N. J.: Webster Division, McGraw Hill Company, 1968).

<sup>26</sup>Heinz Hartmann, "Concept Formation," The Psychoanalytic Study of the Child, XIV (New York: International Universities Press, 1964), p. 11.

Collwell and Bensberg note that automatization is most effective if the stimuli controlling behavior are internalized within the person. To the question why such a high degree of learning is necessary for automatization, they answer that the dependence on feedback may provide part of the answer, since a stimulus is never quite identical on successive repetitions. Overlearning is required for mastery of motor skills.<sup>27</sup>

Motor Development: When programs are initiated early, motor development can be thoroughly trained, thus positively developing the ego functions of mastery, integration, reality testing, and impulse control. In relation to motor skills, Rappaport writes:

Particularly when motility is inadequate, the child is deprived of the pure pleasure of functioning and of being able to master new functions, interfering with the natural development of an early sense of self-esteem. Inadequacy of the motor apparatus is also a roadblock to the development of other ego functions. It interferes with exploration of the environment and differentiation between self and the external world. Inadequacy of fine visual-motor coordination also deprives the child of added information about the environment by which to test reality and to widen his scope and interests and pleasures. Thus, the inadequate motor apparatus interferes with the development of the ego functions of mastery, integration, reality testing, and impulse control.<sup>28</sup>

What Rappaport has written about the brain-damage syndrome is applicable to those children who have suffered no discernible insult to the neurological system, but for whom certain developmental apparatuses have not been adequately formed.

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<sup>27</sup>Collwell and Bensberg, "Teaching Self-Help Activities."

<sup>28</sup>Stanley R. Rappaport, "Behavior Disorder and Ego Development," The Psychoanalytic Study of the Child (New York: International Universities Press, 1961), XVI, p. 449.

Observation of kindergarten children may alert the teacher to this problem. The characteristics of children who need motor training include the following: "little apparent physical malformation, but lack of control; emotional involvement as a result of repeated failure to achieve, and striking patterns of misbehavior; and wide gaps in developmental patterns."<sup>29</sup>

Cruickshank reports:

It may be observed with great frequency that, in general, the children most lacking in elementary physical skills are also the children most handicapped in reading, writing, and arithmetic. As motor skills improve, children relax and seem more competent in academic areas as well.<sup>30</sup>

Johnson and Myklebust contribute several important observations relating to motor abilities. First, "Children with learning disabilities are characterized as having minor incoordination often affecting acquisition of skills such as hopping, skipping, bicycle riding, buttoning, and tying shoe laces. Sitting and walking may be delayed." Second, "Precise definition is complicated by the lack of well-standardized tests of motor ability. The educator necessarily must use clinical observations to note the incoordinations and disturbances of motor function that typify children with learning disabilities." Third, and very important to the kindergarten

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<sup>29</sup>William Cruickshank, A Teaching Method for Brain-Injured and Hyperactive Children (Syracuse, N. Y.: Syracuse University Press, 1966), p. 186.

<sup>30</sup>Ibid., p. 187.

program, "Motor ability is a critical indicator of maturational processes."<sup>31</sup>

Kephart writes:

Many children are coming into our schools lacking in basic perceptual-motor skills. As a result of this basic lack, they are less able to participate in the formal activities which are arranged for them and they are less able to learn from these activities. They become slow learners in the classroom.<sup>32</sup>

If the child is to develop to his maximum potential, it is important that he be encouraged to develop adequate motor skills. On these will be laid the foundations for other learning. Children have always learned through exploration, but they have fewer opportunities for free body movement in today's urban-suburban communities. School can provide a setting for such opportunities. It is important for all children--and particularly the brain-damaged and slow achievers--to use the body as a frame of reference in forming perceptual judgments.<sup>33</sup>

Improvement in general coordination and the ability to manipulate one's own body in relation to space are basic skills which precede other learning. General coordination practice gives children specific experience in body movement. Kephart stresses the need to develop the child's neuro-muscular system as a part of learning readiness. Activities designed to improve

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<sup>31</sup>Doris J. Johnson and Helmer R. Myklebust, Learning Disabilities (New York: Grune and Stratton, 1968), pp. 15-16.

<sup>32</sup>Kephart, The Slow Learner, p. 16.

<sup>33</sup>Lorena Porter, "Movement Education for Children," monograph (Washington, D. C.: N.E.A. Center, 1969).

general coordination include a series of exercises such as head roll, bilateral arm movements, bilateral leg movements and a combination of these.<sup>34</sup>

One of the first concepts to evolve in the young child is that of body image. If the child, because of brain injury or a lack of experience, has not developed a sound concept of body image, this must be carefully taught. Body image is an awareness of the body including the various body parts and their positions, and a knowledge of how much space the body occupies. The child first learns to identify his body parts, then he labels the parts as he touches them. He then develops a concept of his body in relation to his surroundings.<sup>35</sup>

As the child develops a concept of body image, he is developing laterality and directionality. Laterality is an internal sense of one's symmetry, such as left- and right-sidedness. Directionality is the projection of laterality into external space. It makes the child aware of such concepts as right and left, in front of and behind, and up and down. Laterality is the result of learning; it is a visual and kinesthetic awareness of how one fills the space within his own skin.<sup>36</sup> It must be emphasized that laterality is not the same as handedness or the naming of right and left; it is rather an

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<sup>34</sup>Kephart, The Slow Learner, p. 37.

<sup>35</sup>Ibid., pp. 129-131.

<sup>36</sup>Ibid., p. 233.

awareness of the sides of the body and the difference between them. Only after the child has developed the concept within can he project it to the world around him.

As the child develops laterality within and becomes aware of the right and left sides of his body, he can project these concepts into external space. Directions outside ourselves have meaning only in relation to directions within ourselves.

To maintain any posture, forces exerted by muscles on one side of the body must balance the forces exerted on the other side. The zero point of this balance is the midline of the body. The midline must be at right angles to the earth; when the midline varies from the perpendicular position, the person is off balance. The child moves in a bilateral pattern, and he must come to realize that a movement which is an outside-in pattern on one side of the body becomes an inside-out pattern as the midline is crossed.<sup>37</sup>

It is necessary to emphasize that the portions of a motor training program cannot be sorted out and assigned to the development of only one concept. For example, as the child draws a figure eight or horizontal lines on the chalkboard, he is developing eye-hand coordination, balance, rhythmic movement and experience in crossing the midline.

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<sup>37</sup>Ibid., pp. 246-247.

Gross motor activities contribute to the development and awareness of large muscle activity. Exercises, walking beam, chalkboard, ball and outdoor activities contribute to the child's awareness of laterality and directionality as well as development of large muscle coordination and rhythmic movement. The child on the walking beam not only develops skill in balance and posture as he successfully walks the beam, but in addition he gains information concerning directionality as he steps off and then corrects his position. General coordination exercises give children specific experience in body movement.

Certain abilities are basic to the development of eye-hand coordination; among these are laterality, directionality, the ability to stop or voluntarily inhibit movement at a given time, and eye movements.<sup>38</sup> Since the eyes and hands work together as a team in carrying out certain tasks, activities to improve the child's eye-hand and eye-foot coordination must be included in a language program. In many instances, activities which improve gross motor skills also improve eye-hand or eye-foot coordination. Ball activities of all types are an example of this. Jumping and climbing activities and stepping on stones or between the rungs of a ladder provide additional experience in eye-foot coordination.

Fine motor activities are those which require control of the more delicate muscles; such activities as writing, tracing and cutting require visual fine-motor coordination.

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<sup>38</sup>Ibid., pp. 22-23.

The infant's first learnings are motor learnings; in early childhood motor activities are an important factor in language development.<sup>39</sup> A program to aid the pre-school child who has a learning problem must be carefully balanced so that the child's motor skills and language development receive careful attention.

Language Ability: Language ability seems to be inadequate in most children with learning disabilities. Three to five is the age in which language develops at an accelerated rate. Disadvantaged children will exhibit academically inadequate receptive and expressive linguistic skills. This linguistic deficiency may lead to inadequate perceptual and conceptual development. For these reasons, every activity in which the child participates should be utilized for the development of his receptive and communicative language abilities. The development of language at this early age may stand the child in good stead throughout his life, for it is the chief means of communication with others.<sup>40</sup>

There are certain functions which must develop in the kindergarten child if he is to have a basis for language

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<sup>39</sup>Eric H. Lenneberg, "Speech as a Motor Skill With Special Reference to Nonaphasic Disorders," The Acquisition of Language, monographs of the Society for Research in Child Development, XXIX (1964), 115-127.

<sup>40</sup>M. Deutsch, "The Role of Social Class in Language Development and Cognition," American Journal of Orthopsychiatry, XXXV, No. 2 (1965), 78-88.

learning. These fall into two groups: motor functions that lead to balance, walking and general coordination of movement; and sensory functions that provide an opportunity for the child to exercise observation, comparison and judgment. Through these the child becomes acquainted with his environment and develops his intelligence. It is the function of the kindergarten to develop the sensory and motor channels and the total linguistic structure. If the child has had a lack of stimulating experiences or has a learning disability, his sensory, motor, and language development will be retarded.<sup>41</sup>

The child with impaired auditory perception does not interpret what he hears. He cannot associate sounds with particular objects or experiences, he responds inconsistently to sounds, and sometimes he appears hard of hearing. When he lacks auditory skill, he must be given an intensive program of auditory training. At the outset he is taught to distinguish sounds that are grossly different; and later, those more nearly alike. He is made aware of the presence or absence of sound. He learns to recognize sounds common to his environment. The ability to determine the direction from which a sound comes is necessary for an appropriate response. Unless auditory memory is developed, language cannot develop. One cannot understand or express the spoken word without the ability to retain a sequence of sounds within words and words within sentences.<sup>42</sup>

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<sup>41</sup>Nicholas Anastasiow, "How A Child Learns," Oral Language: Expression of Thought (An Interpretive Paper), (Newark, Del.: International Reading Association, 1971), 9-27.

<sup>42</sup>Johnson and Myklebust, Learning Disabilities.

The child must develop inner language; then receptive language; and finally, expressive language. A word must acquire meaning or represent some type of experience before it can be used. It is inner language that attaches meaning to experience. Receptive language involves the ability to comprehend an auditory or visual sensation. In the case of auditory receptive language, it is the ability to comprehend the spoken word. When receptive processes are deficient, inner language cannot develop readily.

Expressive language takes place when the child has meaningful experiences which he comprehends and can communicate to others. It is the oral or motor act which results when an intact receptive language and an adequate inner language react to a situation.<sup>43</sup>

The individual must learn to see in the same manner that he learns to walk and talk. Things viewed are understood only as the result of learning. The child must be helped to perceive what the eye receives. Visual perceptual skills include eye-hand coordination, form recognition, discrimination, visual memory and visual sequencing.

Visual memory is developed as the child learns to arrange concrete objects after a visual pattern has been removed. The child may also look briefly at pictures, then identify

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<sup>43</sup>Ibid.

them from memory. A later skill comes as the child learns to identify the missing part of an incomplete picture or arrange a series of pictures into a logical sequence of events.

The interpretation of visual stimuli occurs in the brain rather than the eye. Skills involved in reading, writing, spelling and arithmetic, which are vital to success in school work, depend upon accurate visual perception.<sup>44</sup>

During the pre-school years, the child with impaired hearing often may be neglected because the impairment goes undetected; or he may be over-trained by misinformed, rejecting, or over-zealous parents. In addition to the normal childhood experiences, he needs auditory training and speech training. The hearing-impaired child must begin his education long before the age of five or six. It is in the area of language development that the child must have systematic special training, even in pre-school years.<sup>45</sup>

The ability to perceive accurately is the ability to discriminate the sights and sounds of one's environment. If a child cannot discriminate perceptually, he may have difficulty discriminating verbally. So kindergarten training must couple language development and concept formation with helping the children develop their basic discriminatory skills.

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<sup>44</sup>Marianne Frostig, The Developmental Program in Visual Perception: Teacher's Guide (Follet Educational Corporation, 1966).

<sup>45</sup>William M. Cruickshank and G. Orville Johnson, Education of Exceptional Children and Youth (Englewood Cliffs, N. J.: Prentice Hall, Inc., 1958).

Since language is a communication skill that includes the understanding and use of gesture and oral and written symbols, weakness in using and understanding these symbols seriously retards the child's language development.<sup>46</sup>

Language, oral and written, forms the basis of the child's education. As the pre-school child continues to learn, he uses his oral language system to develop concepts, influence people around him and become prepared for formal education. He becomes knowledgeable primarily through auditory channels. Those children who have not followed an orderly pattern when learning language usually possess disordered or delayed language ability as a result. The early years of a child's life are formative ones which may set limitations upon later group achievement.<sup>47</sup> Other aspects of behavior are often discovered. Poor psychomotor coordination may point to a central neural deficit; language delay may be caused by poor hearing or a delay in mental maturation.<sup>48</sup>

The tutorial approach is used in order to teach directly to the child's disability. Individual prescriptions are dictated by each child's abilities and limitations. The appropriate tests indicate the base line for the skill level and content of each lesson. Special psychological factors are

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<sup>46</sup>Tina E. Bangs, Language and Learning Disorders of the Preacademic Child (New York: Appleton-Century-Croft, 1968).

<sup>47</sup>Corbin and Crosby, Language Program.

<sup>48</sup>Kirk and Johnson, Educating the Retarded Child.

important in individualizing the prescriptions. The selection of procedures is just as vital as the selection of material for the child's level of development.<sup>49</sup>

Diagnostic teaching is especially needed when the child fails to progress along expected lines. Some children need visual, auditory or kinesthetic cues in order to attain their expected level of achievement. Support and encouragement are necessary to free the child from fears of failure. Since many children are emotionally, socially and academically retarded, prescriptions must be tailored to lessen the difficulties of each lesson while maintaining its interest level.

A child does not necessarily overcome his deficiencies through exposure to enriching stimuli. Negative response reflects his lack of a symbolic system by which he can organize the plentiful stimulation surrounding him. The child must involve himself actively with the stimuli in order to understand their significance. Active involvement refers not to motor activity alone, but to internal mental manipulation as well. The inability to develop abstractions is one of the greatest deficiencies of disadvantaged children.<sup>50</sup>

Activities to improve perceptual-motor skills are an essential part of any program designed to help children

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<sup>49</sup>Cruickshank and Johnson, Education of Exceptional Children and Youth.

<sup>50</sup>Marion Blank and Frances Solomon, "A Tutorial Language Program to Develop Abstract Thinking in Socially Disadvantaged Preschool Children," Child Development, 1968.

afflicted with delayed language or speech. Bangs defines perception as the process of attaching structure to sensation. It has three prerequisites: sensory excitation, an intact sensory end organ, and adequately functioning neural systems.<sup>51</sup>

It is essential that the young child receive training to improve all sensory channels: auditory, vusal, tactile and kinesthetic. He must develop eye-hand coordination, visual perception, visual memory, auditory perception and memory, and tactile awareness. He must learn not only to interpret sensory stimuli, but to perform the appropriate motor response.

It has been found that the deprived child frequently is lacking in auditory skills. It is through the auditory channels that the child determines distances, remains alert to his environment, communicates with others and acquires language.

Auditory memory is essential to the development of language ability. Inflection and rhythm patterns are the first clues to the meaning of often-repeated sentences. Later the child learns to attach meaning to words. Through auditory memory he retains the sequence of a series of sounds.<sup>52</sup>

The auditory training program begins with discrimination of grossly different sounds. It proceeds through successive steps to more sophisticated levels where the child learns

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<sup>51</sup>Bangs, Language and Learning Disorders.

<sup>52</sup>Johnson and Myklebust, Learning Disabilities.

to recognize pitch differences and to carry out two or three directions given verbally.

Visual perception is the ability to recognize and discriminate visual stimuli and to associate them with previous experiences. There can be a maturational lag in the development of visual perception. In the case of the disadvantaged child, a lag in visual experiences can retard interpretation of stimuli. If language is to develop, visual experiences must be provided.<sup>53</sup>

A program designed to develop learning readiness must provide the child with an opportunity to improve eye-hand coordination. The child learns that the hands work together and support each other. The hands and eyes serve as a team and as tools for expression. Success in many later school-oriented tasks will depend upon adequate eye-hand coordination. Sorting, polishing and pouring are among many activities that improve eye-hand coordination and visual perception.

Training in perceptual-motor skills and coordination is not the total answer, however. Development of an adequate language or symbolization is quite as essential to the kindergarten learning situation. As children use words in their thinking, reasoning and problem solving, they are demonstrating their capacity to instill order in their experience.

Research in early training for language development

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<sup>53</sup>Marianne Frostig, Beginning Pictures and Patterns: Teacher's Guide (Chicago: Follett Educational Corporation, 1966).

shows that handicapped children make more progress between the ages of three and four than at five or later. Many children who do not receive early training become more like the deaf, tending to over-compensate for their disability, becoming more visually and tactually oriented. They are also inclined to develop emotional problems.<sup>54</sup>

The speech of a child with a learning difficulty may be inarticulate because an overall inadequacy of the motor system makes it hard for him to suck, swallow, chew and manipulate the tongue. His unintelligible speech may also be caused by a poor model, lack of encouragement during infancy or a "lazy" tongue. Speech readiness exercises include practice in breath control, chewing, sucking, controlling the movements of the tongue and jaw and babbling, which consists of combining vowels and consonants into non-meaningful sounds.<sup>55</sup>

The National Council of Teachers of English established a task force in 1965 to survey various language programs for the disadvantaged. The task force recommended that non-standard English dialect be corrected at the kindergarten level only to the extent that it interferes with language learning. It is necessary for a child to learn to manipulate the mouth, jaws, lips, and tongue if he is to produce articulate speech.

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<sup>54</sup>Johnson and Myklebust, Learning Disabilities.

<sup>55</sup>Clara Chaney and Newell Kephart, Motoric Aids to Perceptual Learning (Columbus, Ohio: Charles E. Merrill Co., 1968).

Modeling is an important technique in speech improvement. Under most circumstances, the teacher, specialist and paraprofessional should provide a model of good speech for the child. In so doing, the specialist should feed back to the child the correct form of his own idea. An example of this type of modeling might be:

Child: "Me go tore yestiday evenin."

Teacher: "Oh did you? I went to the store last evening, too."

The child's speech pattern is never criticized. Children with speech problems should be encouraged to verbalize freely. This is particularly true of the child with unintelligible speech. Children are urged to talk about their experiences, and thereby develop verbal skills. It is imperative that each language session provide the child with an opportunity for oral expression.

The child with a specific language disability whose problems are related to a lag in his total development needs specialized help. It is important that his motor and sensory skills be developed into efficient tools for gathering and utilizing experiences. But the development of these presymbolic skills will not serve as a complete answer. The child must also be provided with sufficient experiences to provide adequate inner language structure and expressive language.

Summary of the Literature: The preceding review of the literature has cited six aspects of planning a kindergarten program

which will be incorporated in the learning-readiness program to be described in Chapter III. Our review of the literature indicates that the authorities, often at variance on programs and approaches, are coming together on common guidelines for programs dealing with learning disabilities. One finds general agreement on the following basic tenets:

1. Children with learning disabilities can be integrated into the regular classroom if class size is kept small enough to permit effective teacher-pupil interaction.

2. Most learning disabilities have more than a single cause.

3. The earlier that remedial work can be instituted, the greater the likelihood of its success.

4. Overlearning is required if differentiation of symbols is to be effected automatically.

5. Motor ability, a critical indicator of maturational processes, develops positive ego functions of mastery, integration, reality testing and impulse control.

6. Long-term remedial programs are more effective than short-term programs.

7. The development of language ability is a function of cognitive development, leading to autonomy.

8. There are preferred ratios of adults to children in programs of early education and treatment.

## CHAPTER III

## HISTORY AND ORGANIZATION OF A MOTOR-LANGUAGE PROGRAM

The BRIDGES (Better Reading in District Gives Extra Satisfaction) project has evolved from a series of six programs planned and conducted by this writer during the past six years. Groundwork for the present program was laid by a previous, informal program that considered teacher ego needs and was part of the total BRIDGES project for the 1970-71 school year.

The Preliminary Program: The program in the 1970-71 school year was devised by the District Supervisor of Reading, one of whose functions is to review and recommend key programs to be implemented by the school system. In September of 1970, the District Supervisor of Reading and eight reading specialists detected what appeared to be weak language skills and a lack of motor coordination in 70 of the 200 children entering kindergarten.

The identification was made by the district's reading specialists, who screened the 200 kindergarteners with the Anton Brenner Developmental Gestalt Test of School Readiness, the Metropolitan Readiness Test, and a 38-item inventory that had been adapted to local needs from the Valett Inventory of Basic Learning Abilities.

The adapted Inventory of Basic Learning Abilities covers gross motor development, sensory-motor integration, perceptual-motor skills and language skills. Seventy children scored "very weak" or "weak" on a five-level scale ranging from "very weak" to "very strong," in 26 of the 38 items. An item analysis revealed that all 70 children in the above category were "very weak" to "weak" in gross motor development, sensory-motor integration and language skills.

After two weeks of school, the kindergarten teachers were asked independently to submit the names of those children who would benefit from remedial training. Interestingly, every one of the pupils who performed poorly on the Inventory of Basic Learning Abilities was named by the teachers. Pupil evaluations made by seasoned teachers have been found to have a high degree of reliability at the primary level.

Parents of the 70 subjects were asked in the fall of 1970 to describe all they could remember about their children's physiological growth and physical activity during their pre-school years. Although several other points were touched upon, 10 points were mentioned by all parents. Even the duration of pregnancy was commented upon without first being broached by the interviewer: "My baby took all the time, and a little more, getting here."

The areas that seemed most memorable to the parents were: duration of pregnancy, weight at birth, whether or not the child crawled, when he first walked, "handedness," eyesight;

and ability to jump rope, to cut and paste, to ride a bicycle and to catch a ball. It is interesting to note that the prematurely-born children had the greatest number of difficulties, as reported by their parents.

The parents evinced considerable interest in the 1970-71 project and were enthusiastic about attending training sessions devoted to their children's motor and language skills development.

The foregoing report describes four steps in the selection of the initial pupil population for the 1970-71 preliminary program:

1. Screening of kindergarten children by means of the Inventory of Basic Learning Abilities, the Anton Brenner Developmental Gestalt Test of School Readiness and the Metropolitan Readiness Test.

2. Identification of 70 children needing training in motor skills and language development.

3. Supplementary identification of the same 70 children by teacher referrals independent of the earlier testing.

4. Gathering of further information about the 70 children through conversations with their parents.

For work with the 70 children thus selected, resourceful kindergarten teachers collected and made basic materials for teaching physical learning readiness: texture balls, rubber playground balls, jumping ropes, bean bags, balance beams made of two-by-fours, hula hoops, rope for mazes, plastic

bleach bottles, sawhorses, rubber tires and tubes. Language skills were taught by bombarding the children with extensions of their oral language, and by use of field trips and audio-visual aids.

With these materials and methods, and with the insights gained during in-service meetings, the staff, aided by the physical education teachers, attempted to improve the 70 children's motor and language skills on an extemporaneous, "crash" basis. No effort was made to teach reading per se. During in-service discussions, the staff agreed that a task-analysis approach would be needed to adapt the 1971-72 curriculum to the children's individual needs.

In September, the first-grade program was adjusted for these 70 children who helped the staff see "the whole child." It is hoped that the "catch-up" phenomenon and program revisions will make it possible for these children to complete their educations successfully within the mainstream of school life.

Other results of the preliminary program included the purchase of Getman and Valett programs and materials for all classrooms. In-service programs emphasizing the task-analysis approach were instituted for teachers. Teachers were trained in the summer session for the program starting in September of 1971. Parents attended workshops on developing motor and language skills. Administrators for the most part--there are

always some skeptics--sounded enthusiastic during the discussions held with them.

Most importantly, a cooperative spirit in the face of the educational challenge gave the participating faculty an elated feeling that they had an important job to do.

Program guidelines: On the basis of the program described above, the sponsoring school received its sixth federal grant for continuation of the early identification project which was first initiated in September of 1970. It is the kindergarten phase of this project that the remainder of the current chapter will describe.

The broad guidelines for this program were two-fold:

1. To provide the academically vulnerable child with a successful educational experience through regular exposure to learning challenges geared to his particular level of development.

2. To intensify the learning process of the vulnerable child at the kindergarten level by establishing a thorough physical readiness and language base before introducing academic skills.

It was anticipated that a child lacking mastery of motor and language skills would benefit by spending more time initially in "learning how to read," thereby becoming equipped to make faster progress when the traditional academic disciplines finally were introduced.

In accordance with these guidelines, the following objectives were set:

1. Establishment of an early screening program to detect physical learning disabilities and problems.
2. Selection of a developmentally-based curriculum at the pre-academic levels in the areas of motor and language development.
3. Expansion of in-service training for administrators, teachers and parents.
4. Establishment of interdisciplinary teams to strengthen diagnosis and the implementation of new methods.

Selection of the program: A primary task of the District Supervisor of Reading was to research the available programs best suited to the kindergarten children's individual developmental needs. Another important aspect of program selection was consideration of the teachers' ego needs. More consideration had to be given to matching teachers with methods and materials, as well as matching pupils with teachers. It was decided to unify all basic approaches to program planning--etiologial, diagnostic, remedial and task analysis--and call the resulting synthesis an "eclectic task analysis approach."

Critical to the functioning of the etiologial approach are the services of highly trained personnel, such as psychologists and social service case workers, who are concerned with the causes of problems. The school system pays a regional

mental health center for consultant psychiatric services. The center's overworked psychiatrists and psychologists conduct in-depth individualized testing for severe cases and send the results, interpretation and prognosis to the District Supervisor of Reading. The school's speech pathologist, psychologist and Supervisor of Special Education and nurses from the Visiting Nurse Association work in harmony with the reading department. Thus, the etiological approach was readily incorporated into the program. Then, after the causes of learning disabilities were assessed, attention was directed to the questions of how and what to teach.

The diagnostic-remedial process is concerned with those questions. An assessment instrument such as the Illinois Test of Linguistic Abilities<sup>56</sup> is useful in the diagnostic-remedial approach. This test is administered by the District Supervisor of Reading, one reading specialist and the school psychologist. If the longitudinal study is continued, the ITPA and other tests may be added.

A personal bias against most formal testing using global results should be acknowledged here. Nonetheless, comprehensive and in-depth individualized case studies have been developed for each child.

The actual remedial techniques used were handled through

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<sup>56</sup>Samuel A. Kirk, "The Illinois Test of Psycholinguistic Abilities" (Urbana: University of Illinois, 1961).

a task-analysis approach that broke down the tasks to be taught into their component sequential steps. The remedial techniques are described in Chapter IV.

A discussion of this theory is beyond the scope of the present paper, but clearly some behavior modification techniques and principles are currently being used in the task-analysis approach to diagnosing and remediating children's learning problems, as evidenced throughout Case Studies in Behavior Modification, by Ullman and Krasner.<sup>57</sup>

In this approach, the teacher must be able to answer the following questions: What specific behavior does the child need to be taught? How do I select the tasks to be taught? Can I administer and interpret the diagnostic tests? Most teachers have had no training in this kind of work. Therefore, the problem is to select sequential task programs in their entirety which are commercially available and can be used to develop motor-visual-tactile skills.

Research into programs reveals two main types. A task-analysis curriculum written by Engelman asks a criterion-referenced question: "What does this child need to be taught in order to achieve a specified educational outcome?"<sup>58</sup> For the

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<sup>57</sup>L. P. Ullman and L. Krasner, Case Studies in Behavior Modification (New York: Holt, Rinehart and Winston, Inc., 1965).

<sup>58</sup>Stanley Engelman, "Basic Concept Inventory" (Chicago: Follett Publishing Company, 1969).

specified outcome of success in a first-grade experience, he postulates 15 tasks to be taught to the kindergarten child. These 15 tasks become the core of the curriculum. One of the significant emphases of the program is: If the child hasn't yet learned, he hasn't yet been successfully taught.

The second curriculum reviewed, "The Remediation of Learning Disabilities,"<sup>59</sup> has elements of both the diagnostic-remedial and task-analysis approaches. Based upon the question, "When do other children ordinarily learn certain tasks?", it not only encompasses two learning approaches, but also proposes a classification and arrangement of basic developmental tasks for teacher use. Valett has selected 229 test items which presumably have educational relevance and arranged them in a developmental sequence under these headings: Motor Integration and Physical Development, Tactile Discrimination, Auditory Discrimination, Language Development and Verbal Fluency, Visual-Motor Coordination, and Conceptual Development. Items failed by the child are evaluated, and areas of specific needs are trained.

Goals appear clearly defined, and concise written teaching plans are available. An untrained teacher can readily teach by this method.

Starting in October 1970, the District Supervisor of

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<sup>59</sup>Robert E. Valett, "The Remediation of Learning Disabilities" (California: Fearon Publishers, 1967).

Reading and four special teachers of reading administered the Anton Brenner Developmental Gestalt Test of School Readiness, the Metropolitan Readiness Tests, and the in-house version of the Inventory of Basic Learning Abilities. The 70 children who ranked lowest of the 200 tested received the special training.

The treatment for the experimental group of 70 kindergarten children, who were not isolated from their peers, was a modified standard program with special emphasis upon gross motor development, eye-hand coordination, visualization patterns and language development. At the same time, the remaining 130 children went through a typical kindergarten program.

At the end of the year, the experimental group again was given the Anton Brenner Developmental Gestalt Test of School Readiness, the Metropolitan Readiness Tests, and the post-test Inventory of Basic Learning Abilities.

The same tests were administered to the 70 children at the start and conclusion of the first grade. In addition, the 200 children were administered the Stanford Achievement Test at the conclusion of first grade in May 1972.

Staff: The District Supervisor of Reading has been especially fortunate in the personnel she has been able to hire to help carry out new programs. Since the district does not draw faculty on the strength of its salary schedule or the accessibility of schools of graduate education, it is necessary to

rely upon a few large industries to attract couples, one of whom may be a teacher. Another attraction is the scenic beauty of the Berkshire countryside, which is more appealing than cities to many teachers.

The eight teachers in the reading department either are doing advanced work in a master's degree program in reading and must travel many night hours to perfect their expertise, or they already hold master's degrees in their field of specialization. More significantly, however, these particular teachers are fond of children.

The chief unifying force in the department is not course work, which can be exceedingly diverse, but the teachers' empathy with children, their understanding of the human worth and potential of each child, their sincere understanding and application of developmental theory.

In-service training: The school district has run in-service teacher training programs for many years. In preparation for the early-intervention program herein described, all non-tenure teachers in kindergarten through Grade 3 met bi-weekly with the District Supervisor of Reading and the reading specialists. Convinced that the younger, non-tenure teachers needed all the background in methodology and developmental stages they could get, the reading staff attempted to provide it. In the process, the staff also attempted to offset other shortcomings-- what Bond and Tinker cite as ineffective school administrative

policies, lack of readiness programs, poor teaching methods, inadequate teacher preparation and failure to consider individual differences, all of which lead them to the conclusion that "Reading disability is largely due to educational factors."<sup>60</sup>

To implement the program, non-tenure K-3 teachers were released each Thursday at 1:15 p.m. Refreshments were served before most of the in-service sessions, which ran from 1:30 to 4 p.m. The teachers met with a group of different specialists each week, using the case-study approach. School specialists--i.e., reading, speech, health, psychological services and physical education department representatives--continued to add insights to the individual case studies each teacher built in successive weeks.

The District Supervisor of Reading, with the cooperation of publishers' representatives, instructed the teachers in the proper use of programs. Teachers were offered stipends, made possible by the Title I grant, to work in summer sessions with kindergarten and first-grade children to familiarize themselves with the methods and materials.

During the last weeks of the summer session, the kindergarten teachers met with many of the parents of the children they were going to teach. The teachers explained the program and answered parents' questions. The District Supervisor of

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<sup>60</sup>G. L. Bond and M. A. Tinker, Reading Difficulties: Their Diagnosis and Correction (New York: Appleton-Century-Crofts, 1957), p. 121.

Reading was on hand at all times to offer help or reassurance when needed. She also scheduled night and weekend meetings with parents who were not free at any other time.

Administrators were on duty a week before school officially opened to the children. During that period, the District Supervisor of Reading was to have familiarized them with the rationale of the program to be instituted in their schools, for it was recognized that the program's success hinged upon the understanding given it by administration and community. But because of the many complications of opening school, these meetings were not held as scheduled. The District Supervisor met with the principals of the district every week for two hours in her office. Although needed, these meetings proved unsatisfactory in terms of individual self-concepts. Other ways to familiarize administrators with developmental theory, methods and materials must be found.

The K-3 in-service program was designed to promulgate the following ideas:

1. The quality of education is to be kept high, through small-group instruction whenever possible.
2. Most learning disabilities stem from several causes rather than only one.
3. The faculty must avoid commitment to unitary remediation of learning disabilities.
4. Sustained individually prescribed instruction

requires school reorganization and meaningful parent and community involvement.

5. The best programs are founded upon in-depth case studies of individual pupils.

6. The earlier that remedial work is undertaken at the proper developmental level, the greater the chance of its success.

7. Overlearning is needed to effect automatic differentiation of symbols and thus save pupils' energy.

8. Thoroughly trained motor skills develop the ego functions of mastery, integration, reality testing and impulse control.

9. Language development is influenced by social relatedness.

10. An important component of any successful program is the teacher's self-concept or ego estimate.

11. Administrators and teachers must develop an understanding of many remedial techniques and be aware of the relationships among them. To that end, Chapter IV will present a sampling of remedial techniques that may be used in an early intervention program geared to motor and language development.

## CHAPTER IV

REMEDIAL TECHNIQUES UTILIZED IN THE  
MOTOR LANGUAGE PROGRAMProblems in Learning the Motor SkillsProblems

Body disorientation.

Lack of established dominance.

Problem in laterality, directionality, or relationship of the body in space.

Imperception of physical relationships between self and others (including teachers).

Inadequate awareness of own physical dimensions and position in space to relationship to environment.

Symptoms of Difficulty

General awkwardness.

Arhythmic movements.

Incoordination.

Hyperactive or hypoactive behavior.

Inferior writing, characterized by reversals, inversions, distortions, or angularity.

Lack of established left-to-rightness in reading or writing.

Inability to distinguish right from left or up from down.

Difficulty in skipping or hopping.

Difficulty in copying geometric figures.

Lack of established preference for right or left hand or foot.

Improper spacing of work on paper.

Poor directional orientation: forward, backward, diagonal, side.

Poor awareness of space orientation as to high and low, small and large, wide and narrow, skinny and fat.

Poor concept of heavy and light, hard and soft.

Poor concept of time, slow and fast, speeding up and slowing down.

Awkwardness in going up and down steps.

#### Stunts and Tumbling Activities (Gross Motor Development)

The first grade program consists primarily of simple imitative walks and movements. The front roll is introduced but its refinement is left to later grades. Only a few simple balance stunts are included here, all using an upright position. The teacher should be concerned with creative aspects of the activities as well as with the performance standards.

Children will tend to do the first-grade stunts in many different ways because of different interpretations. Good terminology should be used in describing the different movements.

Jumping, hopping and leaping have different meanings in physical

education, and the terms should be used properly.

#### Puppy Dog Run:

The child places his hands on the floor, bending the arms and legs slightly. He walks and runs like a happy puppy. The teacher should see that the youngster looks ahead. By keeping the head up in good position, the neck muscles are strengthened.

Variation: The child may also use the same position to imitate a cat. He walks softly, stretching at times like a cat.

#### Bear Walk:

The child bends forward and touches the ground with both hands. He travels slowly forward by moving the hand and foot on the same side together; that is, the right hand and foot are moved together, and then the left hand and foot.

Variation: Have him lift the free foot and hand high while the support is on the other side.

#### Rabbit Jump:

The child crouches to a deep knee-bend position and places his hands on the floor in front of his feet with the knees pointed out. He moves forward first with the hands, and then brings the feet up to the hands. Emphasize to the child that this is called a jump rather than a hop, because both feet move at once.

Variation: Try with the knees kept together and arms on the outside.

### Elephant Walk:

The child bends forward, clasping hands together to form a trunk. He walks forward in a slow, dignified manner with big steps, keeping the legs straight and swinging the trunk from side to side.

### Head Balance:

Place a bean bag, block or book on the head of the child. Have him walk, stoop, turn around, etc. The object should be placed so that the upper body is in good posture.

### Tight Rope Walk:

Select a line, board, or chalked line for the stunt. The arms are extended sideways for balance. Children pretend to be on a high wire, losing and regaining balance, and making slow progress. Different stunts done on a high wire can be tried on the line.

### Bouncing Ball:

Keeping the body straight, the child jumps up and down from a bent knee position. He starts with a high "bounce" and gradually lowers the height of the jump to simulate a ball coming to rest.

Variation: Do this as a partner stunt, with one partner serving as the bouncer and the other as the ball. Reverse positions.

### Gorilla Walk:

The child bends his knees slightly, carrying the trunk forward. Arms hang at sides. As the child walks forward, he should touch his fingers to the ground at each step.

Variation: Let the children stop and beat their chests like gorillas.

### Lame Dog Walk:

The child walks on both hands and one foot. The other foot is held in the air as if injured. He walks a distance and changes feet. Eyes should be forward.

### Cricket Walk:

The child squats and spreads his knees. He puts his arms between his knees and grasps the outside of his ankles with his hands. In this position, he walks forward or backward. He can chirp like a cricket.

### Rising Sun:

The child lies on his back. Using the arms only for balance, he rises to a standing position.

Variation: Have the child fold his arms over his chest.

### Front Roll:

The child stands with feet apart, facing forward. He bends and places hands on the mat, shoulder width apart. He tucks the chin to the chest and makes a rounded back. A push-off with the hands and feet provides the force for the roll. The

child should carry the weight on his rounded back and shoulders, not on his head. Kneeling alongside the child, the instructor can help by placing one hand on the back of the child's head and the other under the thigh for a push.

#### Balance Touch:

An object (eraser, block, or rolled-up paper) is placed a yard away from a line. Balancing on one foot, the child reaches out with the other foot, touches the object, and recovers to the starting position. See that he does not place weight on the object, but merely touches it.

Variation: Try at various distances.

#### Heel Click:

The child stands with feet slightly apart. He jumps up and clicks heels, coming down with feet in original position.

Variations: (1) Have the child clap hands as he clicks his heels; (2) have the child join hands with one or more children. A signal is needed. The children can count, "One, two, THREE," jumping on the third count.

#### Seal Crawl:

The child is in a front leaning (push-up) position, the weight supported on straightened arms and toes. Keeping the body straight, the child walks forward using his hands for propelling force and dragging his feet. Watch to see that the body is straight and the head is up.

Variation: Let the child walk forward a short distance and then roll over on his back, clapping his hands like a seal.

Crab Walk:

The child squats down and reaches back, putting both hands on the floor without sitting down. With head, neck and body level and in a straight line, he walks forward, backward, and sideways. Children have a tendency to lower the hips. See that the body is kept in a straight line.

Variations: (1) As each step is taken with a hand, the other hand can slap the chest; (2) the hand and foot move together on the same side.

### Walking Board or Line Activities

The objectives of walking board or line activities are:

1. To develop the child's laterality.
2. To develop the child's ocular pursuit skills by fixing on a particular point.
3. To help the child find his position in space.
4. To help the child increase his concentration and attention span.
5. To help the child develop left-right, up-down, and fore-aft balance.

Activities:

The following instructions are addressed to the child.

Instructions for the teacher are placed within brackets.

1. Walk forward across the board. KEEP THE EYES ON A TARGET. HEEL-TOE.
2. Walk forward across the board and carry a weight in the left hand.
3. Walk forward across the board and carry a weight in the right hand.
4. Walk forward across the board and change the weight from hand to hand.
5. Walk backward across the board.
6. Walk backward across the board and carry a weight in the left hand.
7. Invent your own way to cross the board.
8. Walk backward across the board and carry a weight in the right hand.
9. Walk backward across the board and change the weight from hand to hand.
10. Walk forward across the board with an eraser balanced on your head.
11. Walk back across the board backward and balance eraser on your head.
12. Walk across the board with eraser balanced on your head and carry weight in hand.
13. Walk across the board and throw a bean bag at a target on command.

14. Walk across the board and catch a bean bag and throw it back.

15. Walk across the board and bounce a ball.

16. Invent two ways to cross the board that we haven't shown you. [Have the child devise the new ways, but if he cannot, the instructor should do it. It is valuable to do your thinking out loud and let the child follow you through the process.]

17. Walk sideways across the board and lead with the right foot.

18. Walk sideways across the board and lead with the left foot.

19. Walk sideways across the board and carry a weight in the hands.

20. Walk sideways across the board and change a weight from hand to hand.

21. Walk sideways across the board with an eraser balanced on top of your head and carry a weight in the hands.

22. Walk sideways down the board with a weight in the hands; in the middle of the board turn around and walk backward to the end. Walk forward to the middle of the board, turn and lead with the other side.

[Note: The activity can be used to develop the ability to follow commands. Give the child a series of commands that he can follow and see that he carries them out. Slowly but surely you can increase the span of the number of commands that he can

handle. If he has trouble with handling more than one or two commands in a series, tell him to imagine that he is going through each act as you give it to him. Be sure to give the commands slowly and distinctly.]

23. Walk across the board with the arms extended to the sides; then to the front, back, both to one side, then both to the other side.

24. Walk across the board with the arms extended in front; back to opposite sides and then both to one side, then both to the other side.

25. Walk forward with left foot always in front of the right. [Combine activities covered in items 1 through 24.]

26. Walk forward with right foot always in front of the left foot. [Combine activities covered in items 1 through 24.]

27. Walk backward with right foot always in front of left.

28. Walk backward with left foot always in front of right.

29. Invent five activities not covered in this list.

30. Walk forward and pick up eraser from center of beam.

31. Walk backward and pick up eraser from center of beam.

32. Walk sideways leading with left side and pick up eraser from center of beam.

33. Walk sideways with right side and pick up eraser from center of beam.

34. Repeat items 30, 31, 32, 33, but this time pick up the eraser and place it on top of head and continue to end of board.

35. Have partner hold wand 12 inches over center of beam. Walk to center and step over the wand.
36. [Repeat items randomly from 1 through 34 using wand. Increase the height of the step necessary to clear the wand. Be sure to tell the child if he steps too high.]
37. [Have the child walk across the beam in various ways. Stand at the end of the beam with a target. Have the child watch the target as he moves across the beam.]
38. [Repeat number 37, but have the child keep his eyes on the target as the target is moved. Call his attention to the fact when he loses the target or when his eyes look away.]
39. Invent seven ways to cross the beam that have not been covered. [Emphasize the use of the eyes.]
40. [Hold wand at height of three feet. The child walks forward and passes under the wand.]
41. [Repeat items randomly from item 1 through 39. Include the task of going under and over the wand. Vary the position of the wand both in height and in position relative to the length of the beam.]
42. Walk the beam forward with arms out, palms down, with eraser on the back of each hand.
43. Walk the beam backward with erasers on hands [as in item 42].
44. Invent five ways to cross the board using the erasers balanced on the hands.

45. Walk the beam in various directions with all of your weight carried on the balls of the feet.

46. [Walking on the balls of his feet, have the child carry various weights across the beam, changing the position of the weights as he walks. Be sure he is looking at something definite when he walks.]

47. Invent three new ways to cross the beam.

48. Walk to center of beam, kneel on one knee, straighten other leg forward until the heel is on the beam and the knee is straight. Stand and go to the end of the beam.

49. [Have child go to the center of the beam and stand. Go to the end of the beam where the child will be facing you. Move arms and legs in various positions and have the child do exactly as you do. If his position is not correct, call his attention to the fact.]

50. [Have the child go to the center of the beam. Throw him a bean bag and have him throw it back to you at a target. Have him move to various positions on the beam while you stay in one place, and have him throw the bean bag to the target and to you.]

51. [Place a bucket at the end of the beam. Have the child walk away from the bucket. Throw him a bean bag and have him try to throw it into the bucket without looking at it. Make sure he does not turn around. The object is to have him throw at the target in back of him.]

52. Walk backward to the middle of the beam. Kneel on one knee; straighten the other leg forward until the heel is on the beam and the knee is straight. Rise and walk to the end of the beam.

53. Repeat item 52 but kneel on the other knee and straighten the other leg.

54. Invent four new ways to cross the beam.

55. Hop on the right foot the full length of the beam.

56. Hop on the left foot the full length of the beam.

57. Hop on the right foot the full length of the beam.

58. Hop back and forth on the beam, alternating left and right foot.

59. Skip the full length of the beam.

60. Clasp arms in the rear and walk across the beam.

61. Invent seven different ways to cross the beam with the arms held fast in various positions about the body.

62. Invent seven different ways to cross the beam with one arm held fast; then hold the other arm fast.

63. Walk to the center of the beam, stop, do a left side support, and walk to the end.

64. Balance an eraser on the lead, walk to the center of the beam, do a left side support, and go on to the end of the beam.

65. Walk to the center of the beam; stand on the left foot and balance, holding the right leg and two arms in a horizontal position.

66. Repeat number 65, but balance on the right foot.

67. Place an eraser at the middle of the beam; walk the beam, left sideways; pick up the eraser; place the eraser on the right side; turn around and walk to the end of the beam.

68. Use the wand, the eraser and the bean bag. Invent seven ways to cross the beam, using all three of the items in each activity. Have the body move across the beam in all four directions.

69. [The teacher holds the wand at various heights above the beam.] Put your hands on your hips and walk backward and go under the wand.

70. [The teacher folds a piece of paper at right angles so it will stand on the beam at the middle.] Walk to the paper and bend over and pick it up in your teeth.

71. Invent three activities using the paper.

72. Hop to the center of the beam and turn around; hop backward to the end.

73. Invent two activities using the hop and the wand.

74. Walk to the center of the board. Close the eyes and walk to the end.

KEEP EYES ON FIXATION POINT.

75. Walk to the center of the beam. Close the eyes and see how long you can maintain your balance with the eyes closed. [The number of seconds balance is maintained should be recorded.]

76. Walk to the center of the beam. Close eyes, stand on

the toes and see how long balance can be maintained. [The number of seconds balance is maintained should be recorded.]

77. Devise five activities to be done with the eyes closed.

78. [Have partners walk the beam in various ways. Each partner should start from the opposite end of the beam and pass the other in the center without either one stepping off the beam.]

79. Walk on all fours on the beam. Go to the end forward and then return in the backward direction.

80. Invent seven more ways to cross the beam.

81. [Obtain a cane pole about eight feet long.] Using the pole, go through as many activities covered in the previous items as you can.

82. [Obtain a plastic bleach bottle; wash it out and fill it partially with water.] Using the water bottle, go through as many of the previous items as you can.

83. [Tie the water bottle on the end of the pole.] Hold the pole horizontally and cross the beam.

84. Use the bottle and the pole and invent seven ways to cross the beam.

KEEP EYES ON FIXATION POINT.

The Zig-Zag Line:

The zig-zag line provides a more defined area in space for the child to place his feet as he performs various locomotor

activities. The more precision demanded by a task, the more control is required to perform it. As long as the control requirements are not beyond the capabilities of the child, this demand for more precise control increases the training value of the activities.

### Sequenced Alphabet Walking Line Activities

The objectives of these activities are:

1. To allow the child to move while being exposed to the alphabet.
2. To make the child aware of alphabet (a) shape, (b) name, (c) sound, and (d) words.
3. To help the child move toward a visual target.

#### Activities:

This walking line can be purchased or the letters can be cut from contact paper and pasted on the floor with the letters facing the child as he moves down the line.

Name level (no sound association):

1. Walk the line saying the letters.
2. Walk the line left over right, saying the letters.
3. Hop the line saying the letters.
  - a. Hop first on one foot and then the other.
  - b. Two hops on one foot and two on the other.
  - c. Three hops on one foot and three on the other.
4. Tiptoe the line saying the letters.
5. March the line saying the letters.

6. [Seat the child facing the letters for picking out individual ones out of order.

a. Direct the child to find c, a, m, etc.

b. Direct the child to find series of letters, this time in order of the alphabet:

(1) Series of two a--e

(2) Series of three a--e--i

(3) Series of four a--e--i--o

c. Direct the child to find his own name on the line and spell it out.

(1) Find the first letter of his first name.

(2) Find the first letter of his last name.

(3) Find the initials of his whole name (explain initials).]

Sound level (sound associated with symbol)

1. [Seat the child facing the letters for picking out individual letters out of order.]

a. Find the letter which says s-s-s-s-s-s, m-m-m-m-m, etc.

b. Find the letter which says z-z-z-z-z and tell its name.

c. [The teacher hands each child a letter card which matches the alphabet letters on the line and directs each child to find the letter which matches the letter he has, place the card on the line, and say the letter's name and the letter's sound.]

Word level (sound and symbol associated with word)

1. [Seat children facing the letters. Individually the children will find letters within words.]
  - a. Find the letter you would see at the beginning of the word mouse--turtle--etc.
  - b. Find the letter you would see at the end of the word drum--bus--etc.
  - c. Find the vowel or vowels you see in the middle of cat--meat--etc.
  - d. Find the consonant digraph (two letters) which you see at the beginning of thimble--shoe--etc.
  - e. Find the digraph (two letters) which you see at the end of wish--witch--etc.

### Suspendable Ball Activities

The objectives of these activities are:

1. To help the child develop the eye-hand coordination necessary for doing the task.
2. To help the child move across his midline without a change in ability.

#### Activities:

1. Stand facing the ball. Bat the ball about any way you want to do it. Keep the ball under your control at all times. Hit the ball using slow measured movements. [The instructor can hold up one hand and have the child bat the ball in such a way that it strikes her hand.]

2. Bat the ball about with your fist. Keep it under control.
3. Open your hand and hit the ball with the palm of your hand.
4. Alternate back and forth, and hit the ball first with your left hand and then with your right hand.
5. Hit the ball with your left hand only.
6. Hit the ball with your right hand only. Keep the ball under control at all times. Be sure you follow the ball with your eyes as it swings through space.
7. Hit the ball with alternate hands on command. [The instructor will call "left" or "right" and the child will respond by hitting the ball as directed. The closer the ball is to the child when the command is given, the faster he is required to discriminate left from right.]
8. Invent a new activity using the suspendable ball.
9. Lower the ball to a point where it can be easily kicked. Kick the ball, following the patterns outlined in numbers 1, 3, 4, 5, 6, and 7. [Generalize by changing the height of the ball.]
10. Hit the ball with the toe and the instep. Hit the ball with the outside of the foot.
11. Do not raise the ball. Move back to a point where the ball will swing up to the level of the chest. Hit the ball Karate-style, using the side of the hand. Move about and hit the ball.

12. Clasp the hands together behind the head. Hit the ball with the elbows. Again following the patterns above.

13. Hit the ball with the hips.

14. Hit the ball with the knees.

#### Activities for Suspendable Ball Using a Bat:

1. Bat smooth and straight for 10 continuous strokes.

2. Count own consecutive taps.

3. Ten continuous strokes with the ball tapped right on the center stripe of the bat at all times.

4. Count own consecutive taps.

5. On the end lines, cross midline without losing control of the ball.

6. Count own consecutive taps.

7. Name side of the bat that is making contact with the ball in the alternate end procedure.

8. [Have another person call out colored stripes "yellow" or "green" in random order.]

9. [Have another person call out "right" or "left" in random order.]

#### For partners:

10. Bat the ball back and forth to each other, smooth and straight at any point on the pin.

11. Bat the ball back and forth, smooth and straight on the center stripe.

12. Bat the ball back and forth smooth and straight on a

line indicated by server. If the server (the first one to begin) hits the green line, the opposite player must return on the same line or forfeit a point.

[If the child has any difficulty on step 5, he should return to activities 1 and progress through again for further practice.]

### Balance Beam Progression

The objectives of these activities are:

1. To teach the child to maintain his balance under changing relationships.
2. To teach the child to pinpoint the center of gravity within his body.
3. To teach the child better motor control.

#### Progression:

Maintain balance by spreading the feet wide on the beam. Do not let the end or edges of the beam touch the floor. Look straight ahead at a fixation point.

1. Stand on beam with arms straight out. Look straight ahead.
2. Stand on beam with arms straight up. Look straight ahead.
3. Stand on beam with arms straight forward. Look straight ahead.
4. Stand on beam with arms to side, moving them straight up and down.

5. Stand on beam with arms straight out. Rotate arms. Look straight ahead.
6. Stand on beam holding rulers in hands. Put arms straight out.
7. Stand on beam holding rulers in hands. Put arms straight up.
8. Stand on beam with hands on hips.
9. Stand on beam balancing a bean bag on head.
10. Stand on beam. Throw ball up in the air and catch it.
11. Stand on beam. Throw ball to partner and then catch it.
12. Stand on beam. Bounce ball.
13. Stand on beam.
  - a. Throw ball with one hand up in the air and catch it.
  - b. Throw ball with other hand up in the air and catch it.
14. Stand on beam. Throw ball with one hand and catch it with the other.

[By hitting the ball with various body parts, the child develops an awareness of body position and spatial relations. Eye-hand coordination is but a part of eye-total body coordination. We will achieve eye-hand coordination faster if we think in terms of developing the total system.]

15. Stand on a balance or rocking board and try to remain balanced while performing all of the above activities. [This develops a more dynamic control of the complete system.]

16. Jump on the trampoline board and perform the above activities.

17. Swing the ball, touch the top of your head and then catch the ball as it swings back.

18. Swing the ball, touch your left ear, your right hip, the tip of your nose and then catch the ball as it swings back to you. [This, and the activity in number 17, helps the child develop auditory memory.]

19. Invent your own activity using the ideas presented in numbers 17 and 18.

#### Mat Activities and Roll Progression

The objectives of these activities are:

1. To help the child develop an awareness of his position in space.
2. To help the child control his body in space.
3. To help the child coordinate mental and motor activity.
4. To help the child develop directionality.

#### Progression:

1. Log roll (arms and legs extended).
2. Egg roll (knees against chest, held by hands).
3. Log roll, egg roll.
4. Log roll, egg roll, log roll.
5. Forward roll (end on seat).
6. Forward roll (end on feet, knees bent).
7. Forward roll (end on feet, standing).

8. Forward roll one way, forward roll another way.
9. Forward roll, egg roll, forward roll.
10. Log roll, egg roll, forward roll.
11. Leap frog.
12. Forward roll, leap frog, log roll.
13. Forward roll, leap frog, log roll, egg roll.
14. Forward roll, log roll, egg roll, and ball pick-up, toss up, and catch.
15. Backward roll.
16. Backward roll, push to stand.
17. Backward roll, forward roll.
18. Backward roll, turn, forward roll.
19. Backward roll, log roll, egg roll.
20. Two forward rolls, one backward roll.
21. Double forward roll (two children).
22. Two forward rolls, backward roll to stand, side roll, log roll, ball pick-up, toss up, and catch.
23. Double backward roll (two children).

#### Tire and Inner-Tube Activities

The objectives of these activities are:

1. To expose the child to spatial words.
2. To have the child solve problems posed by the instructor.
3. To help the child develop gross motor abilities.

Activities:

Use an inflated large airplane inner tube. A large truck inner tube can also be used. Tubes can be purchased for a reasonable price at most Army surplus stores, local air fields, or rubber manufacturing plants.

Problem-solving activities:

1. Can you run around your tire?
2. Can you go the other way?
3. How else can you move around the tire?
4. Can you put one foot in the middle of the tire as you jump over it?
5. Can you carefully put both feet in the middle of the tire as you jump across?
6. Can you jump on and then bounce off?
7. Can you jump and touch both sides of the tire as you miss the middle?
8. Find some other things you can do.
9. Can you roll your tire and keep it from falling over?
10. Can you spin your tire like an egg beater?
11. Can you climb in and out and around your tire?
12. Can you keep time to the music by bouncing on the tube (sitting)? [If several children are on the tube, the ones out of rhythm discover it quickly when they suddenly feel repercussions from the other children's bounces.]
13. Can you jump up and down on your tube? [At first,

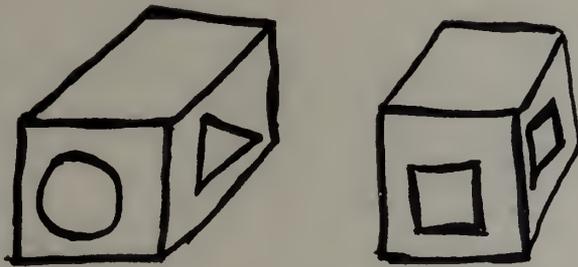
hold the child's hands or waist to give him a feeling of balance and confidence. Some children will need this support longer than others.]

14. Can you catch the tube when it is swung to you?

15. Standing in the middle of your tube, can you jump out backwards? Sideways to the left? To the right?

16. [On the playground, the tires can be stacked for the activities.]

### Form Box Activities



The objectives of these activities are:

1. To teach the children the limits of their own bodies and the space needed to contain them.
2. To expose the children to the various shapes: circle, square, rectangle, and triangle.
3. To expose the children to left-to-right progression.
4. To teach the children to begin to understand constancy of form.

A form box can be made with any large cardboard box. The shapes are cut large enough and low enough to enable the children to crawl through them. Bind the edges with masking

tape. Spray with bright enamel, a different color for each shape.

Children can crawl through the shapes, following a different pattern each day as they crawl through the form box. The patterns will be pre-reading activities, using shapes which correspond to the shapes on the form box. The children will be reading shapes which give directions, instead of letters, with the directions changing each day. All of these patterns will go from left to right and from top to bottom.

#### Activities:

1. Draw the shapes individually on large pieces of cardboard, exposing them one at a time.
  - a. Cut the shapes out.
  - b. Color to correspond to the form box.
  - c. Color in black.
  - d. Color in many variations.
  - e. Outline in black.
2. Place cut-out shapes on the wall beside the number for this activity.
  - a. Use colors which correspond to colors on form box.
  - b. Use black.
  - c. Use many variations in color.
3. [Each child has his own mimeograph sheets which contain the shapes in rows of four from left to right and which travel from top to bottom as in reading.

- a. Child colors the shapes to correspond to form box.
- b. Child colors the shapes in many color variations.)

### Body Balance Progression

The objectives of this progression are:

1. To teach the child to follow directions using labels for laterality.
2. To help the child to maintain body balance in differing attitudes.

Progression:

1. Stand on the foot you like. Put your arms out to the side.
2. Stand on your other foot. Put your arms out to the side.
3. Stand on the foot you like. Hold your other foot with your other arm.
4. Stand on your right foot. Hold left foot with your left arm.
5. Stand on your left foot. Hold your right foot with your right arm.
6. Stand on your left foot. Hold your right foot with your left arm.
7. Stand on your right foot. Hold your left foot with your right arm.
8. Get on your hands and knees.
  - a. Put your right arm up. Put your left arm and both knees on floor.

b. Put your left arm up. Put your right arm and legs on mat.

c. Put your left leg up. Put your right leg and both arms down.

d. Put your right leg up, left leg down and both arms.

9. Stand on your right leg. Put both arms out to the side.

10. Stand on your left leg. Put both arms out to the side.

11. Stand on your right leg. Put both arms forward, and put your left leg back.

12. Stand on your left leg. Put both arms forward and put your right leg back.

13. Put both arms forward, alternate legs. Stand on your right leg. Put both arms forward and put your left leg back.

14. Stand on your left leg. Put both arms forward.

15. Put both arms backward. Stand on your right leg and put your left foot forward. Point your left toe..

16. Put both arms back. Stand on your left leg and put your right foot forward. Point your right toe.

17. Lie on your back. Lift yourself up on your hands and feet. Make your back straight. Face the ceiling.

a. Put your left arm up. Put your right arm and both legs down.

b. Put your right arm up. Put your left arm and both legs down.

c. Put your left leg up. Put your right leg and both arms down.

d. Put your right leg up. Put your left leg and both arms down.

18. Sit with both feet straight in front. Put arms to the side.

a. Lift your right arm straight out.

b. Lift your left arm straight out.

c. Lift your right leg and point your toe.

d. Lift your left leg and point your toe.

e. Lift both legs and point your toes.

f. Lift your right arm straight out. Lift both legs and point your toes.

g. Lift your left arm straight out. Lift both feet and point your toes.

h. Lift both arms straight out. Lift both feet and point your toes.

19. Lie on your back with your arms to your side and your legs straight.

a. Put your right arm and left leg up. Put your left arm and right leg down.

b. Put your left arm and right leg up. Put your right arm and left leg down.

c. Put your left arm and right leg up. Put your right arm and left leg down. (Face down.)

d. Put your right arm and right leg up. Put your left arm and left leg down. (Face down.)

e. Put your left arm and left leg up. Put your right arm and right leg down. (Face up.)

f. Put your right arm and left leg up. Put your left arm and right leg down. (Face down.)

g. Put your left arm and left leg up. Put your right arm and right leg down. (Face down.)

### Hula Hoop Activities

The objectives of these activities are:

1. To teach children the limits of their own bodies.
2. To teach children to see the relationship of their own positions to the positions of other objects.

#### Activities:

1. Lay hoops on the ground.
  - a. Jump in them with two feet together sideways.
  - b. Hop in them with preferred foot.
  - c. Hop in them with other foot.
  - d. Jump in them with alternate feet.
2. Using hoops as a tunnel [have children hold them or hang them from the ceiling), crawl through them without touching.
3. [Roll hoop far out on the playground, and children run and bring it back.]
4. [Roll the hoop slowly so the child can dive through it onto a mat.]

5. Rotate the hoop on the hand, then on the arm, then on the elbow.
6. Swing the hoop back and forth, jumping through it each time.
7. Swing the hoop like a jumping rope.
  - a. Jump forward.
  - b. Jump backward.
8. Roll the hoop from child to child around a circle.
9. Balance the hula hoop on the index finger.

### Rhythm Tape

The motor activities room can also be used for rhythms which emphasize the auditory motor function. Equipment in the room can be moved aside and the children can move through space as their ears tell them to. These songs can be sung to piano or recorded. Chop sticks (12-inch sticks one inch in diameter) can be used along with the tapes, two sticks for each child.

1. I've Been Working on the Railroad (March)
2. Skip to My Lou (Skip)
  - a. Lou, Lou, skip to my Lou  
 Lou, Lou, skip to my Lou (skip clockwise)  
 Lou, Lou, skip to my Lou (holding hands)
  - b. Flies in the buttermilk (face partner)  
 Shoo fly shoo (sing 3 times--hands shoo flies)  
 Skip to my Lou, my darling.

- c. Chicken in the bread tray (face partner)  
What'll I do (sing 3 times--shrug shoulders)  
Skip to my Lou, my darling.
  - d. Choose your partner (face partner)  
Skip to my Lou (sing 3 times)  
Skip to my Lou, my darling.
  - e. I'll get another one (inside circle, move up 1 to  
get new partner)  
Prettier than you (sing 3 times)  
Skip to my Lou, my darling.
  - f. Repeat "Lou, Lou" (skip clockwise)
3. Hokey Pokey (Action)
- All children on outer circle facing center.
- a. I put my right hand in, I put my right hand out  
I give my right hand a shake, shake, shake  
And turn myself about.
  - b. Left hand--repeat above.
  - c. Right foot--repeat above.
  - d. Left foot--repeat above.
  - e. Pumpkin head--repeat above.
  - f. Whole self--repeat above (take 1 step in, 1 out)
  - g. Hokey, Pokey (hands above head, bend touch toes)  
Hokey, Pokey (Hands above head, bend touch toes)  
That's what it's all about! (clap legs twice, clap  
hands twice, reach hands above head)

## 4. Hokey Pokey--Music only

Children do actions.

## 5. If You're Happy (Action)

All children on outer circle facing center.

a. If you're happy and you know it, clap your hands

If you're happy and you know it, clap your hands

If you're happy and you know it, and you really  
want to show it

If you're happy and you know it, clap your hands.

b. Pat your head--repeat above.

c. Blink your eyes--repeat above.

d. Pull your ears--repeat above.

e. Nod your head--repeat above.

f. Tap your foot--repeat above.

g. Turn around--repeat above.

h. Clap your hands--repeat above.

## 6. The Hat Parade (Circle--Action)

Six children wear hats walking around inside circle,  
other children sit facing them on outer circle, singing:

a. Who will wear a hat in the hat parade today?

Who will wear a hat in the hat parade today?

Who will wear a hat, who will wear a hat

Who will wear a hat in the hat parade today?

b. Repeat above.

c. Children give hats to someone on circle, exchange places.

d. Repeat.

7. Make My Living (Rest--all sit on circle facing center)

a. Make my living in sandy land

Make my living in sandy land

Make my living in sandy land

Ladies fare thee well

b. Grow sweet potatoes in sandy land (3 times)

Ladies fare thee well

c. Grow some peanuts in sandy land (3 times)

Ladies fare thee well

d. Grow white cotton in sandy land (3 times)

Ladies fare thee well

e. Repeat (a).

8. Jenny Crack Corn (Circle--Action)

All children stand on outer circle facing center.

a. Jenny crack corn and I don't care

Jenny crack corn and I don't care

Jenny crack corn and I don't care

The Master's gone away.

b. Right hand up and I don't care

(repeat 1)

c. Left hand up and I don't care

(repeat 1)

- d. Both hands up and I don't care  
(repeat 1)
- e. Do Se Do and I don't care (fingers in air--twist)  
(repeat 1)
- f. Roll 'um in boys and I don't care (roll hands)  
(repeat 1)
- g. Jenny crack corn and I don't care  
(repeat 1)

9. Stamping Land (Circle--Action)

All children stand on outer circle facing center.

- a. I traveled far across the sea, I met a man and  
old was he

Old man I said, where do you live? And this is  
what he told me:

(1) Follow me to Stamping Land, Stamping Land,  
Stamping Land

All who wish to live with me, follow me to  
Stamping Land.

- b. Repeat (1)  
(2) Clapping Land
- c. Repeat (1)  
(3) Tapping Land
- d. Repeat (1)  
(4) Nodding Land
- e. Repeat (1)  
(5) Pointing Land

- f. Repeat (1)  
    (6) Swaying Land
- g. Repeat (1)  
    (7) Stamping Land

10. My Little Puppy's Name Is Rags (Circle--Action)

All children stand on outer circle facing center.

- a. My little puppy's name is Rags

He eats so much that his tummy sags (lock hands,  
sway hands under tummy)

His ears flip flop (hands flip, flop on ears)

And his tail wig wags (hands wig wag on posterior)

He zigs and zags (arms, bent at elbows, move forward and backward)

Chorus: Flip, Flop (repeat above directions)

Wig, Wag (repeat above directions)

Zig, Zag (repeat above directions)

- b. My little puppy likes to play

He rolls himself in the dirt all day

I whistle (children whistle) but he won't obey

He always runs the other way.

(Repeat chorus.)

- c. He doesn't have a pedigree

But I love him

And he loves me--Arf, Arf!

11. Going on the Choo Choo

Chop Stick Activities (can be used with rhythm activities)

1. Tap sticks together, tap on floor twice.
2. Tap sticks together, tap on floor twice.
3. Tap sticks together, cross sticks twice.
4. Tap sticks together, tap stick with right/<sup>hand</sup> on floor.
5. Tap sticks together, tap stick with left hand on floor.
6. Tap sticks together, cross sticks on right side, tap sticks together, cross sticks on the left side.
7. Tap sticks together, tap ends of sticks together twice.
8. Tap sticks together, change sticks from hand to hand.
9. Tap sticks together, turn sticks in same hand.
10. Tap sticks together, turn, exchange sticks from hand to hand.
11. (For two children) Click or tap sticks together twice (each child has two sticks).

Jump Board Activities

The objectives of these activities are:

1. To develop dynamic balance.
2. To correct faulty gross motor problems.
3. To correct rhythm of a gross nature.
4. To develop internal rhythm that matches the rhythm of the board.
5. To develop an internal awareness of left and right (laterality).
6. To generalize motor patterns of the fine muscle groups.
7. To make a visual judgment of space.

Progression:

Eyes should always be on fixation point (this seems to work better if children work as partners).

1. Jump free style in one place on the board.
2. Jump free style with a weight in the left hand.
3. Jump free style with a weight in the right hand.
4. Jump free style with a weight in each hand.

[In Exercises 1, 2, 3 and 4, have child hold arms in varied positions as he jumps straight out in front, straight out to side, on hips, above head, swinging freely.]

5. [Repeat exercises 2, 3 and 4, having child jump the length of the board, turning around and jumping back.]

6. Jump free style and play catch with a bean bag.

7. Jump free style and pitch bean bag at a target.

[Exercises 8 through 13 are exercises to train rhythmic memory. If a child breaks down at a particular level, he should begin the progression again.]

8. Jump first on one foot, then on the other.

9. Jump on right foot once and left foot twice.

10. Jump on left foot once and right foot twice.

11. Jump on left foot twice and right foot twice.

12. Jump on right foot three times and left foot twice.

13. Jump on left foot three times and right foot twice.

14. [Have child jump his favorite way on jump board.]

[Observe what exercise the child chooses. If it is much lower in the progression than where the child is working, he may need to back down to earlier exercises.]

15. [Have the child make up ways to jump on the board.
16. Beginning jumping jack, with feet only.
17. [When Number 16 is mastered, add the arm movement to complete the jumping jack.]
18. Do jumping jack with weight in left hand.
19. Do jumping jack with weight in right hand.
20. Do jumping jack with weight in both hands.
21. Bounce a large rubber ball while bouncing on board.
22. Jump over a stick, turn around and jump over stick, coming from opposite direction.
23. Jump over a stick from side to side.
24. Jump over a stick fore and aft.
25. Jump rope on the jump board using both feet, then alternate right first, left first.

### Ball Progression

The objectives of this progression are:

1. To teach the child to coordinate eyes with hands, body and feet.
2. To teach the child to use temporal and spatial relationships.

Progression:

1. Push ball out from chest.
2. Push ball out from waist.
3. Swing right arm forward to shoulder height, change the ball to the left hand and swing the left hand back.

4. Ball in wrist-grasp in right hand, arm to the side. Swing the right arm across the body to the left, change the ball to the left hand and swing it across to right side.

5. Circle ball around in front of the body--forward, then reverse.

6. Balance stand on one foot with ball in one hand.

7. Balance stand on one foot with ball in two hands.

8. Pick up ball from floor, using two hands.

9. Pick up ball from floor, using one hand.

10. Pick up ball from between feet

11. Bend and reach with ball.

12. Twist trunk with ball in hands.

13. Throw ball in air, catch on chest with one hand.

Alternate hands.

14. Roll ball over the shoulders.

15. Hold arms out, bounce ball from horizontal position.

16. Bounce ball with knees bent.

17. Bounce ball with two hands.

18. Bounce ball alternating left hand and right hand.

19. Bounce ball to another child.

20. Toss underhand to another child.

21. Toss overhand to another child.

22. Two children toss balls back and forth.

23. Juggle a ball.

24. Toss a ball up and jump.

25. Dribble a ball on a straight line with two hands.

26. Dribble a ball on a straight line with one hand.
27. Dribble a ball with feet on a straight line.

### Jump Rope Progression

The objectives of this progression are:

1. To develop the child's visual sequence and memory.
2. To help the child control his body in space.
3. To help the child become aware of temporal relationships.
4. To help the child develop rhythm.
5. To help the child develop a better body concept.

Progression:

1. Arms (fold rope while in sitting position and put it under one leg).
2. Arms (fold rope while in sitting position and put it under two legs).
3. Arms (fold rope, bring it down behind back and back up in front while in standing position).
4. Rocker--use rope to hold feet while rocking in sitting position on floor.
5. Hula hoop on floor--jump into center with both feet forward.
6. Hula hoop on floor--jump out of center with both feet backward.
7. Jumping rope on floor--jump over with both feet forward.
8. Hopscotch.

9. Rope on floor--jump over with both feet backward.
10. Rope on floor--jump forward and backward over rope.
11. Rope on floor--jump sideways over rope with two feet and back again.
12. Rope on floor--jump forward over rope on right foot and back again.
13. Rope on floor--jump forward over rope on left foot and back again.
14. Rope on floor--jump sideways over rope with left foot and back again.
15. Rope on floor--jump sideways over rope with right foot and back again.
16. Hold rope in hands--swing over head and back again.
17. Rope in hand--step over forward.
18. Hold rope in hands--step over backward.
19. Hold rope in hands--jump forward.
20. Hold rope in hands--jump backward.
21. Hold rope in hands--jump forward and backward.
22. Hold rope in hands--jump over rope with right foot and back again.
23. Hold rope in hands--jump over rope with left foot and back again.
24. Hold rope in hands--do 5 jumps frontward on two feet.
25. Hold rope in hands--do 5 jumps frontward on one foot.
26. Hold rope in hands--do 5 jumps frontward on alternate feet.

27. Hold rope in hands--do 5 jumps frontward, skipping between jumps.

28. Hold rope in hands--do 5 jumps frontward, skipping 5 times forward.

29. Hold rope in hands--do 5 jumps backward on two feet.

30. Hold rope in hands--do 5 jumps backward on one foot.

31. Do 5 jumps forward and 5 jumps backward.

Fun with jump rope:

1. [Have the children jump for 30 seconds by stopwatch and count number of times they jump.]

2. [Have the children jump for 1 minute by stopwatch and count number of times they jump.]

3. Sit-ups with rope folded overhead.

4. Upper back stretch with rope folded in half.

5. Arm circling with rope folded.

6. Circling and bouncing with rope folded.

7. Kneeling and circling with rope folded.

8. Sitting and circling with rope folded.

9. Standing trunk circling with rope folded.

10. Side circling with rope folded.

11. Arms crossed in front of body before forward jump.

12. One eight-foot rope tying partners together as they jump side by side.

13. Twirl rope sideways while jumping.

14. Spin rope in circle over head or under feet.

### To Jump Rope Well:

1. Be sure your rope is long enough.
2. Keep hands away from the hips.
3. Jump with slow tempo when learning fundamentals.
4. Keep the head up.
5. Find a fixation point ahead of you.
6. Keep your shoulders level.
7. Let the hands do most of the work when turning the rope.
8. Relax your body while jumping.
9. Bend at the knees and hips.
10. Land on the balls of the feet.
11. When crossing the rope, cross the arms at the elbow.

### Simple Games

The general objectives of these games are:

1. To keep the children successful by a simple progression of low-organized games ranging from simple to complex.
2. To develop awareness of upper and lower extremities through the low-organized games.
3. To develop a better location sense within the child's body.
4. To build up visual memory and sequence by increasing the number of rules as the sequence progresses from simple to complex.
5. To help the child develop a sense of how long and wide his body is.

6. To improve social skills of cooperation, good manners and tolerance of accidental physical contact.

Some ideas for low-organization games are shown on this and following pages.

#### Sharks and Guppies:

Type: "It" game, everybody participates.  
 Materials: None.  
 Area: Twelve-foot circle.  
 Number of players: 12  
 Object: Guppies to stoop quickly after the word "me" to escape being tagged by the shark.

#### Rules:

Children form a circle. One child is the shark. The others are guppies. They move around the circle, pretending to swim, chanting: "Little guppies are we / We live in the sea. / The old Blue Shark is coming / But can't catch me!"

At the word "me" the children in the circle stoop, the shark trying to tag one before he can stoop. If a child is caught, he becomes the shark for the next game. If the children are slow at stooping because they want to be the shark, the rules may be changed so that the first one to stoop after the word "me," becomes the shark.

#### Birds and Butterflies:

Type: "It" game, everybody participating.  
 Materials: None.

Area: Twelve-foot circle in 30-foot square.  
Number of players: 12  
Object: Butterflies to run to goal line to escape being tagged by birds.

Rules:

One player, the Bird, squats in the center of a circle which is about 12 feet in diameter. This circle is placed in the center of a square with sides 30 feet long.

The players, called butterflies, walk, skip, hop or run, as the bird directs, around the outside of the circle, all going in the same direction. When the bird jumps to his feet, they run to one of the lines which form the sides of the square, the bird in pursuit. Butterflies tagged by the bird before they run outside of the square become birds, and assist him in capturing more butterflies. The game is continued when the butterflies that have been tagged are in a stooping position in the circle with the bird. The original bird always gives the signal to start to chase. The last butterfly caught becomes the first bird for the new game.

Big Bird:

Skills: Running.  
Materials: None.  
Number of players: Any number.  
Object: For each player to try to reach the center of the circle and tag "Big Bird" first.

### Directions:

The players are numbered from one to three, or one to four. The child in the center is "Big Bird." He calls a number and all the children who hold that number run around the circle, back to their starting positions, and then into the circle to tag "Big Bird." The first child who reaches "Big Bird" becomes the new "Big Bird," and calls a new number.

### Teaching Suggestions:

The teacher can designate the direction in which the children should run before the game begins. Big Bird should be the judge in deciding which player reached him first.

### Breeze and Boats:

Type: Group chasing group game.

Materials: None.

Area: 30 feet by 60 feet.

Number of players: 12

### Rules:

The players are divided into two groups, which stand on two parallel lines about 60 feet apart. The players stand about 5 feet from each other for safety in running. One group chooses the name of a boat, such as tug boat, sail boat, paddle boat; the other group is called the Breeze. The group representing the boats walk towards the opposite group representing the breeze. When the lines are about 10 feet apart, the boats stop. The line representing the breeze then tries to guess the

name chosen by the boats. If they guess the correct name, the boats run back to their starting line, the breeze chasing them. All players caught by the breeze return to the breeze's line. The remaining boats choose a new name and the game continues until all of the boats have been caught.

#### Steal the Bacon:

The children in a classroom are divided into two teams.

Each team numbers off consecutively, 1-2-3-4-5-6-7... The same number should be on each team. If there is an uneven number, one child may call out the numbers or keep score.

The teams line up facing each other across a court (two lines drawn on the playground with a mark in the center, on which is placed a flat object, "the bacon").

1	2	3	4	5	6	7	8	9	10	11	12
						X					
12	11	10	9	8	7	6	5	4	3	2	1

The teacher calls out a number. Each child with that number tries to "steal the bacon" and return to his own team without being caught by his opponent. Two points are earned by the team whose player is able to accomplish the theft; if the opposing player catches the thief before he crosses his own base line, the other team scores one point.

The team which scores the most points in the allotted time wins.

## Spud:

Children in a classroom number off consecutively. They group in a circle on the playground. The teacher or a leader tosses up a ball, calling out a number. The child who has that number tries to catch the ball while the other children scatter in the play area. As soon as the designated child catches the ball, he yells "Spud," and the other children must stop instantly and maintain their positions. The child with the ball, who also must stand in his place, tries to hit another child with it. Children may move their bodies in trying to dodge, but may not move their feet. After throwing the ball, the child who threw it is the leader for the next round, and the game continues.

The first time a child is hit by the ball, he is an "S," the second time a "P," the third time a "U," and the fourth time a "D." Penalties should be set before the game begins: One variation is that the child who has been hit four times and becomes a SPUD must stand with his face to a wall and let each child from a distance of several feet try to hit him with the ball.

## Hot Potato:

Children form a circle and drop hands.

Choose a small object (such as a ball or chalkboard eraser) to pass from child to child around the circle moving from left to right.

Play a record with a rather quick tempo.

Children continue to pass the object until the leader stops the music.

When the music stops, the child holding the object drops out of the circle.

The game continues until one child remains. He is the winner.

#### Musical Chairs:

Arrange chairs with every other chair facing the same direction, in this manner: Use one fewer chair than the number of children involved.

Children form a line to march around the chairs clockwise. Play a record with a brisk marching tempo. Children march around the chairs, keeping time to the music. When the music stops, the children scramble to sit in the chairs. The child left standing drops from the game. Take one chair from the line of chairs. Continue playing until one child remains. He is the winner.

#### Bring Me:

"Bring Me" is a variation of "Simon Says." The leader asks for objects: "Charlie, bring me \_\_\_\_\_." The child must bring the named object if possible. When the leader asks for something silly ("Bring me the window" or "Bring me the house"), the child must remain seated. The last child standing is the winner.

This game is very helpful in teaching children to control impulsive responses.

### Rowing a Boat:

Children sit on the floor, legs straight ahead; they bend the trunk forward and place the hands on the ankles, then pull back on the "oars," bending the arms and bringing the hands to the chest.

### The Propellers:

Pupils stand erect, arms extended sideways at shoulder height, palms up. They describe small circles backward with hands, keeping head erect. They turn palms down and describe small circles forward.



## Birds Fly:

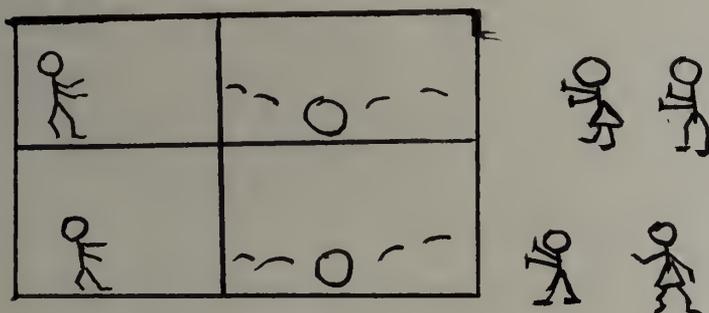
A leader calls out the names of things that fly and things that cannot fly ("Birds fly," "Lions fly," or "Eagles fly"). When the leader speaks, he always moves his arms in a flying motion, whether or not the things named can fly. If a child "flies" when the leader names something that does not fly, he must sit down. The child who stands the longest is the winner.

## Old Mother Hubbard:

Two lines of children face each other. The first group walks up to the second group and says, "Old Mother Hubbard sent me to you." The second group says, "What should you do?" The first group answers, "Beat one hammer as I do."

Use arm and fist as a hammer. All follow action. Repeat rhyme using two arms. Continue, using right foot, then left foot, then head. By the end of the rhyme the children are beating five hammers simultaneously.

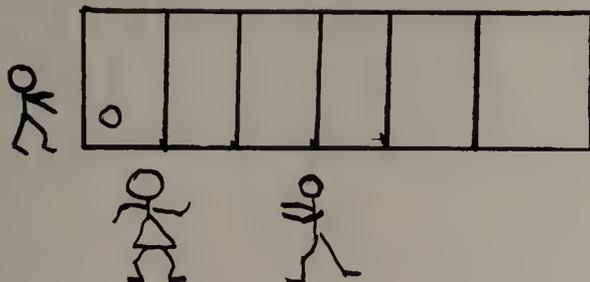
## Bounce Catch:



Two children stand in adjacent squares marked off on the classroom floor or play area. One child bounces the ball into

his opponent's square. The second child catches the ball and then bounces it back. If he fails to catch it on the first bounce, he is out, and a waiting child takes his place. After three bounces both players retire, and two waiting players take their places.

#### Beanbag Hop:

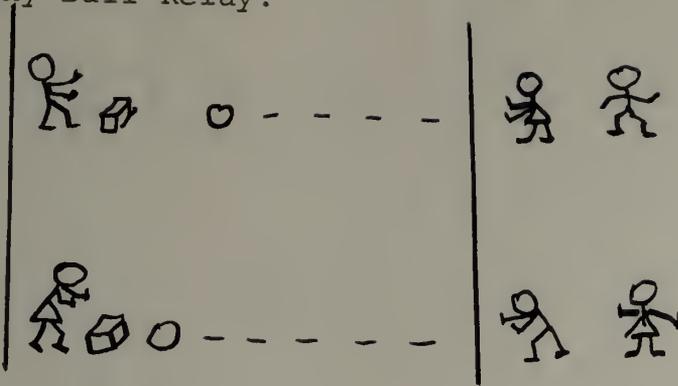


A diagram is drawn or taped on the play area. The first player faces the diagram and tosses the beanbag into the first space; he then hops into the first space, picks up the beanbag, and hops out of the diagram.

He then tosses the beanbag into the second space, hops into the first space, then into the second space, picks up the beanbag, hops again into the first space, and out of the diagram. He continues through the six spaces. When he reaches the end of the diagram, he starts back in the same way except that he uses the opposite foot.

Each player takes his turn in the same manner.

## Boxy Ball Relay:

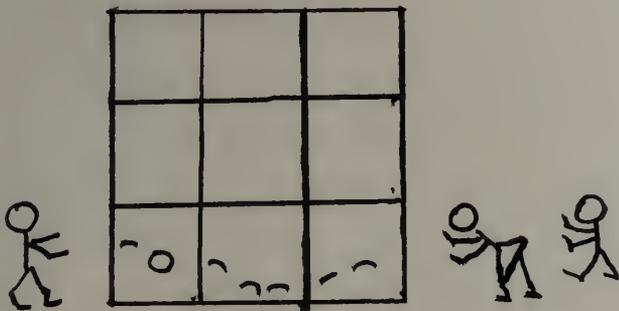


Teams are lined up behind the end line of a court. Opposite each team and ten feet away is placed an open box or carton turned on its side. A goalkeeper stands behind each box and returns the balls. If the court has horizontal lines, they can serve as guidelines for the players.

At a signal the first player in each line rolls the ball into the box. If he misses, the goalkeeper returns the ball until the player is successful. The ball is then rolled to the next player in line, and the first player goes to the end of the line.

The team which finishes first is the winner.

## Hit the Middle Squares



Two players stand on either side of a nine-square diagram.

One player bounces the ball into the middle square of the row of squares at his left. The second player catches the ball, and returns it, bouncing it again in the same square.

The first player then moves to the next row of squares and again bounces the ball into the middle square. The second player catches the ball and returns it. The first player bounces the ball in the same way in the row of squares at his right, and the second player bounces it back.

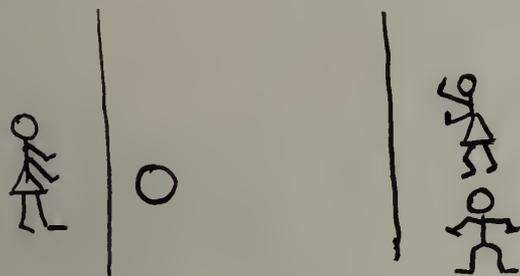
The two players continue until they have played facing every side of the diagram. If a player misses, a sitting player takes his place. Misses are made in the following ways:

Failing to bounce the ball into the center square.

Failing to catch the ball after the first bounce.

Stepping into the diagram.

Line Roll Ball:



The leader stands at one end of the court. The players stand, facing their leader, about three feet behind the opposite line. The leader rolls the ball toward a child. At the same time, she calls the name of the child who is to catch it before it crosses the line. The child then rolls it back to the leader, who continues until every child has had several

turns. As the children gain skill, the ball may be bounced and later thrown.

#### Shuttle Relay:



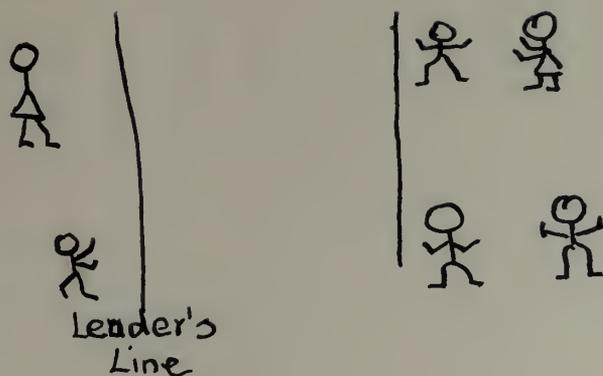
Players divide into teams, half of each team facing the other half.

On signal, "Go!" the first player on starting line runs, touches the first player on opposite line, and goes to the end of that line. The player touched runs to the starting line and touches the next player in that line. This continues until both halves are back in the original positions. The team which gets all the players back to the original positions first is the winner.

#### Dribble the Ball Relay:

Divide the players into a number of equal teams. The teams line up behind one of the goal lines. On a signal the first player on each team moves toward the opposite goal line, bouncing the ball as he goes. When he reaches the line, he catches the ball and runs back to hand it to the second player on his team. Each player repeats the action. The team whose last player crosses the starting line first wins the relay.

## Rescue Relay:



Players divide evenly into teams. Each team has a leader who stands on one line facing another teammate on the player's line. The leader runs, takes him by the hand, and runs with him back to the leader's line.

The leader stays back of this line. The rescued player runs back to the team, bringing the next player back with him. This continues until all have been rescued.

The team that first gets all players behind the leader's line is the winner.

### Classroom Activities for Fine Motor Skills

#### Sequential Steps in Developing Scissors Cutting:

Cutting exercises to develop cutting motion of the dominant hand and the holding motion of the other hand.

##### Level I cutting exercises:

1. Cut clay.
2. Cut cotton.

##### Level II cutting exercises:

1. Cut bits of paper at random.

2. Snip paper straws.
3. Fringe strips of paper.
4. Cut across strips of paper.

Level III cutting exercises:

1. Cut a wide straight line (two inches long).
2. Cut folded line.
3. Cut comic strips.

Level IV cutting exercises:

1. Cut geometric shapes (train the child to turn the paper with his holding hand, and to stop cutting before he turns his paper).
2. Cut snowflakes (should be directed).

Level V cutting exercises:

1. Cut curved lines (make short curved lines on paper for child to cut).
2. Cut circles (large at first, gradually decreasing in size).
3. Cut out combinations of geometric shapes (simple to complex ).

Level VI cutting exercises:

1. Cut easy figures (use simple, distinctly outlined figures).
2. Cutting and coloring activity sheets (teach child to color, cut, paste).
3. Cut more complex designs.

If the child cannot perform on Level I, activities must be designed to develop gross arm and hand coordination:

Initial arm-hand exercises:

1. Make-believe swimming.
2. Waxing furniture or floor.
3. Mopping and sweeping floor.
4. Turning spigots on and off.
5. Jumping lines.
6. Punching a bag.
7. Stirring.
8. Opening bottles.
9. Kneading clay.

Intermediate arm-hand exercises:

1. Chalkboard exercises.
2. Finger painting.
3. Tear paper.
4. Squeeze paper, small rubber ball, sponge.
5. Stuff cardboard into envelopes.
6. Screw lids on jars.
7. Twist pipe cleaners around pencils.
8. Finger games.
9. Open clothespin and put on top of can.
10. Clay activities.
11. String beads.
12. Throw and catch ball.

## Advanced exercises:

1. Various directed paper-folding activities.
2. Card lacing.
3. Shoe tying (have shoes in front of child).
4. Tying activities.
5. Use building toys such as Tinkertoys and building toys.

Steps to Pre-Writing

## Finger Manipulation:

- |             |              |
|-------------|--------------|
| 1. Lacing   | 5. Beads     |
| 2. Sorting  | 6. Blocks    |
| 3. Pegs     | 7. Parquetry |
| 4. Grasping | 8. Cutting   |

## Scribbling:

Random drawing on paper or chalkboard using preferred hand. The child is told to scribble, to make any sort of lines on the board or paper which he would like to make.

## Dot to Dot--Straight Lines:

Teacher stands at the chalkboard with child beside her. First, the teacher places a dot at random on the board. Next, the child places his chalk on the dot. Then the teacher places another dot at random on the board, and the child draws from the first to the second dot. The teacher then makes another dot and, without lifting his chalk from the board, the child draws from the second dot to the third. The game is continued

in this manner, the teacher always waiting until the child has drawn his line before placing the next dot. The purpose of this technique is to aid the child in establishing and maintaining directionality and changes in direction. Some children may have difficulty with this activity; therefore, use shorter lines. Shorter distances do not require the child to maintain his directionality for so long a period.

#### Mono-Manual Circles:

First ask the child to step up to the chalkboard and place his nose against the surface of the board. His nose will in turn make a spot on the board. (Be sure that the child is not standing on his tiptoes, but that his feet are flat on the floor.) Next, have the child step backwards away from the board, about 18 inches. The teacher or the child may then place a small "X" on the spot. Allow the child to use his preferred hand. In this activity, we would like to see a circle eighteen to twenty-four inches in diameter. It may be necessary in some cases for the examiner to demonstrate the size by drawing a circle of the desired size himself. Have the child watch his hand as he draws his circle. The circle should be drawn in a counterclockwise direction if the child uses the right hand, and a clockwise direction if he uses the left at first. Then the child reverses his direction. After the child has made the circle with his preferred hand, have him draw the circle with his other hand. The teacher may need to guide the child as he makes his circle at the beginning to help the child

control the movements of his fingers. Be sure to watch how the child holds his piece of chalk. If the child is unable to hold the chalk correctly, he will need to be shown immediately. If he is unable to hold the chalk correctly, he will need much practice in various finger manipulation activities, so that he may develop this fine-motor skill.

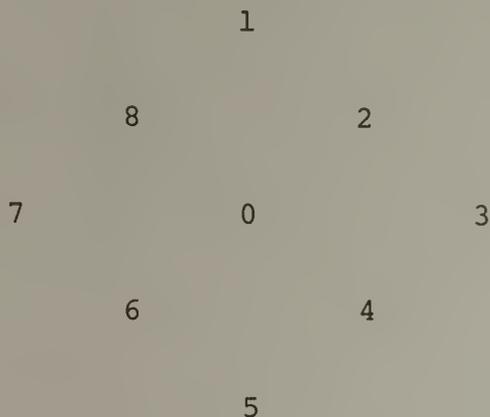
#### Bi-Manual Straight Lines:

The child holds a piece of chalk in each hand and moves both hands at the same time in various patterns of movement on the following diagram. Bi-manual chalk lines are made by the child to connect 7 and 3 with the "bullseye" 0 ; then 1, 5 and the center spot 0 , etc. The numbers should be placed far enough apart on the board so the child can reach them with full-arm extension while standing approximately twelve or fourteen inches in front of the board. All other outside dots are placed to complete a spoke pattern, which requires the same arm extension by the child. His movements of hands are from outside dots to central spot, and back again from the bullseye to dots in all possible variations of direction. There is a developmental sequence here also, which should be followed.

#### Opposed movement toward center directions:

The right hand draws a chalk line from 3 to the center 0 , and left hand draws from 7 to center 0 . Thus, hands are both moving at the same time from outside dots to center dot 0 . Refer to Clock Game Chart 1(a) for patterns. This activity can be simplified for the child

who does not recognize numerals by making the clock out of colored stickers, animals or some other recognizable form.



Letters of the alphabet may be substituted for the numerals. For children unable to recognize numerals or letters, colored circle or animal stickers can be used.

Opposed movement away from center directions:

Both chalks are placed on the center 0 . The right hand draws a chalk line from center 0 to 3 while left hand draws from center 0 to 7. Again hands are to be kept in bilateral movement.

Parallel movement directions:

The right hand draws a chalk line from the center 0 to 3 while the left hand is drawing from 7 to center 0 . Have the child reverse the directions of his hand movements so the right draws from 3 to center 0 , and left from center 0 to 7.

Center movement toward and away directions:

Have the child use dot 7, dot 1 and the center 0 , as

starting point or destination in the varieties described above. For example: Right hand draws from 1 to center 0 while the left hand draws from 7 to center 0 , etc. Have the child reverse the directions of his hand movements so the right draws from center 0 to 1, while the left hand draws from center 0 to 7. This gives the child an opportunity to combine horizontal and vertical movements of arms while drawing the lines.

Left to right, right to left movement directions:

Have the child use dot 7, dot 1, and the center dot 0 , as starting point or destination in the varieties described above. For example: Right hand draws from center 0 to 1 while the left hand draws from 7 to center 0 . Have the child reverse the directions of his hand movements so the right draws from 1 to center 0 while the left hand draws from 0 to 7.

It is important that the child strive to keep his arm and hand movements coordinated so both hands reach their destination at the same time. This develops freedom of movement and kinesthetic (muscle feeling) awareness of arm and hand positions.

### Bi-Manual Circles:

1. Right hand moving clockwise while left moves counterclockwise.
2. Left moves clockwise and the right moves in the counter direction.
3. Both moving clockwise.
4. Both moving counterclockwise.

This is in no manner intended to influence "dominancy" or "preference" of a hand, but to get all possible control of each hand and to emphasize each in the bilateral relationships. Use and development of both hands in basic guidance routines is a prerequisite for any of the more discrete or distinct skills which lead to writing and refined manipulative actions.

### Bi-Manual Curved Lines:

The teacher draws a continuous line on the board in the shape of a figure 8 lying on its side () , approximately 24 inches wide and 10 inches high. The child traces over and over this figure with one continuous line, without taking his chalk from the board. When he has mastered this task, ask him to reverse directions without removing his chalk from the board or interrupting the activity. (Begin reversal movement at bottom).

1. Ask the child to trace this figure () in both directions with the right hand and both directions with the left hand.
2. Ask the child to stand so that the entire figure () is to the right of the center of his body, and so that the

entire figure is to the left of his body. Also, ask the child to stand so that the center of his body is directly in front of the crossing point between the two loops ().

#### Tracing Activities:

1. Use onion-skin paper. The child uses a large crayon, large pencil or a magic marker.
  - a. Templates
  - b. Stencils
  - c. D.L.M. tracing paper designs
  - d. Try Kit language activities
  - e. Dubnoff material
2. Copying design free-hand instead of tracing.
3. The child studies designs, covers the designs and then draws them from memory.
4. D.L.M. pre-writing design card.
  - a. Chalkboard practice, using large strokes.
  - b. Color code paper beginning with 1-inch lines.
  - c. Color code paper using 1/2-inch lines.
  - d. Color code paper using 1/4-inch lines.
  - e. Use 1/4-inch lines with black lines (magic marker) on white paper.
  - f. Use tablet or primary writing paper.

#### Pre-Writing Exercise:

This is a mini-writing lesson for the D.L.M. design cards and blocks:

1. Examine and discuss the writing plate (note colored lines, placement of blocks, spaces between groups of blocks).
2. Explain that words make a design or shape of their own. Look at green block. Ask if the child knows a word that might "fit the shape." ("I" is correct.) If he cannot think of one, suggest "I." Uncover "I" on the written page.
3. Discuss the shapes of "am," "a," "boy," letting the child guess what the word might be.
4. Have the child place blocks on the card to make the shape of the word (2 times).
5. Remove blocks and have him place them on the blank card to form a word, first with the pattern above the card, next from memory.
6. When he can do this from memory, have him trace letters with his fingers, first verbalizing each step; i.e., "I start on the red line, and come straight down past first green line and stop on green line." He must verbalize first, then trace with his finger, verbalizing as he traces, the same with each letter.
7. Using a sheet of paper with just one set of lines, and having the pattern in front of the child, have him verbalize what he is going to do (where he will start and where he will stop). Then he may write the sentence.

### Clay Tray

The clay tray can be used for eye-hand coordination, improving finger-wrist manipulation, and reading reinforcement.

The tray can be easily constructed by using a foil tray and a half-inch layer of clay. The clay may be softened by placing the tray in the sun, or over a register.

Hand, Thumb and Finger Exercises (to develop controlled, sustained movements of individual fingers and thumbs of each hand):

1. With fingers together, place finger tips into the clay. Stretch the thumb as far as possible, down and away from the fingers, into the clay. To cut resistance, make little tracks in the clay from the thumb to each finger. Ask the child to follow the track with his thumb to the first finger, keeping the thumb in the clay at all times. Then continue the exercise by following each track up to each finger and back.

2. When the child can do this, remove the tracks and spread the fingers apart. Press the child's fingertips into the clay and have him hold his fingers in this position. Ask the child to stretch his thumb as far away from the fingers as possible. Then the child should push the clay with the thumb up to each finger. Then the child should push the clay away from each finger, then combine pushing the thumb away with pulling in toward the finger.

3. Spread the four fingers apart and push them into the clay. Make two dots in the clay, one directly below the index finger and the other directly below the little finger. The child should stretch his thumb along in the clay from one dot to the other.

4. Keep the fingers together, thumb up, and place the fingertips at the tray's edge farthest from the child's body. Have the child pull his fingers down across the clay. Do as unilateral and bilateral task.

5. Keep the fingers together, thumb up, placing the tips at the tray's edge, closest to the child's body. Have the child push up to the top of the tray and across the tray. (Vary all these activities with diagonal and horizontal lines.)

6. Using index finger, trace from dot to dot through the clay, forming letters and numerals.

#### Sequence for Tying Shoes

The ability of a child to tie his own shoes represents two major growth levels. In the first place, the tying of a bow knot demonstrates good eye-hand coordination, showing that the child can cope with difficult necessary space tasks. In the second place, the ability to tie reflects independence and self-assurance. His visual-motor capability is optimal for symbolic language acquirement. The ability to tie his shoes is very important to a first-grader. The following is a mini-lesson for one child and an adult.

The instructor should note the child's handedness. The instructor should place the child on the floor beside him, to the instructor's right if the child is right-handed. If the child is left-handed, he should be in front of you. Both instructor and child should face the front shoe. Do not place the child facing opposite the instructor if the child is right

handed. It is advisable to use the child's own shoe if possible. The instructor and the child will work together on one shoe only. The shoe, of course, will be unoccupied. The instructor will explain and demonstrate how to tie a shoe with the child. The sequential steps are as follows:

1. Instructor crosses laces.
  2. Instructor makes first loop.
  3. Instructor places lace over loop and finger.
  4. Instructor pushes lace through hole.
  5. Instructor pulls lace through hole.
  6. Instructor grasps both loops and pulls tight simultaneously. When the instructor begins training the child, he reverses the steps.
6. Child grasps both loops and pulls tight simultaneously. (Do this step until the child is comfortable.)
  5. Child pulls lace through hole. (Do this step until the child is comfortable doing this task). Do steps 5 and 6.
  4. Child pushes lace through hole. (Do this step until the child is comfortable doing this task. If the child continues to have trouble, drop back to step 5.) Do steps 4, 5, and 6.
  3. Child places lace over loop and index finger and thumb. (Do this step until the child is comfortable doing this task. If the child continues to have trouble, drop back to step 4.) Do steps 3, 4, 5, and 6.
  2. Child makes first loop. (Remember, the instructor

knows if the child is right- or left-handed. Do this step until the child is comfortable doing this task. If the child continues to have trouble, drop back to step 3 and repeat step 3.) Do steps 2, 3, 4, 5, and 6.

1. Child crosses laces. (Do this step until the child is comfortable doing this task. If the child continues to have trouble, drop back to step 2 and repeat step 2.) Do steps 1, 2, 3, 4, 5, and 6.

Encourage the child to practice tying the unoccupied shoe until he is comfortable and wants to put his own shoes on and tie them by himself.

### Mini-Lessons

The following are mini-lessons in which teachers' aides or parents can take the role of the instructor to help the child improve his psychomotor coordination in the fine-motor area. They should never be used with more than two children.

#### Lesson 1:

##### Materials:

1. Pegboard for each child and instructor.
2. Pegs: red, blue, green, yellow, orange, purple.

Place a child on each side of the instructor so that her right is their right and her left is their left. Each child and the instructor has a pegboard and a pile of pegs. The instructor begins by asking the children what color says "go." If the children know, praise them; if not, tell them and then

ask them to pick up a peg that is green. Then ask if they can put the green peg in the hole on the pegboard which shows where they start when they read. If they can do it, praise them; if not, help them put the green peg in the top left-hand hole. Then ask again what the green says to do. When they seem to know that green says "go," ask them to find the color that says "stop." Help them to place a red peg in the top right-hand hole. Then ask again what red tells them to do. Then, pointing to the green on the left side of the first row, the child should fill in with blue pegs from left to right until the red says to stop.

This procedure should be repeated for each row. When all 10 rows are completed, the children should take turns moving down their pegboards from left to right, repeating the words as they follow the pattern: left to right, left to right, etc. This closes the lesson.

## Lesson 2:

### Materials:

1. Tweezers.
2. Colored popcorn.
3. 2 plastic bottles with small openings.

Place tweezers, a bottle and a stack of popcorn in front of each child. Demonstrate the way to pick up a piece of popcorn with tweezers. Then begin the following directions. The numbers can vary.

1. Pick up a set of 5 yellow kernels one at a time and put them in the bottle. Count each kernel as you put it in.
2. Pick up a set of 4 green kernels one at a time and put them in the bottle. Count each kernel as you put it in.
3. Pick up a set of 3 blue kernels one at a time and put them in the bottle. Count each kernel as you put it in.
4. Pick up a set of 6 green kernels one at a time and put them in the bottle. Count each kernel as you put it in.
5. Pick up a set of 10 red kernels one at a time and put them in the bottle. Count each kernel as you put it in.
6. Pick up a set of 6 blue kernels one at a time and put them in the bottle. Count each kernel as you put it in.

When the instructor completes these directions, she instructs the children to pour all the popcorn into a little pile and count each one, moving them to another pile as this is done. When the two children have counted their piles and compared their totals, they separate the popcorn into sets according to color and then count the sets, touching each kernel as they do so. When these totals are compared, the lesson can be closed.

### Lesson 3:

#### Materials:

1. Round wooden beads: red, yellow, blue, green, purple, orange.
2. Round shoe laces.
3. Newsprint cut into long strips, 24 inches by 3 inches approximately.

4. Crayons: red, yellow, blue, green, purple, orange.

Place beads, newsprint, and crayons in front of each child. Show the children how to string the beads. Then begin giving the children two-part auditory directions.

1. String three green beads and three red beads.
2. String two orange beads and two blue beads.
3. String one yellow bead and one purple bead.
4. String one red bead and one green bead.
5. String two orange beads and two blue beads.
6. String three yellow beads and three purple beads.
7. Lay your strings of beads above your paper with the three green beads on the left.

8. Draw a picture of your string of beads. Travel across the paper from left to right. Be sure you use the right color. Be sure you make the right number.

To close the lesson, ask the children in turn to count with you. First count the crayon drawing, then the string of beads to see that they are equivalent. When they have seen that they are or are not correct, they correct their errors and return to their seats.

Problems in Learning the Visual Skills

Problems

Eye-hand coordination.  
Identification of colors.  
Attentional.  
Perception of form.  
Spatial relationships.  
Figure-ground relationships.  
Reversal of letters and numbers.  
Configuration.  
Part-whole relationships.  
Visual memory and sequencing.

Symptoms of Difficulty

Failure to stay within the lines of simple forms when coloring.  
Irregularity in lines when following dots.  
Inability to designate various colors.  
Lack of interest in visual tasks.  
Lack of ability to recognize similarities in forms.  
Disconnected parts in a drawing.  
Inability to distinguish figure from ground.  
Lack of established direction in reading and writing.  
Reversal and/or inversion of letters or numbers.  
Confusion in general configuration or shape of words.  
Seeing a series of parts in an object rather than the object itself.

Inability to see missing parts in a figure.

Inability to accurately recall previous visual experiences.

Short attention span.

Inability to remember the order of letters in words. (Example: This is a boy--Hits si a yob.)

Developmental and Remedial Exercises: Visual-Motor Activities

Representative Activities:

Remove the left shoe before using exercises or activities which involve directions in using one foot or the other. This provides sensory reinforcement through tactile modality so that the child can tell which foot is "left" without looking.

Paint or make a design (or stepping stones) in red and green on the floor or the playground. Tie a green ribbon around the child's right instep, a red one around his left. Instruct him to step on each "stone," matching colors to stone and saying "left" or "right" appropriately as he steps.

Use a flannel board, asking the child to put the house to the left of the tree or to move the tree from the left to the right side of the board.

Develop verticality through marking paper "top" and "bottom" and through discussion of the terms in relationship to vertical surfaces (walls) and to flat surfaces (paper on a table).

In any mathematics activity, call attention to top and bottom and left to right in flash cards, guides, and books.

Use card holders for building words one letter at a time, building from left to right; progress to phrases and then to sentences, using sentence strips.

Give the child a picture of an incomplete face; ask him to complete the face; later give the picture of an incomplete body; allow him to add parts. (Variations would be to copy the figure from the board and add missing parts.)

Give the child a picture of a human body and a list of parts (elbow, ear, leg, knee); ask him to match terms and parts of the body.

Help the child gain meaning from visual material by using the following activities:

1. Take snapshots. Have the child sort them as they relate to experiences.
2. Teach the child to observe and describe objects in his environment.
3. Follow picture directions for putting together model cars, and for paper-folding such as Origami.
4. Label objects and their function--"an airplane takes people places."
5. Help develop visual images by playing "Let's Imagine." The child draws a bird, horse, an elephant.

6. Child can be helped to identify concepts of opposite or similar by comparing pictures, designs, road signs, letters, words and ideas.

7. Time and space conceptualization can be developed by relating time to quantity--"Save a penny a day and watch the bank fill up. Watch the sand move through the timer. See the shadow grow on the sun dial as the time goes by."

8. Help the child find solutions to problems by:

a. Stating problem--finding a picture to match a word, for instance. .

b. Selecting various possibilities.

c. Finding the best solution.

d. Helping the child to guess and then testing his judgment.

Let the child draw lines under certain words in the reader.

Let the child move a finger from word to word or use a liner when reading.

Use visual discrimination exercises.

Look for similarities in geometric forms in the environment.

Provide practice in perceiving and copying circles, squares, triangles, rectangles.

Use concrete objects so the child may feel the edges of various forms.

Draw outline of flat objects on paper, such as a coin, a key, a jar lid. Let the child match the objects to the form.

Cut various geometric forms from carpet scraps, mount them on cardboard or plywood, combining the visual and the sensory approaches.

Use pegboard designs for the child to replicate.

Do parquetry block designs.

Use word wheels to learn word families, blends, rhyming words, endings, and beginning sounds.

Use a primary typewriter to print word lists.

Use commercially made sewing cards to encourage form perception.

Use straws or toothpicks to construct simple geometric forms glued on cardboard; ask the child to duplicate these, varying forms to suit individual needs.

Let the child "follow the dots" or follow the numbers on various geometric figures.

Use overhead projector to flash geometric forms for recall; then let the child copy the forms.

Let the child make geometric forms with clay.

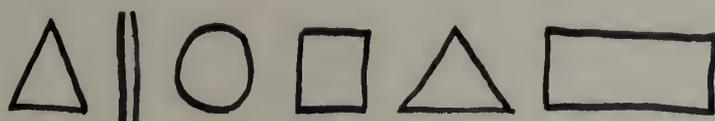
Ask the child:

To name square objects within his range of vision;

To fingertrace forms of objects of various shapes;

To trace these objects on paper.

Project acetate drawings with examples such as the following:



Allow the child to find the one like the first one.

Paste different shapes made of felt on cardboard; the child feels and names one with his eyes open; then feels and names the same one with his eyes closed. Omit Step 1 as soon as possible; increase the number of objects slowly.

Allow child to finger-point when reading.

In order to decrease stimuli, have the child frame a word with his hands when working at the chalkboard.

Use window markers to isolate words, then phrases and lines.

Cover pictures on a page to decrease distractions.

For those children who have difficulty keeping their eyes on a particular word, use marking devices or pieces of paper with slots in them on which arrows have been placed to indicate direction of travel (reading from left to right).

Use page covers with cutouts so child sees one mathematics problem at a time, rather than the entire page.

Color with crayon on paper taped to the wall, using templates, or color on chalkboard with large chalk. The form in templates should be outlined with a wide, black line. Later transfer this activity to the desk or the table. The child should color the outline of the form first.

Use color games from First Learning Games (Golden Press, A Division of Western Publishing Co., Inc., 239 Great Neck Road, Great Neck, N. Y. 11021).

Use brightly colored chalk and colored felt-tipped markers to intensify anything presented visually, and let the child do the same.

Write large letters on chalkboard, charts, and seatwork.

Help the child to fingertrace large letters in cursive style, emphasizing kinesthetic, tactile, and auditory approaches as well as visual.

Supplement visual activities with heightened tactile

stimulation. Use kitchen cleanser or silicone sprinkled on glue to cover the outline of the letters.

Mark the preferred hand by a color.

Ask the child to trace each hand on paper. Cut out, label, and match hands and cutouts.

Explain midline of the body and develop a feeling for left and right.

Mark the center of the writing paper and line it up with the midline of the body.

Give practice in setting the table, saluting, and shaking hands, pointing out that in order to be socially correct a person must be aware of left and right.

Play such games as "Hokey Pokey."

Encourage the child to bounce a ball with the preferred hand, the other hand held behind the back.

Provide experiences in moving from left to right, as in the following: "Take the chicken home."



Direct children in pitching bean bags through graduated holes in a box and retrieving them with the preferred hand.

Give practice in working with various types of fasteners, locks, light switches, and other common gadgets, such as a telephone dial and a faucet.

Provide opportunities for putting nuts and washers on bolts.

Give directions such as, "Put your right hand on your left shoulder."

Mark the left side of paper in green so the child will work from left to right. For textbooks, a colored arrow can be attached to the book with a paper clip.

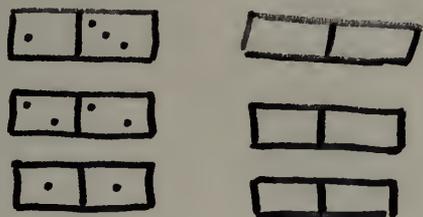
Draw an arrow running from left to right at the top of writing paper.

Cut out letters and letter combinations and put them in small boxes. The child should say the letters, combinations, or words aloud to combine the visual and auditory approaches.

After the word is successfully put together, have it written or printed in large letters. Size is a critical factor.

Make cards appropriate for the child's needs; use for drill with Language Master.

Present cards or exercises in which the child replicates domino patterns. This may be done on chalkboard, flannel board, or large paper.



Use letter separation techniques by leaving space between each letter in a word, emphasizing individual letters rather than the complete word. This is necessary for those pupils who cannot perceive letters in close sequence. Rather than looking at whole words, a child with this particular perceptual-motor disability must learn letter by letter.

Provide letters cut from magazines or newspapers, selecting letters about 1/2 to 1 inch in height.

Put different letters in different boxes or in different piles on the table. Give the child a word to build and have him select letters one at a time to build the word.

Provide cards with letters or numbers on them for the child to identify and copy in large print.

Allow the child to finger point as long as this is necessary.

Let the child write large letters or numbers (approximately 10 to 12 inches high) on the chalkboard. These may be

traced over with chalk or a paint brush dipped in water. The letter name or number should be repeated orally as it is written and traced.

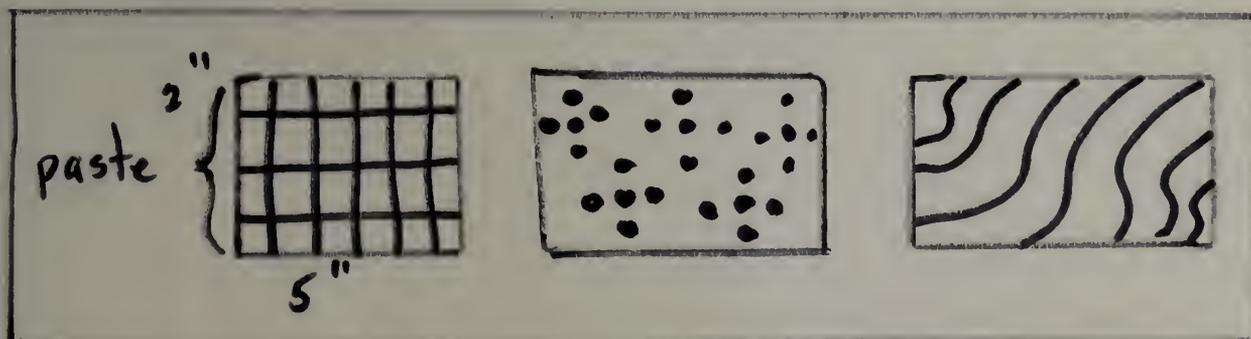
Cover 9- by 12-inch cardboard with plastic so a sheet of paper can be inserted; let the child use a grease pencil to trace, following arrows, the numerals or letters that are on the paper.

Tape a tagboard strip, on which different colored numerals are written, to a pegboard, spaced as far apart as the horizontal rows on the pegboard; let the child use pegs to match the color and the number.

Match the design: The purpose of this exercise is to develop visual discrimination.

1. Cut from each of several striped or simply patterned pieces of wallpaper two pieces of paper (one approximately 2 inches by 5 feet).

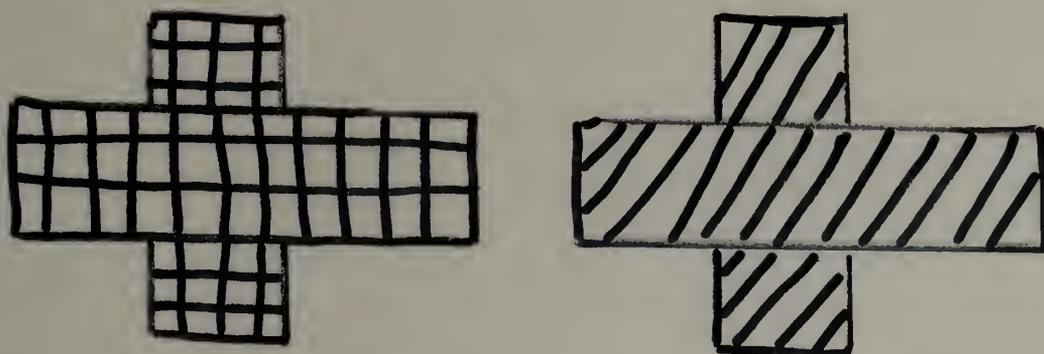
2. Staple or paste the edges of one of each design on a large piece of cardboard as illustrated:



3. Place the matching pieces in a small envelope and attach to back of the cardboard.

4. Ask pupils to slide each of these pieces under the matching wallpaper square so that the design is exactly lined up.

Example:



Select a picture of a house or other object and outline it with a felt-tipped marker. Make an outline of the house on another card and have the child match the picture to the outline.

Print words on the chalkboard in large letters.

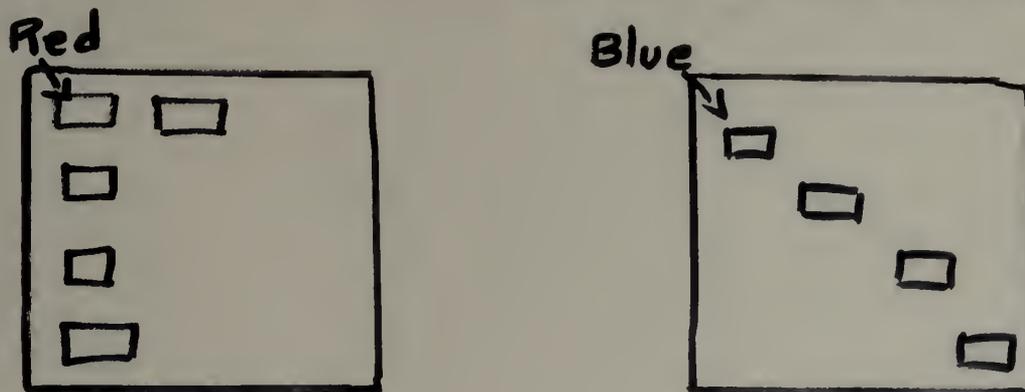
Examples:

How (first letter is a tall letter)  
 not (last letter is a tall letter)  
 rabbit (middle letters are tall)  
 you (first letter hangs down)  
 up (last letter hangs down)

Ask the child to go to the board and draw the shapes of the word: how not

Cut out colored one-inch squares of tagboard. The child

should have envelopes with squares separated by color, six of each color. Show a pattern and have the child duplicate it.



Let the child use Percept-O-Cards.

Expose a word on a flash card for a brief interval and have the child state the number of letters.

Expose words with a consonant at the beginning, in the middle, or at the end; let the child tell position of consonant in the word.

Use carrels or similar screening devices to limit distractions.

Use listening stations to coordinate audio-visual activities.

Play the game Concentration.

Play the game Percept-O-Cards.

Ask the child to name foods eaten for breakfast; to describe an animal; to describe the bulletin board; to tell the previous day's activities in sequence.

Arrange a series of objects in a certain order; scramble the objects and ask the child to repeat the pattern.

Provide opportunities for word matching exercises.

Word Discrimination Practice Exercise: Draw a ring around the words that are the same in each row:

<u>no</u>	in	on	no	an	me	no	no	ma
<u>bed</u>	dab	bid	bed	bad	dub	bud	bed	bed
<u>lap</u>	tap	lap	pal	lip	lap	lab	lap	pal
<u>top</u>	tap	pot	tip	top	pot	pit	top	tap
<u>now</u>	new	nor	now	won	win	won	now	now
<u>rat</u>	tar	rat	reg	tar	rat	tan	rot	tar
<u>was</u>	sew	war	saw	was	saw	was	saw	was
<u>spot</u>	tops	step	pots	spot	tops	spot	step	tops
<u>meat</u>	neat	team	meal	meat	meet	team	neat	meat
<u>star</u>	rats	star	stir	tars	rats	star	stir	tars
<u>keep</u>	peek	keep	peel	seep	leap	weep	peek	keep
<u>ten</u>	tan	tin	ten	ton	net	not	net	net
<u>from</u>	term	from	them	form	from	form	from	them

An Exercise to Improve Perception of Form in Letters and Words: Look at the words in the rows below. Draw a circle around all words in each row that begin with the same letter as the first:

1. dig	big	doll	dot
2. say	bay	sight	sign
3. book	look	big	bill
4. fit	sit	sat	fat
5. clock	dock	comb	dome
6. wrote	throat	write	fight
7. soot	put	sit	miss
8. height	bite	hound	how
9. freight	eight	fake	make
10. stale	bale	wait	state
11. step	pep	bean	seen
12. purse	nurse	pan	fan
13. creek	mEEK	sore	core
14. cork	fork	cage	page
15. money	funny	move	groove
16. count	mount	now	cow
17. less	mess	grump	lump
18. cover	hover	cling	fling
19. sin	pin	sing	ring
20. brother	mother	bent	bend
21. half	calf	hate	bait
22. flee	me	fever	beaver
23. bought	caught	bit	bliss
24. man	ban	mute	cute
25. vein	plane	vendor	sender
26. blind	kind	bottle	bond

27.	fell	bell	ferry	merry
28.	dime	time	dim	him
29.	new	do	need	seed
30.	milk	silk	melt	pelt
31.	very	merry	vest	test
32.	suit	fruit	straw	draw
33.	table	fable	tie	pie
34.	hand	sand	hive	tribe
35.	buy	sky	burn	fern
36.	key	pea	kid	bid
37.	glass	pass	girl	curl
38.	crush	brush	card	guard
39.	storm	dorm	stem	hem
40.	where	ware	smoke	soak
41.	store	core	string	wing
42.	moat	boat	men	den
43.	cat	hat	come	bum
44.	mold	bold	penny	many
45.	clown	brown	cut	what
46.	way	day	worm	firm
47.	flow	blow	faint	paint
48.	two	true	red	wed
49.	must	trust	main	drain
50.	chair	share	chain	brain

Change the initial (first) letter in each of the following words to make three new words:

Example: jump

lump

dump

hump

- |          |       |       |       |
|----------|-------|-------|-------|
| 1. fight | _____ | _____ | _____ |
| 2. mad   | _____ | _____ | _____ |
| 3. tore  | _____ | _____ | _____ |
| 4. may   | _____ | _____ | _____ |
| 5. how   | _____ | _____ | _____ |
| 6. sun   | _____ | _____ | _____ |
| 7. fill  | _____ | _____ | _____ |
| 8. saw   | _____ | _____ | _____ |
| 9. heat  | _____ | _____ | _____ |
| 10. pen  | _____ | _____ | _____ |
| 11. bare | _____ | _____ | _____ |
| 12. face | _____ | _____ | _____ |
| 13. band | _____ | _____ | _____ |
| 14. bake | _____ | _____ | _____ |
| 15. bank | _____ | _____ | _____ |
| 16. ball | _____ | _____ | _____ |
| 17. cent | _____ | _____ | _____ |
| 18. bell | _____ | _____ | _____ |
| 19. ride | _____ | _____ | _____ |
| 20. cry  | _____ | _____ | _____ |
| 21. pig  | _____ | _____ | _____ |
| 22. bill | _____ | _____ | _____ |
| 23. fine | _____ | _____ | _____ |
| 24. dive | _____ | _____ | _____ |
| 25. cold | _____ | _____ | _____ |

Look at the words below. Draw a line under those words in each row whose last letter is the same as the last letter in the first word. When using with children, leave more space between each line of words.

Example:

	<u>fast</u>	firm	rat	can	hat
1.	see	lock	bee	tree	sky
2.	rob	steal	take	cob	mob
3.	go	stop	stay	come	no
4.	saw	mow	sow	throw	run
5.	bay	tray	baby	play	game
6.	tree	grass	rose	sky	bird
7.	help	hat	loop	jump	soup
8.	blue	red	green	brown	white
9.	salt	malt	felt	melt	belt
10.	walk	talk	chalk	floor	mild
11.	dog	cat	pig	duck	fish
12.	fat	big	jet	tall	thin
13.	wagon	woman	man	boy	girl
14.	rock	sand	sun	star	clock
15.	house	home	mother	grass	mine
16.	boat	truck	car	train	wagon
17.	cup	dish	rag	flag	pup
18.	dress	hat	shoes	socks	coat
19.	one	two	three	four	five
20.	hold	fold	old	wall	hurt
21.	of	an	and	in	if
22.	eat	ate	late	said	gate
23.	fast	hand	eye	head	feet
24.	day	night	noon	week	work
25.	bug	time	line	clock	rug

Look at the first word in each line and change it to another word by changing the middle vowel only:

Example:      cot      cut

sit

fat

tip

buy

bat

wig

has

hat

for

pig

wet

rat

put

pen

met

run

bad

tin

seem

rip

dad

mop

man

farm

### Remediation Procedures for Visual Sequential Memory Skills

Have the child draw simple line figures or geometric forms. Allow the child a five-second observation time. Remove the picture and have the child draw from memory. When he is through, show him the original drawing again, and allow him to complete or correct as needed.

Mount matching colored pictures of good size. Cut one into simple geometric shapes with an Exacto knife or other suitable tool. Allow the child to reconstruct cut picture-puzzle, using uncut picture as a guide.

Present a series of miniature animals, doll house furniture, racing cars or any other group of appealing objects. Ask the child to observe for a short interval, then remove them and ask him to name them in the order that they were presented. Begin with three and increase the number as the child becomes more adept.

Simple pegboard designs may be presented to be copied from memory by the child.

"Concentration" games are listed under multi-purpose games.

Use Frostig materials for sequence training.

Present frequently reversed or easily confused words (tap-tab, saw-was, no-on) and have the child repeat them from memory.

### Remedial Techniques for Visual Closure Skills

Have the child construct primary puzzle. The teacher rearranges and keeps one piece. The child reconstructs and describes one piece as to color, size, and shape.

Make available miniature animals, cars, or dolls. Encourage the child to arrange them for a diorama.

Use the collage as a theme for organizing objects from a similar category (a collage of football players, snowmobiles, flowers, etc.).

Maze tracing from children's magazines and Frostig and Fitzhugh materials.

Dot drawings which require numbered dots to be connected to form a complete drawing.

Any matching game where the child is required to find matching letters or words in manuscript or cursive writing.

"Find the hidden object" puzzles in commercial magazines or Frostig and Fitzhugh materials.

Use anagrams to develop visual closure for frequently used words.

Make chains of colored paper strips, copying a prescribed pattern.

Cut a word into letters and ask the child to build the word to fit the one in the sentence; continue until the sentence is completed. Direct the child to copy the sentence in large letters.

Use strip charts of patterns of objects for additional drill. The charts suggested are also appropriate for rhythms, visual memory, coordination, and spatial relationships.

Give each child in the group a word that is a part of a sentence written on the chalkboard or in a pocket chart; let them assemble the words in sequence.

Cut up simple stories, pasting sentences on tagboard; let the child reassemble the story in sequence.

Use the Elementary Tachist-O-Flasher Kit.

Let the child close his eyes and feel a simple object, thinking of the whole rather than separate parts of it.

Present a toy doll house; use furniture and dolls for free play.

Let the child identify objects in the doll house, again trying to emphasize the whole rather than the parts.

Ask the child to identify large objects in the room such as a chair, a desk, or a table.

Mount a magazine picture of a person or of an object on tagboard. Direct the child to replace parts of the figure that have been cut out.

Work jig-saw puzzles.

Use flannel board and let the child assemble basic parts of a human figure; then assemble a house with windows, door, and chimney.

Use puzzles for the child to reconstruct parts of objects.

Show figures with missing parts; have the child identify what is missing.

Show figures with distorted parts; let the child identify the errors.

### Teacher-made Games

#### Form Bingo:

Form Bingo is designed so that up to six children may play at one time. One person acts as caller. One card is given to each of the other players. The shapes to be called (number and design) may be cut apart or may be cut out so that the shape can be felt by the child doing the calling. The shapes should be thoroughly mixed. The calls should be made so that the number and shape are both called. (Page 160 following represents the call page.)

Filmed as received  
without page(s) 160.

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The shapes on the five cards are designed in rotating type order so that each child has the opportunity to cover up a shape on his card with each call. The first child to have five shapes in a line--horizontally, vertically, or diagonally--wins the game. (If the children observe carefully and cover up the squares as called, they will all "win" at the same time.)

The game can be made more complicated by coloring the designs. By using five colors and increasing the calls to include shape, number, and/or color, there will be only one child who covers a space on his card with each call. (Only one child will win.) If the colors are mixed rather than kept in rows, the game will be more complicated and the calls will be by shape and color.

#### Outcomes:

Familiarity with basic shapes.

Improved attention and concentration.

Familiarity with numbers.

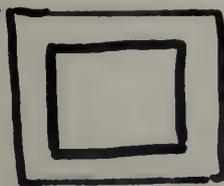
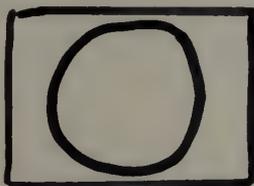
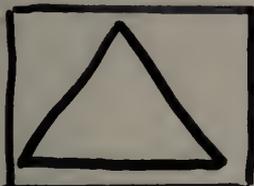
Development of tactile ability.

Ability to recognize and pronounce names of basic shapes.

Fun and activity.

#### Form Perception Games:

Game using triangle - circle - square



=Plain cards

Make other cards with things on them that look like one of these.

Examples:

Triangle:

Bunch of Grapes (could be called circle too, if child looked at individual grape)



Ice Cream Cone



Sail on the Boat



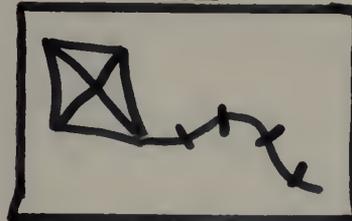
Top



Tepee



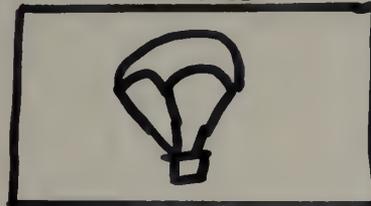
Kite



Space Ship



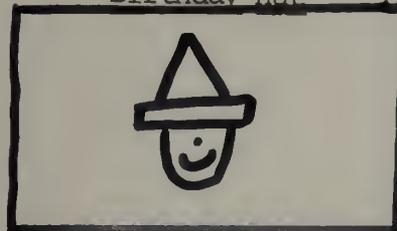
Parachute



Strawberry



Birthday Hat



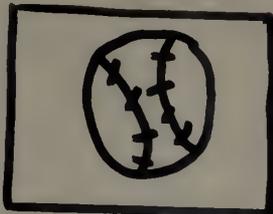
Circle:

Clown with Balloons

Wheel

Circle (continued):

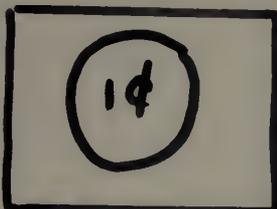
Baseball



Ball



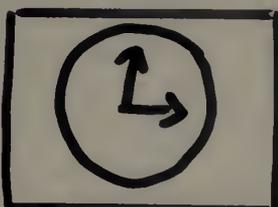
Money



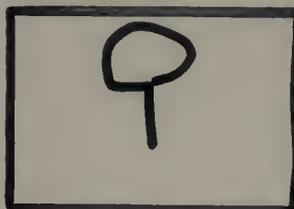
Round Table



Clock



Mirror



Cup and Saucer



Plate

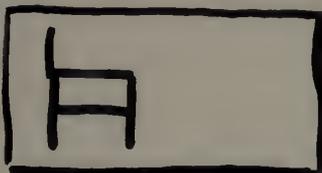


Flying Saucer



Square:

Chair

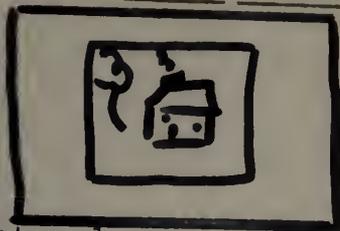


Stop Sign

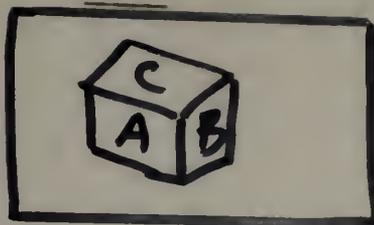


Square (continued):

Square Picture

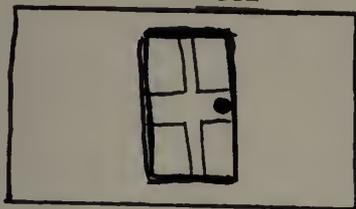


Block

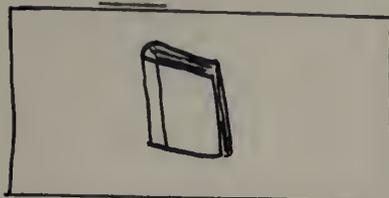


Rectangle:

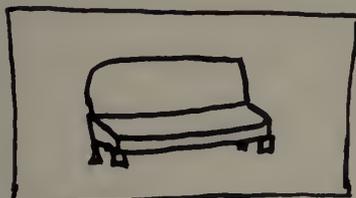
Door



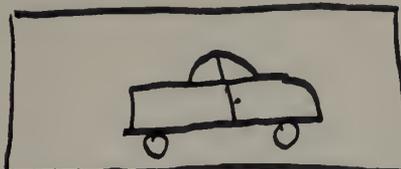
Book



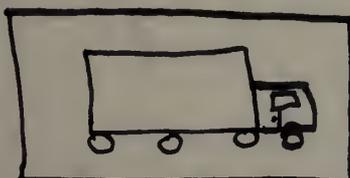
Divan



Car



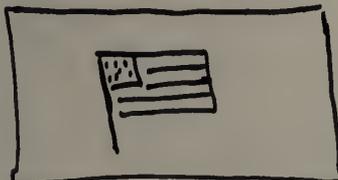
Truck



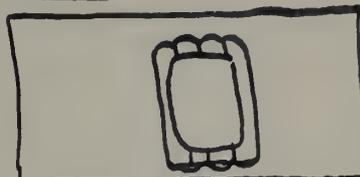
House



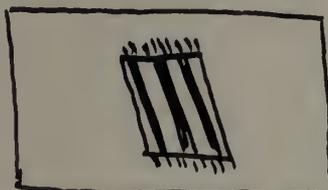
Flag



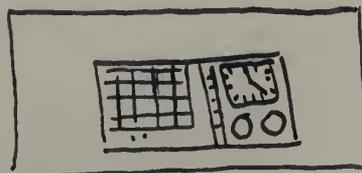
Raft



Towel

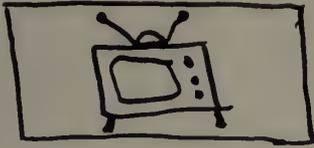


Radio

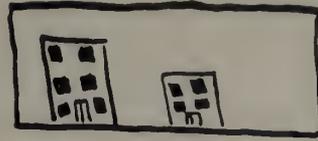


Rectangle (continued):

TV

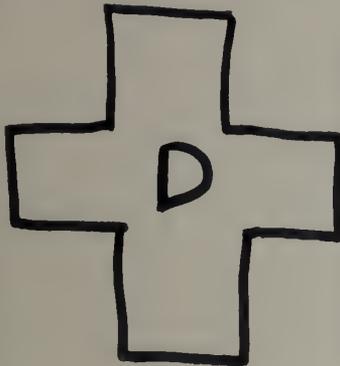
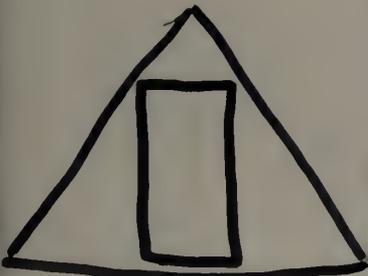
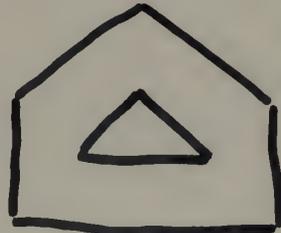
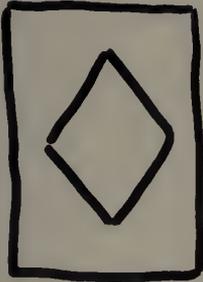


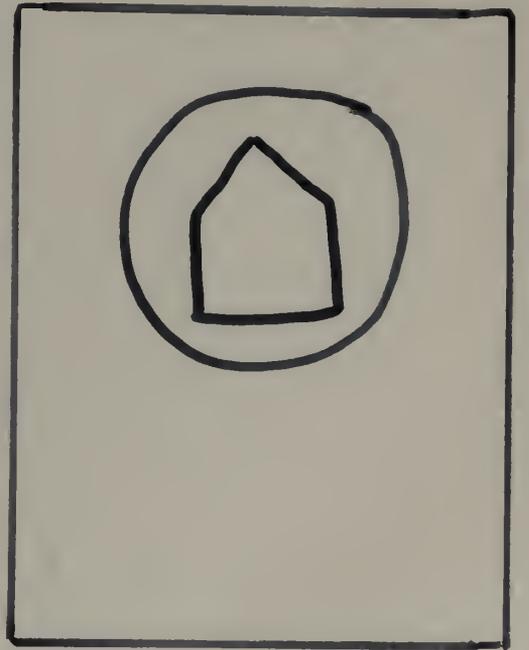
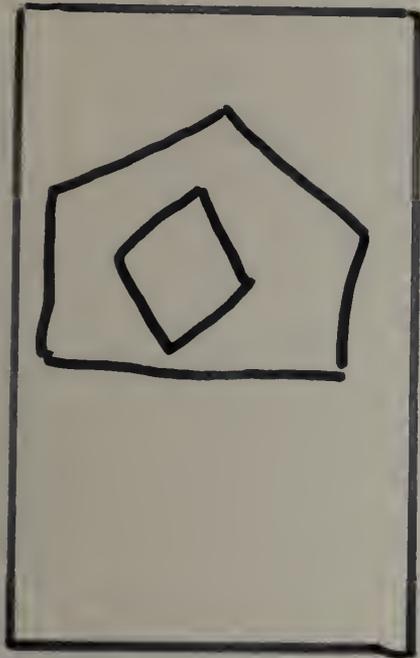
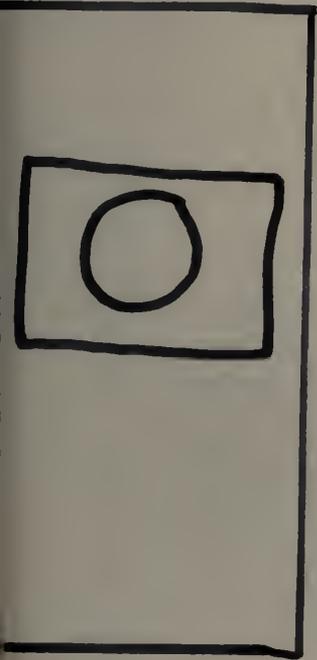
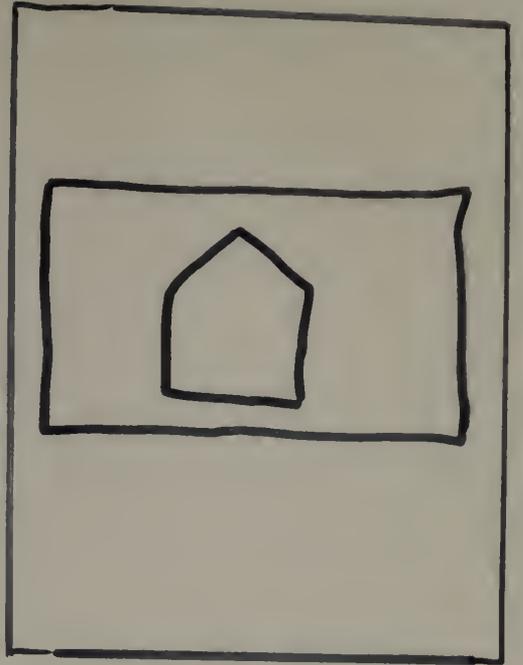
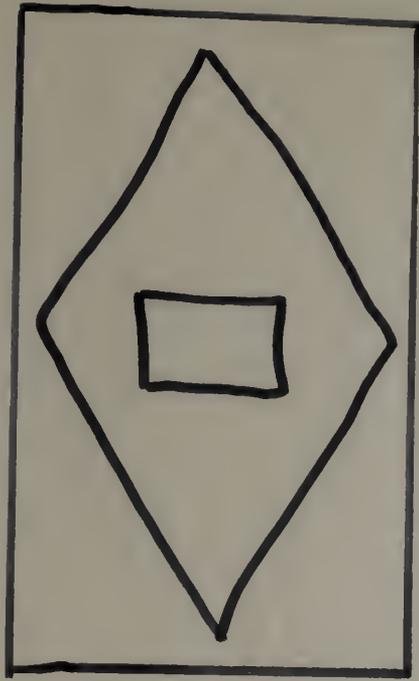
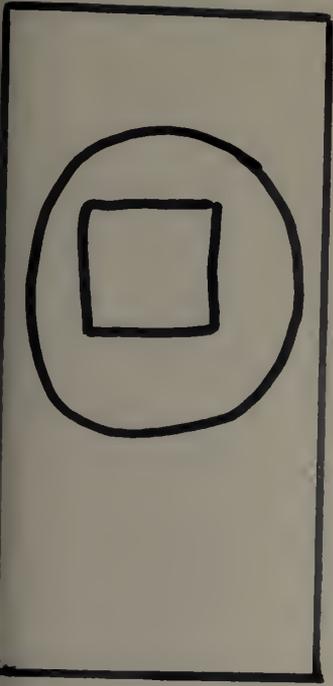
Building



Form Perception Cards:

Look at card for five seconds, then copy or draw what you saw.





### Symptoms of Ocular Difficulty

Symptoms of irregularity or inefficiency in eye pursuit include:

Head movement rather than eye movement when following objects horizontally, vertically, circularly, or obliquely.

Inability to follow and track objects visually.

Difficulty in switching the eye from one object to the other.

### Ocular Evaluation:

When checking ocular pursuit, the following points should be observed:

Movement of the eyes when following the pencil:

1. Lack of smoothness in eye movements.
2. Jerky eye movements.
3. Eye spasms.

How the eyes work together:

1. Can the eyes work together or does one jump off the target?
2. Can the eyes follow the target simultaneously, or does one eye do the leading and the other is pulled along?
3. Does one eye seem to get ahead of the other?
4. Can the child stay on target?
5. Is there any change in the child's performance when the pencil crosses the midline of the child's body?

## Ocular Exercises:

### Level One (Testing)

#### Lateral:

Use an unsharpened lead pencil with an eraser. Push a thumb tack in the side of the eraser.

Hold the pencil upright in front of the child's eyes and approximately 20 inches from his face. Have the child focus his eyes on the head of the tack. Rotate the pencil approximately 18 inches to his right, then laterally 18 inches to his left. Move the pencil laterally, following an arc so that the pencil is at a constant distance from the eyes. Instruct the child to hold his head still and follow the pencil with the eyes only. If he cannot follow the target without moving his head, place your hand on his head, preventing head movement.

#### Vertical:

Hold the pencil sideways and move in a vertical direction until it is approximately 18 inches above the child's eye level. Using the arc movement, pull the pencil downward until it is 18 inches below.

#### Diagonal:

Begin with the pencil 18 inches to the left of the center line and move it downward until it is 18 inches below the line of vision. Move the pencil in a diagonal direction, following an arc of a circle to a like position in the upper right corner. Move the pencil in the opposite diagonal movement. Note the differences in the two performances.

The diagonal eye movements are the last to appear developmentally and are the most difficult for the child. Watch for the "stair-stepping" movement. The eyes move laterally until they lose the target, then vertically to catch up and laterally again. Be especially observant of this problem near the midline.

Rotary:

Circle the pencil directly in front of the child's face at a radius of approximately 18 inches. (Clockwise and counterclockwise.) Note the child's performance.

Normally in the development of ocular control in the young child, control of each eye occurs separately, then he integrates the two eyes and establishes binocular control. The teacher must be aware that it is essential that the child have the skill necessary for separate eye control. Before binocular control, each eye must be trained separately; then both eyes together.

Monocular:

Cover the child's left eye. (A mask made of felt makes a good cover.) Repeat the lateral, vertical, diagonal, and rotary exercises, using one eye only. Watch for the same characteristics of eye movements as with binocular, except for the movements pertaining to the relationships between the two eyes. Cover the child's right eye and repeat the testing and evaluation as for the right eye.

### Level Two

If the child is unable to do the task with a pencil, a penlight is substituted for the pencil, thus increasing the intensity of the visual stimulus. The same procedure is followed as described in Level One. A dark room or closet is required for this activity. A small pen flashlight in which the bulb projects beyond the barrel of the light is most satisfactory for these exercises.

### Level Three

If the child is unable to do the task described in Level Two, have him point to the penlight target with his finger and follow it simultaneously with his eyes. Use the same procedure as described in Level One. This adds a kinesthetic clue to the visual clues. Kinesthetic stimulus correlated with visual stimulus aids in the development of ocular control.

### Level Four

If the child is unable to do the task described in Level Three, the kinesthetic stimulus should be increased by having the child place his finger on the light and move his finger with the penlight as his eyes follow the moving light. Encourage him to offer some resistance to the movement of the penlight so as to further increase the kinesthetic and tactual stimulus.

### Level Five

If the task is still too difficult, the teacher places

both hands, palms flat, on one side of a large ball, while the child places both his hands on the opposite side of the ball. The teacher moves the ball, pulling the child's hand with him. The same procedure is used as described in Level One. If after four or five attempts the child fails to show improvement, discontinue the exercise. The child should be referred for specialized help.

The teacher should test down until a level is reached at which the child can learn. After four or five unsuccessful attempts on a particular movement, the teacher should drop back a level. When the child can perform adequately on a level, he should move up to the next one. Since some of the movements are more difficult than others, a child may be performing on Level One on the lateral and vertical exercises, but on Level Two or Three on the diagonal exercises. The teacher should use the ocular exercise appropriate for the movement which is being trained. The objective should be to train the child, as quickly as possible, to achieve at Level One in all exercises.

### Problems in Learning the Auditory Skills

#### Problems

Auditory imperception.

Inability to recognize sounds.

Inability to understand spoken words.

Inability to place sounds in sequence or direction.

Inability to retain and recall what is heard.

Inability to make meaningful verbal response to sounds.

### Symptoms of Difficulty

Imperfect reproduction of speech sounds.

High, unnatural voice.

Incorrect order of syllables in speech.

Incorrect order of words in sentences.

Omission or distortion of word parts in speech (beginning, medial or ending).

Inability to reproduce rhythm patterns.

Turning the head to hear.

Difficulty in differentiation of pitch or volume.

Difficulty in determining distance and direction of sound.

Inability to follow sequentially oral directions involving several steps.

Gross spelling errors.

Inability to distinguish between similar phonetic sounds.

Difficulty with auditory decoding.

### Developmental and Remedial Exercises

#### Reception:

1. Use milk cartons for amplification. Cut a football-sized hole from a half-gallon carton. The child holds the carton in such a way that the hole covers his mouth and his ear. As he speaks in the carton, the sound is amplified in his own ear.

2. Use the technique of pacing (reading to the pupils at one rate and then speeding up or slowing down or changing the pace between the initial and later presentations).

3. Provide opportunities for listening to sounds to help the children recognize tempo and pitch. Use autoharp, music bells, and pitch pipes. Ask the music teacher to help.

4. Play the game, "What Is It?" Children close their eyes. The leader makes some of the familiar sounds listed below and calls on a child to identify them. The children do not see the object and must get their clue only by the sound. (If the children cannot keep their eyes closed, the leader could perform the action behind a screen or at the back of the room.)

Suggested sounds:

Tearing paper	Ringling bell
Trimming pencil	Vibrating sound (bobby pin, tuning fork)
Walking, running, trudging, shuffling	Sweeping sound (brush, broom)
Clapping hands	Raising or lowering window shade
Sneezing, coughing, blowing nose, clearing throat	Beating erasers
Tapping (glass, wood, metal)	Bouncing ball
Jingling or dropping money	Snapping light switch
Opening and closing windows, drawers	Knocking on door
Pouring water, splashing water	Moving desk or chair
Shuffling cards	Snapping fingers
Blowing a whistle, pitch pipe	Stirring paint in water
Banging blocks	Chattering teeth
	Clicking of the tongue

5. To give added practice in following oral directions, give each child a blank sheet of drawing paper and crayons. Start with a single direction, "Draw a man;" as the child progresses, add more items of a more complicated nature such as, "Draw a man sitting in a chair under a tree."

6. To develop listening habits and following directions, to check on a child's ability to decode auditory stimuli, and to help develop body image, play such games as "Mother, May I?" or give directions such as, "Pick up a book; bring it to the desk; sit down."

7. Call out numbers which the child writes, developing skills in place value, sequencing, listening, and transferring oral numbers to symbols.

8. Provide opportunities for oral language development.

9. Ask such questions as, "Do birds have feathers?" or "Do elephants drive cars?" (If the answer is "yes," ask the child to raise his right hand; if the answer is "no," to raise his left hand.)

10. Play "Feather, Feather." Each player, and the leader, puts a forefinger on a table. The leader says, "Feather, feather, feather, goose feather" or "-----feather." If the animal mentioned has feathers, the children raise their fingers; if the animal does not have feathers, the children keep their fingers on the table. The leader raises his finger each time. A variation could be rising from a seat as a correct response.

11. Play "Simon Says," "Clap, Stoop, Stand," or "Do You Have the Button?"
12. Read orally, the teacher and the child reading the same passage together at the teacher's rate of speed, while the child follows the words with his finger.
13. Read captions from filmstrips together, the child using a pointer.
14. Use records from The American Printing House for the Blind or teacher-made tapes of textbooks or trade books. The child can listen through headsets and follow the reading in his book.
15. Vary the rate and volume of speaking and tonal patterns while talking to children.
16. During rest period, ask the children to listen for sounds which they later report (car passing, teacher's voice next door, child in the hall). For variation, ask the children to find a quiet place at home, make a list of sounds, and share the lists at school later.
17. Make a list of sound words from telecasts, either at school or at home.
18. Occasionally, assign for homework television programs (a favorite or a specific one) for sequence or for listing sound words.
19. Make a game, announced after listening to a recording, of remembering words which started with certain sounds; the recording may be replayed to verify the lists.

20. Discuss sound words with the children. Write some of the words on the board. Present a number of sounds, depending upon the ability of the group. Ask the children to write a word or phrase describing the sound. Discuss the sound vocabulary. Increase difficulty as skills are improved.

21. Check with the teachers' manuals for activities in phonics, listening, rhyming. Activities are listed in the teachers' editions of spelling, English, reading, and children's newspapers.

22. Use alphabet cards and ask, "What is the sound represented by this letter?"

23. Use picture cards and ask, "With what sound does the name of this picture begin?"

24. Designate a day as "L" Day, "G" Day, or "M" Day. Ask the children to write both the upper and the lower case letter and to cut out all the pictures they can find which represent words which start with that letter. Make a picture dictionary.

25. Stress the phonics activities in the manuals of any series available.

Sequencing (the ability to recall letters and words in correct sequence):

1. Emphasize word patterns, sometimes called word families, especially strong in linguistics materials.

2. Have the children make individual cards for consonants which represent sounds with which they have difficulty. Make

large letters with intense colors on 3- by 5-inch unlined cards; graduate to blends. (The teacher stands at the back of the room and pronounces a word. In his left hand each child picks up the consonant card which represents the sound with which the word begins, and with his right hand he picks up the consonant card which represents the sound with which the word ends. Watch for reversals and for difficulty with either beginning or ending sounds. This activity teaches directionality as well as phonics.)

3. Put alphabet cards in the chalkboard tray. The teacher pronounces a word and asks a child to go to the board and pick up the card with which the word begins or ends. He should use the left hand for beginning and the right hand for ending sounds.

4. Sophistication of terms will elevate interest and keep an older child from thinking he is using activities too young for him; e.g., introduce the terms "consonant digraphs," "vowel digraphs," and "diphthongs."

5. Use appropriate collective songs or poems, such as "Old MacDonald," "Twelve Days of Christmas," "Farmer in the Dell," "The House That Jack Built," "The Old Woman and Her Pig."

6. Play "Bear Hunt" to develop auditory sequencing and recall, as well as to develop a sense of rhythm.

#### Association:

1. Discuss sequence after a telecast in the classroom.

2. Name several things in sequence. Ask the child to name them after thirty seconds.
3. Say a three-word sentence. Ask the child to tell which word was first, which second, which third. Increase in difficulty as the child's auditory memory increases.
4. Pronounce a word, asking the child to pat out the syllables.
5. Say a part of a sentence and ask the child to repeat it. (Teacher: "on the table." Child: "on the table."  
Teacher: "Put the book on the table." Child: "Put the book on the table.")
6. Have children repeat oral directions and then show that they understand what they have said.
7. Ask the child to turn his back and listen as the teacher makes sounds through action, such as bouncing a ball on the floor four times, or tapping a desk with a pencil three times. The child then reproduces the sound pattern.
8. Play "Gossip" or other whispering games.
9. Pour varying amounts of water in several glasses or bottles. Tap on the glasses. Ask the children to compare high and low tones. Later ask them to predict the change in tone with increased or decreased volume of water.
10. Provide opportunities for developing time relationships, such as "What did we do at 8:30 this morning?" or "What time do we have lunch?"
11. In order to increase listening ability and verbal

response, have the children sing "Where is Mary?" to the tune of "Are You Sleeping?" Mary answers, "I am hiding," and in turn she asks, "Where is Billy?"

12. Use the Bell Telephone equipment with the children.

Memory:

Lesson 1

Materials:

- a. Bell, clop sticks (rhythm sticks, drum, etc.)
- b. Colored popcorn
- c. Paper cups
- d. Newsprint, 4- by 10-inch
- e. Green, blue, yellow and orange crayons

Before the children come to the lesson, the aide can have the newsprint divided into three parts lengthwise with pictures of the noise emblems in each part.

These little sheets can be mimeographed. With the crayons, the children can color code the pictures of the noisemakers to correspond with the colors of the popcorn. For example, the bell red, the sticks blue, and the drum yellow. Then each child will have the three pictures, colored popcorn, and a paper cup in front of him. The instructor sounds the soundmakers one at a time behind a screen. The child drops a piece of popcorn into the cup which is the same color as the color code for the instrument which is being sounded. If the instructor rings the bell, a red popcorn goes in; sticks sounded, blue popcorn; or drum sounded, yellow popcorn. The instructor should vary the

order. When the lesson is over, count the number of each colored sets of popcorn. The children checking against each other can immediately see how well they have done.

This lesson can be varied by using different rhythm instruments. The lesson can also be made more increasingly difficult by making the sound difference more and more subtle. From drum and bell to two types of drums or two types of bells.

## Lesson 2

### Materials

a. Colored blocks (or popcorn, or squares of felt, or beads, or macaroni, or anything in various colors which can be manipulated.

b. Strips of newsprint with a green dot on the left end and a red dot on the right end.

Place the colored blocks in front of each child. Be certain there are at least two of each color. Say two sounds which are just alike, such as zzz, z-z-z. Then the instructor should ask if the two sounds are just alike. If the child does not know, tell him "yes," and then repeat them. Then ask the child to repeat the sounds after you. Since the sounds are just alike, ask the children to place two blocks of the same color going from the green dot to the red dot on the strip of paper on his desk. Repeat this same procedure with sounds such as M-M-M and l-l-l. After the children seem to understand the coding, the instructor may begin to vary the stimulus, one time

making the two sounds the same and another time making them different. The colors would not be coded to a specific sound, but would only mean same or different. Continue as long as time or attention will permit.

This lesson can be extended to include three sounds in a row and then four sounds, but only when the child is ready for a sequence of this length.

Following Directions:

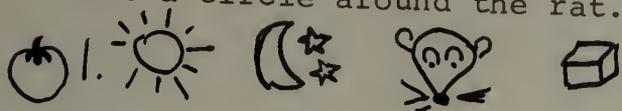
This can give the teacher an idea of the child's auditory sequencing, auditory decoding, motor encoding, his knowledge of common spatial words, number words, color words, left to right and top to bottom progression, etc.

The first eight problems will be done with pencil, and the last eight with Crayola. If the children cannot follow two directions given at once, give them two directions as two sentences with a pause between them. Use either the numeral or the small picture as a reference, depending on the child's ability. Then, giving the test as is with two directions at once, retest on the easier level for those problems the children miss to find out specifically which words or concepts they do not understand.

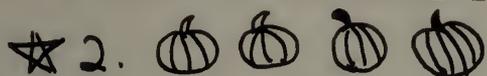
Directions: Look at the four pictures beside the apple. Each time we look at four new pictures, I will tell you to do something only once. Listen carefully and do just what I tell you to do. We will move from left to right and top

to bottom. (Show the children left to right directions and top to bottom directions.)

Point to the apple. Pick up your pencil. Put an X on the sun and a circle around the rat. (Or: Put an X on the sun. - - - Put a circle around the rat.)



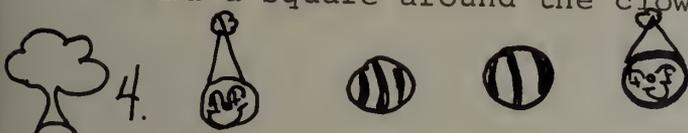
Point to the star. Pick up your pencil. Put an X on the first pumpkin and underline the last pumpkin.



Point to the triangle. Put a dot in the second circle and a dot over the third circle.



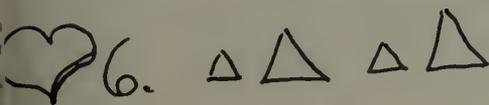
Point to the tree. Put a circle around the clown on the left and a square around the clown on the right.



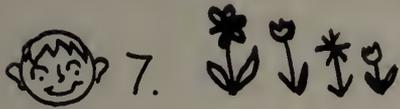
Point to the leaf. Put a triangle around the first picture and a line under the picture next to it.



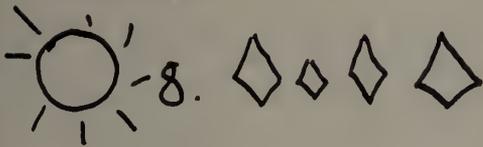
Point to the heart. Put a circle around the big triangle in front of a little triangle and a dot under a little triangle between two big triangles.



Point to the boy. Put a triangle around the tallest flower and a square around the shortest flower.



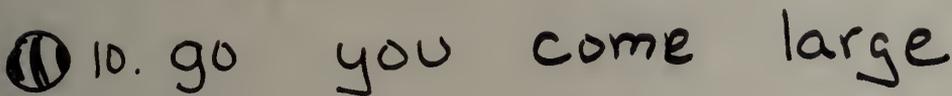
Point to the sun. Put an X on all but the smallest diamond.



Point to the moon. Put down your pencil and pick up your blue crayon. Now color the inside of the triangle blue and put a line under the rectangle.



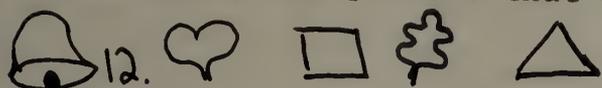
Point to the ball. Put down your blue crayon and pick up your red crayon. Put a line under the smallest word and a line over the largest word.



Point to the box. Put down your red crayon and pick up your brown crayon. Put a line through every animal, except the one in the middle.



Point to the bell. Put down your brown crayon and pick up your green crayon. Color the picture that would usually be green and X the picture that would never be green.



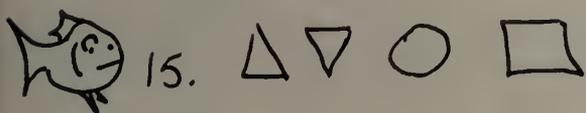
Point to the jack-o-lantern. Put down your green crayon and pick up your yellow crayon. Draw a line from the leaf nearest to the flower pot over to the leaf farthest from the flower pot.



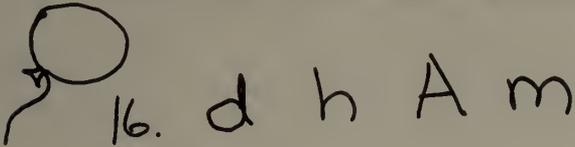
Point to the pin. Put down your yellow crayon and pick up your black crayon. Put an X on the duckling who is not behind his mother and a circle around the duckling who is right behind his mother.



Point to the fish. Put down your black crayon and pick up your orange crayon. Do not mark the triangle with an X, but please mark the circle with an X.



Point to the balloon. Put down your orange crayon and pick up your purple crayon. Find a letter with a circle in it and put a circle around it, and find a letter with a triangle in it and put a triangle around it.



Closure:

Exercises for improving auditory closure:

1. Add words to make the following complete statements.

Birds \_\_\_\_\_.

The house on the corner \_\_\_\_\_.

A bottle \_\_\_\_\_.

Football \_\_\_\_\_.

My father \_\_\_\_\_.

Our cat \_\_\_\_\_.

The mailman \_\_\_\_\_.

Roses \_\_\_\_\_.

Jerry \_\_\_\_\_.

At the end of the day \_\_\_\_\_.

2. Make complete statements ending with the following words or groups of words.

\_\_\_\_\_ in the corner.

\_\_\_\_\_ a glass of milk.

\_\_\_\_\_ under the house.

\_\_\_\_\_ in the big chair.  
 \_\_\_\_\_ a piece of pie.  
 \_\_\_\_\_ monkeys.  
 \_\_\_\_\_ after the game.  
 \_\_\_\_\_ on the shelf.  
 \_\_\_\_\_ on the top of the hill.  
 \_\_\_\_\_ at the back of the room.  
 \_\_\_\_\_ chocolate pie.  
 \_\_\_\_\_ snakes.

3. Ask the children to dramatize stories impersonating characters using appropriate intonations, such as Mama Bear, Papa Bear, and Baby Bear. The children are assigned various animal sounds and are to change the conventional sounds by adding inflections to show emotional qualities ("You are mother cat warning your kitten that danger is near" or "...come home right now!").

4. Allow the children to cut from magazines pictures of foods. Place as if in a cafe: A "waiter" takes orders from the "customer;" repeats to the "cook" who places the order on a tray; the "waiter" serves the "customer."

5. Ask the child to hold his hand under his chin as he pronounces words in order to identify syllabication.

6. Practice sentences orally using direct address; e.g., "Tom, sit down."

7. Practice repeating sentences such as the following.

"This is my doll" (truck, house, coat, according to age and interest). Change stress to different words in the sentences.

This is my doll. (Not that one.)

This is my doll. (You want to argue.)

This is my doll. (No one else's.)

This is my doll. (Something else.)

8. Present to the child a partial sentence which he is to complete.

"Roses are \_\_\_\_\_."

"Toast is \_\_\_\_\_."

9. Repeat jingles, rhymes, tongue twisters. Repeat chorally and individually.

Materials: Record (Ear Training for Middle Grades, Educational Record Sales).

Sound Filmstrips (Eye Gate)

I Hear a Rhyme

Think, Listen, and Say

Sight and Sound

Riddle a Rhyme

Reading Readiness

Problems in Learning Language and Reading Skills

### Overview

Different children learn in different ways, and the skillful primary teacher helps each child develop many methods of

recognizing printed words. The following is a brief outline of some of the different methods of word attack:

1. By configuration or general shape (the word grandfather has a shape different from the word boy).
2. By some peculiarity in the word (the double o in moon).
3. By use of a picture clue (recalling an unfamiliar word after seeing an illustration).
4. By use of a context clue (assigning meaning to an unfamiliar word from clues derived from the words around the unknown word).
5. By phonetic analysis (using the consonant or common phonogram or other sound clues to discover the whole word).
6. By structural analysis (knowing common prefixes and suffixes, recognizing syllables and other parts. This is especially useful in the intermediate and upper grades.).

### Lessons and Games to Develop Sight Vocabulary

#### Card Drawing:

Print words needing practice on cards. Place the cards face down on the table. The children in the group take turns drawing cards and reading the words printed thereon. If it is misread, a card is returned face down to the bottom of the pack. The winner is the person with the largest number of cards when the stack is gone.

### Word Race:

A chalk line is drawn on the floor to represent the starting line. A second line is drawn parallel to the first, and as many spaces away from it as there are words in the game. (The spaces may also be marked off with chalk, or the floor boards may be used.) Each player has a cardboard figure to represent him. The figures may be numbered or named by the players. The players place their figures on the starting line. The teacher holds up a card. If the first child can read it correctly, he is permitted to advance his figure one space. The child whose figure first crosses the goal line is the winner.

### The Picture Dictionary:

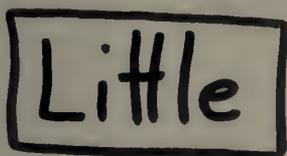
The child or the teacher makes a scrapbook that is indexed. Both capital and lower case letters are used. Illustrations are prepared or cut from old magazines, primers, papers, and advertisements. As soon as a word is learned, the child pastes on the proper page the picture which corresponds to the word. If the word is "automobile," a picture of an automobile is pasted on the "A" page. Later the teacher may drill on words in the dictionary by giving the child small cards on which are printed the words he has learned. The child has to find the picture that tells the same story as the word, and place the word under the picture. Good picture dictionaries have been published by the Garden City Publishing Co., Garden City, N. Y. (A Picture Dictionary for Boys and Girls), by Grossett and Dunlap (A

Child's First Picture Dictionary), by Simon and Schuster (The Golden Picture Dictionary), and by other firms. There are, however, several advantages to the homemade dictionary: (1) it contains all the words that the child is using, and only those words; (2) it is individual; and (3) the child has the added interest of making it himself.

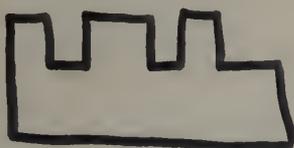
#### Word Frames:

The purpose of this game is to help pupils use configuration as an aid in word recognition.

1. Prepare word cards for the words pupils have been studying.
2. Prepare frames for the same words.



Little



3. Place an assortment of word cards and matching frames in each of several hosiery boxes.

4. Pupils select a box, find the matching frame for each word, and place it over the word card so that the printed word shows.

Little

As children are leaving a reading group, call each child, individually, to you and whisper a "special message" in his ear before he returns to his seat, such as, "You read well today" or "Your new dress is beautiful."

Feeling Words:

The purpose of this exercise is to develop a meaningful vocabulary.

1. Give pupils the following list of words:

scary	weak	long
shaky	sad	frighten
excited	happy	gay
noisy	shy	sleepy
tiny	stuck	lazy
drunk	strong	fancy
dizzy	mad	

2. Ask them to write the words so that they look the way they feel.

shaky LONG

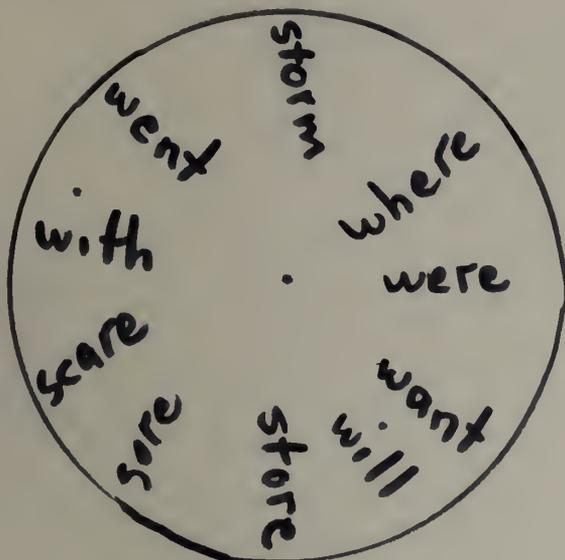
# tiny TREMENDOUS

Mount good stories, poems, and articles from magazines or old text books on colorful construction paper and place in acetate folders. Put these on the chalkboard for free reading time.

## Spin-A-Sentence:

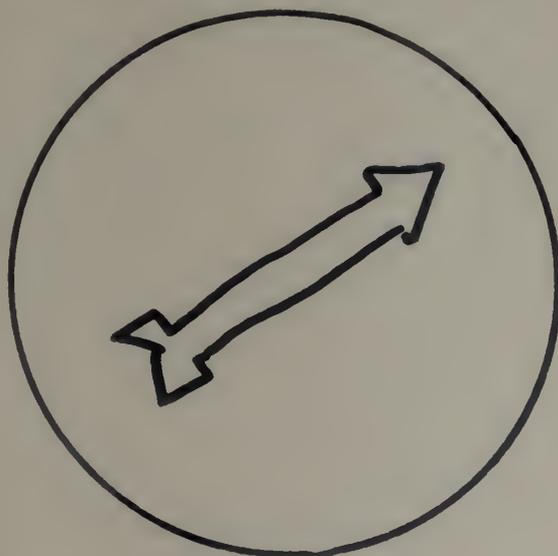
The purpose of this exercise is to aid development of sight vocabulary.

1. Prepare a large construction paper wheel approximately 15 to 18 inches in diameter. Write sight vocabulary words on the wheel in the following manner:

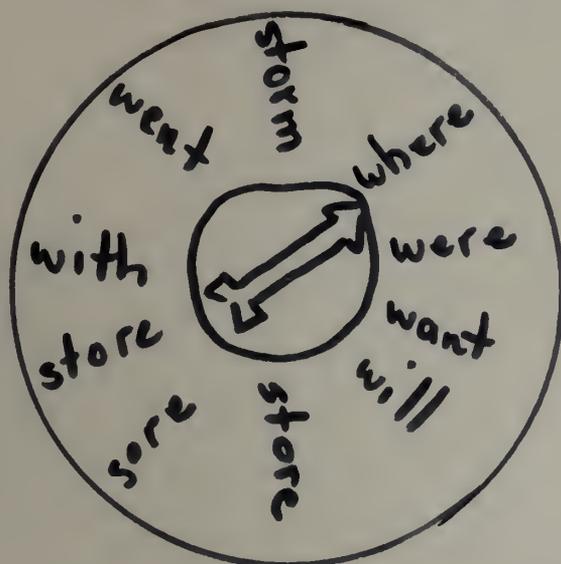


2. Place the wheel on the left side of a large bulletin board.

3. Use a small disc of cardboard (6 to 8 inches in diameter) or a plastic lid (i.e., from a cottage cheese carton) to make a spinner. Draw or paste an arrow on the disc.

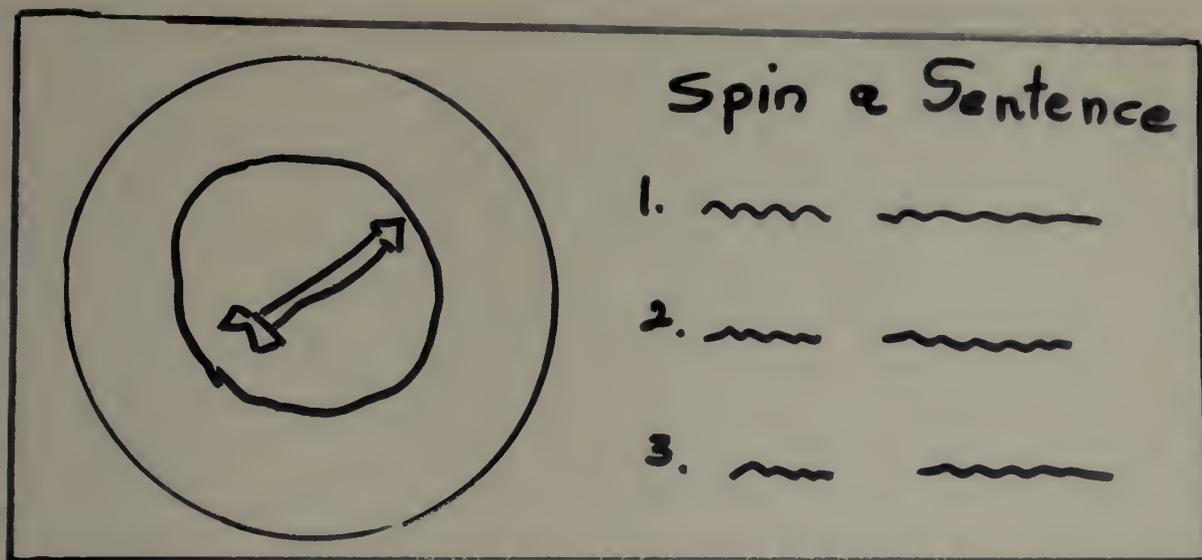


4. Attach the disc to the center of the large wheel with a small brad, or nail so that it can be spun.



5. On the right hand side of the bulletin board, mount a piece of chart paper on which are written short sentences

containing the words found on the wheel.

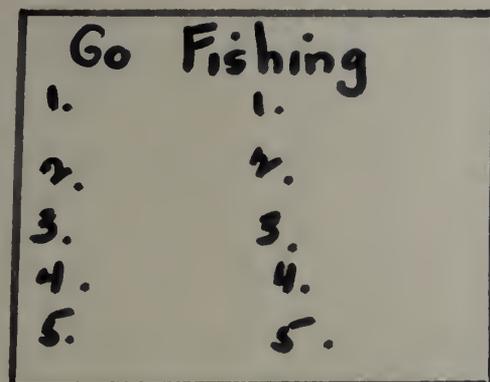


6. Ask each child in turn to spin the arrow and pronounce the word at which it stops. Then he must find the corresponding sentence on the chart and read it aloud. (Words and wheels may be changed to provide more opportunity for practice, and children may use the board independently by working in pairs.)

#### Go Fishing:

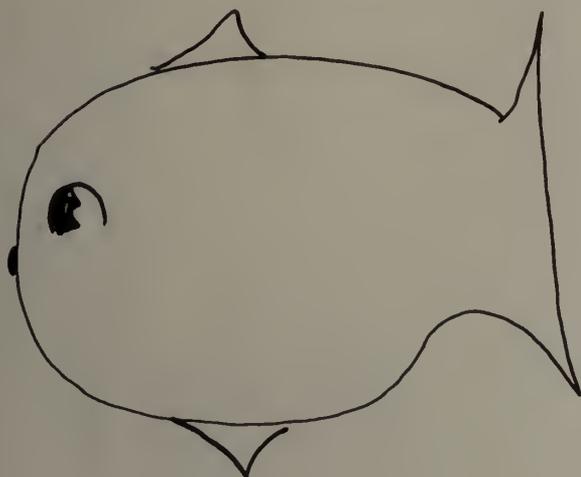
The purpose of this game is to provide an opportunity for building sight vocabulary and developing oral language.

1. Develop a small bulletin board similar to the following:



2. In a large fishbowl, box, or basket, place words written on 3 by 5 cards (folded and held together with a steel pin or hairpin). Attach to the bulletin board a fishing pole (string tied to a stick) with a magnet on the end. Also attach to the bulletin board an envelope of tacks.

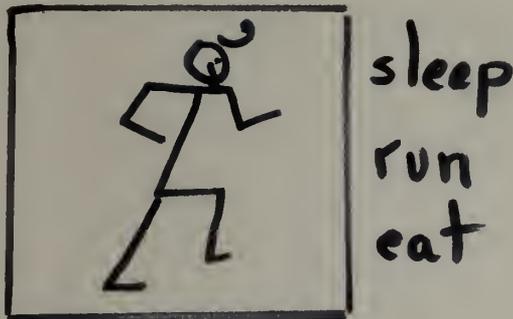
3. As an independent activity, two pupils take turns fishing for words. If, when a pupil "catches" a word, he can say the word and use it in a sentence, he tacks the word on his side of the board. If the pupil cannot say the word and use it in a sentence, he places the card back in the bowl and loses his turn. The pupil with the most words on the board is the winner.



Duplicate this pattern, paste on 3 by 5 cards, and cut. Attach paper clip at mouth of each fish and write vocabulary word on body.

### Matching Words with Pictures:

Pictures may be used to illustrate useful words other than nouns. For verbs, a small card is used. Below in a box is a sketch of a man performing some act, such as running, throwing, or sitting. To the right of the picture are three words, only one of which tells the same story as the picture. The child indicates the correct word by drawing a circle around it or by some other method of marking (see drawing). Other cards may illustrate "over," "under," "left," "right," etc.



### Color Cards:

Cards are prepared with black and white drawings of objects which have a characteristic color. Under the object are printed directions, such as: "This is a tree. Color it green." This teaches not only the words but also the colors.

### Word and Picture Hunt:

The children open their readers to an assigned page with a picture on it. On the chalkboard, the teacher prints a list of words. The children read the words and associate them with the objects in the picture. For example, for a detailed home scene, such words as the following may be printed on the chalkboard:

girl	window	ice cream	dog
children	chair	pink	mother
table	cake	blue	baby

This may be either a written or an oral reading exercise. Oral work may be done with a reader. For a written exercise, a picture from an old book, magazine, or newspaper may be used. The children print the word under the object or place a small card with the printed word on it under the appropriate picture.

This game may be varied by having the children look for a specific word on a page (especially easily confused words, such as: where - there). This is good training in visual memory.

#### Do You See What I See?

The purpose of this exercise is to help pupils recognize descriptive phrases.

1. Each pupil locates a descriptive phrase or passage in a book he is reading, such as, "small, narrow road through the dark, frightening forest," "the pink, fluffy cotton candy was lying beside the broken-down ferris wheel."

2. The pupil then illustrates the selection by tearing construction paper and pasting it on another piece of paper.

3. When the illustrations are completed, each pupil reads the passage which he selected, as the other pupils close their eyes and form a mental picture. The pupil then shares his illustration with the class. (Note: Make puzzles or games with the week's spelling or sight vocabulary words. This is more fun than just a list to learn.)

## Build-A-Sentence:

The purpose of this exercise is to provide opportunity for pupils to better understand word functions.

Give pupils cards on which the following words are written. (Write the word beginning with a capital letter on one side of the card, and beginning with a small letter on the other side.)

the	runs
boy	hops
girl	plays
dog	eats
he	skips
she	goes
it	dances

Card 1

The

(front)

the

(back)

Mark one card with a period on it.

Ask the pupil holding the card with the word "the" to come to the front of the room. Ask the other pupils what word could be used after the word "the." Select a pupil who thinks he holds a word which could follow "the" to come and stand in the correct place. Ask who else has a word that would fit here: "Who has a word that could be the third word? Now what do we need?" (A period.)

Pupils continue to substitute nouns and verbs in their proper places in the sentence.

Variation: Add other words such as: tall, big, fat, handsome, softly, a, this, quickly. Have the pupils manipulate the cards to discover places these words fit in the sentence.

### Build-A-Sentence II:

This exercise is for language enrichment, particularly capital letters and punctuation.

1. Give each student a copy of the following:

puppies	birds	in the morning
during recess	are hungry	most of the time
kittens	yell	pupils
sing	when they are young	people
teachers	little brothers	are fun
are happy	mothers	are lovable
play games	become angry	when it is noisy
in the afternoon	and silly	when they sing

2. Pupils select one phrase or word from each column, combine them, and are challenged to see how many sentences they can make.

#### Examples:

- a. When it is noisy, little brothers are happy.
- b. Teachers yell most of the time.
- c. Pupils are hungry during recess.

Body Concept Analogies (Language Development):

These analogies are designed to increase body concept and awareness of the world around the primary child. They may be done orally in kindergarten and first grade, or perhaps as a written assignment with advanced first graders.

1. Wheel is to a wagon as (leg) is to a child.
2. Beak is to a bird as (mouth) is to a child.
3. Coat is to a child as (fur) is to a bear.
4. Claw is to a tiger as (fingernail) is to a child.
5. Skin is to a child as (scales) are to a fish.
6. Pinchers are to a lobster as (fingers) are to a child.
7. Scoop is to a crane as (hands) are to a child.
8. Curtains are to a window as (eyelids) are to an eye.
9. Gas is to a car as (food) is to a child.
10. Den is to a fox as (home) is to a child.
11. Night is to a bat as (day) is to you.
12. Feathers are to a duck as a (raincoat) is to a child.
13. Fingers are to hands as (toes) are to feet.
14. Gloves are to hands as (shoes) are to feet.
15. Cub is to bear as (baby) is to mother.
16. Snout is to pig as (nose) is to child.
17. Hoofs are to horses as (feet) are to children.
18. Lens is to camera as (eye) is to child.
19. Sticks and mud are to nests as (bricks) and (cement) are to my house.
20. Tongue is to taste as (nose) is to smell.

21. Eye is to see as (ear) is to hear.
22. Ear is to hear as fingers are to (touch).
23. Washing machine is to clothes as (bathtub) is to child.
24. Toothpaste is to teeth as shampoo is to (hair).
25. Cap is to bottle as (hat) is to child.
26. Moon is to sun as (mirror) is to child.
27. Cat is to kitten as (man) is to boy.
28. Puppy is to dog as (girl) is to woman.
29. Washcloth is to face as (comb) is to hair.
30. Top is to bottom as left is to (right).
31. Cry is to sad as laugh is to (happy).
32. Bat is to hit as foot is to (kick).
33. Teacher is to school as mother is to (home).
34. First grader is to read as baby bird is to (fly).

### Lessons and Games to Develop Phonetic Skills

#### Initial Sounds:

Initial sounds should be taught before medial or final sounds. The best letters to start training are f, g, b, c, h, l, m. Ask the group to listen carefully to the pronunciation of words like "feet," "feel," "face," "funny," "fun," "from," "for." The children listen for the initial sound. They may be told that all these words begin with the letter f. Elicit the sound from the children and have them associate the sound with the name of the letter. Then encourage the children to give other words which begin with the same sound. Also have

the children think about the way their lips and tongues feel as they say the word. Small hand mirrors can be used to watch the way the mouth shapes the sound.

### 1. Key Words:

Key words are an invaluable aid in reinforcing the shape and sound of the letters. Cards with the small and capital letter, and a picture of the key word, labeled, should be displayed in a permanent place in the room. Each letter should be presented and taught separately, in conjunction with the reading method used, not in alphabetical order. The child can refer to these when confused, and prevent himself from making a mistake, thus saving himself from embarrassment and the class from hearing an incorrect response.

List of nouns to illustrate the alphabet:

a--apple	h--house	o--orange	v--vest
b--boat	i--ice cream	p--pail	w--wagon
c--cat	j--jacks	q--queen	x--xylophone
d--duck	k--kite	r--rooster	y--yard
e--egg	l--lamp	s--sack	z--zebra
f--fox	m--mouse	t--tail	
g--goat	n--nest	u--umbrella	

### 2. Word Tree:

The purpose of this exercise is to give pupils practice in recognizing initial consonant sounds.

- a. Give each pupil a picture of a tree.
- b. In the square at the bottom of the tree, write a word beginning with a sound on which the pupils need practice.
- c. The pupils then find pictures whose names begin like the word in the square. A picture is pasted on each branch of the tree.



Note: This is easily adapted to initial and final blends, diphthongs, etc.

### 3. Picture Boxes:

The purpose of this exercise is to provide practice with initial sounds.

a. Give pupils a copy of a page marked off in squares, each square labeled with a letter.

b. The pupil must draw in each square a picture whose name begins with the sound as represented by the letter in that square.

Variation: Make a bulletin board which is divided into squares with a letter in each square. The pupils can then tack their pictures in the correct square.

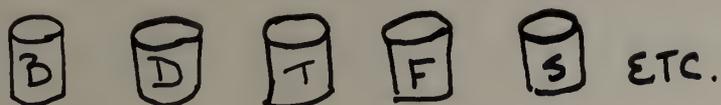


Note: Provide "magic" paper to make vocabulary or phonics drill more interesting by tying a sheet of cellophane over a flip chart. Students write with a large black crayon and easily erase their writing with a tissue so that it may be used again immediately.

## 4. Sound Boxes:

The purpose of this exercise is to help children identify and classify words according to their beginning sounds.

- a. Collect several soup-size tin cans or ice cream cartons.
- b. Strip and paint them OR cover with contact paper or construction paper.
- c. Label each can with the name of one consonant, consonant blend, or consonant digraph.



- d. Prepare a box of small mounted pictures (about 2 inches square) which represent words that begin with the same sounds which appear on the cans.



- e. The children take turns emptying the box of pictures into the appropriate cans while a timekeeper watches the clock. The child with the best time record wins.

Variations: Several sets of pictures and cans may be used so that several children may compete at one time. Or each set of pictures and cans may provide practice with

a different kind of word classification. For example:

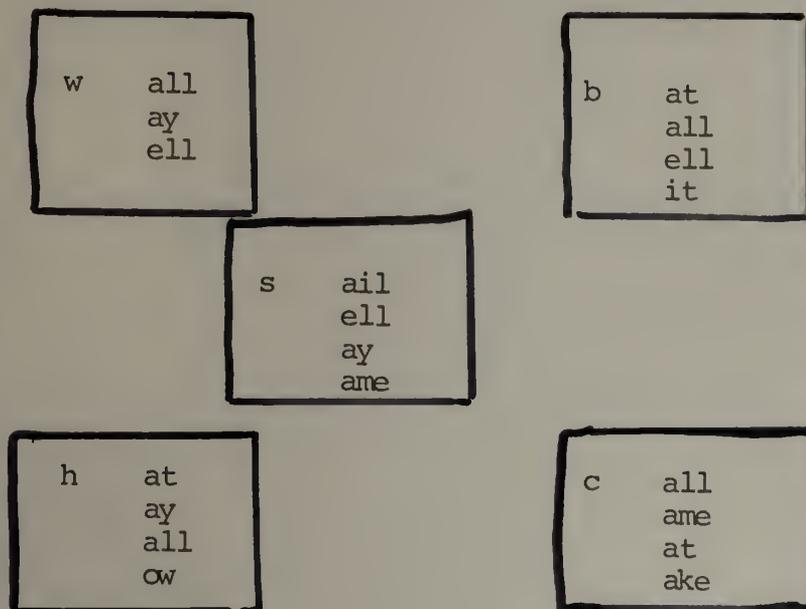
One set using rhyming words.

One set for identifying words according to number of syllables.

One set for practice with prefixes and suffixes.

#### 5. Beginning Sound Squares:

The teacher draws five squares on the chalkboard. In the left-hand corner of each is a consonant, and beside it a list of phonograms. The children are asked to give the initial sound and then form the words.



The teacher lists words on the chalkboard and the children put a circle around all the words that begin with the same initial sound. This game is especially suited to a linguistic reading series.

The teacher places printed cards on the chalkboard ledge. She then pronounces a word in her natural tone of voice, and a child is called to go to the board and pick the card containing a word that begins with the same sound as the one pronounced.

The teacher dictates a series of lists of three or four words, each series beginning with the same sound. The children write the letter representing the initial sound heard.

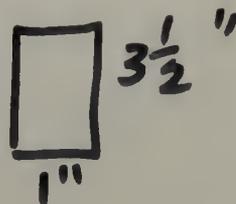
The teacher has a list of single consonants on the chalkboard. She pronounces a word, and then a child points to the letter on the chalkboard with which the pronounced word began.

#### 6. Build-A-Word:

The purpose of this exercise is to provide opportunity for individual word building.

a. Give each pupil an envelope containing letters of the alphabet written on 1- by 3-1/2-inch cards (include several cards for each letter).

b. Give each pupil a holder as diagrammed.



c. Pupils may then spell words in their individual holders. This may be an independent activity or a teacher-directed group activity.

Examples:

(1) The teacher may pronounce words to be spelled and quickly check each pupil's card holder.

(2) The teacher may ask for a word which begins like duck.

(3) The teacher may say jump and ask the pupils to place the letter in their holder which represents the beginning sound.

(4) The teacher may say hit, hop, hip and ask the pupils to spell the word which has the short sound of "o."

Reversals:

The child traces over a word with which he has been having difficulty. The word is written in fairly large letters. As he traces over each letter, he vocalizes the sound of that letter, making the sound last as long as it takes him to write the letter, thus coming out even at the end of the word with both sound and tracing. Encourage him to blend the sound of one letter into the next.

#### 1. Stop and Go:

Words frequently reversed, such as "was" and "no," are printed with the first letter in green and the rest in

red. Children are told to observe lights, stepping on the green and stopping at the red. The same words in regular pencil should then be placed beside the colored words and read after them.

The teacher holds up a card that is covered with a marker or sheet of paper. The marker is moved slowly to the right, so that letters are exposed in proper sequence.

Words frequently reversed:

am	lap	no	pal	rat	star	ton
bad	ma	north	pat	raw	tap	top
dab	nap	now	peek	saw	tar	war
deer	net	on	pot	spot	team	was

Words partially reversed:

even	from	felt	spilt	stop	tried	trial
never	form	left	split	spot	tired	trail

## 2. Confused Letters:

Letters frequently confused are b, d, p, q; t, f, and l; m and w; u and n; and all the vowel sounds. As an aid in teaching the difference between b and d, between t and f, and between p and q, the teacher can point out that although these letters look somewhat alike in shape, they face in different directions. Occasionally, a trick device may be thought out by teacher or pupil. For example, Peter, aged eight, who had trouble with p and q, finally remembered p because it stood for Peter and it turned to the right and he, Peter, wrote with his right hand.

result in all computations. Thus, at the time the stack was introduced for implementing block structured languages it was not considered important to look for another model. Probably the distinction between the two strategies and their relationships to particular implementation models did not even occur to the designers of Algol 60. Indeed, even if the distinction did occur it was not necessary at that time to resolve the issue as to which strategy is correct.

However, in later block structured languages in which less restricted pointer, label and procedure assignments were available, a decision on the exit strategies had to be made. Algol 68 and PL/1 chose the deletion strategy and are both usually implemented on some variant of the stack model. Consequently both of these languages have restrictions against completely general pointer, label and procedure assignments. Algol 68 has provided for run-time checks to prevent these assignments. PL/1 warns the programmer that certain of these assignments will cause trouble but leaves the prevention of these assignments to the programmer.

On the other side of the coin, Oregano chose the retention strategy and was designed with the contour model as its underlying model. Consequently, Oregano has no restrictions on pointer, label and procedure assignments (other than those to ensure type matching).

With this historical perspective, we look to formal definitions of block structuring for insight as to which exit strategy is correct. The notions of blocks and scope of identifiers were borrowed from the lambda calculus [Chu 41]\* to provide the Algol 60 programmer with a powerful programming tool, that of being able to write blocks and procedures without regard to identifiers used elsewhere, i.e. modularity. The first attempt at a formal definition of block structuring appeared in the Algol 60 report [Nau 60]. Certain essential paragraphs dealing with the treatment of identifiers were very poorly and incorrectly worded; c.f. 4.1.3, 4.7.3.1, 4.7.3.2, 4.7.3.3. Later, in 1963, the revised report [Nau 63] fixed up errors.

\*It is most revealing to observe that the pure lambda calculus allows a  $\lambda$ -expression (procedure) to return as its value another  $\lambda$ -expression (procedure) with a free variable (non-local) of the  $\lambda$ -expression which is bound to (identifies) the  $\lambda$ -variable (parameter) of the first; e.g., this  $\lambda$ -expression

$\lambda x. \lambda y. x+y$

The reader should convince himself that retention is necessary to retain the cell for  $x$  after  $\lambda y. x+y$  is returned. McGowan [McG 70a,71] has shown that Landin's SECD machine [Lan 64] fails to compute all call-by-value  $\lambda$ -expressions because it behaves as if it followed the deletion strategy even though it has the necessary information to implement retention. Furthermore, McGowan has designed and proved correct a modified SECD machine which uses retention. Rubin [Rub 71] has devised and proved correct a contour model interpreter for the  $\lambda$ -calculus.

some of which were based in inadequate regard for naming conflicts in the lambda calculus. Unfortunately, even in the revised form these paragraphs were poorly worded. It is no wonder that the Dijkstra stack model, which came out at the same time as the original report and which explained the report, was chosen as the standard for block structured languages. The unfortunate consequence of this has been the almost universal opinion that the deletion strategy is intrinsic to block structure.

Later several better statements of block structuring appeared in Lucas [Luc 70], Wegner [Weg 70c] and Henhagl and Jones [HJ 70]. The rules governing the treatment of identifiers upon block entry are collectively referred to as the copy rule.

## 5. COPY RULE

In this paper we describe an information structure model for the copy rule, CR, which is a cross between the models used in [Weg 70c] and [HJ 70]\*.

### 5.1 Components

In CR each snapshot consists of four components:

- 1) a stack of modified texts of the program being executed. The bottom of this stack contains an unmodified text of the program.
- 2) an ip which points directly to statements in the unmodified text in the bottom of the stack and which points indirectly to corresponding statements in modified texts higher up the stack.
- 3) a block entry count generator, BECG, which is incremented by 1 at each block or procedure entry. At block entry the current value of the BECG is used to subscript identifiers declared in the block to form unique names (addresses). A unique name has the property that it has never been used before in the computation.
- 4) a countably infinite two-dimensional storage component whose locations are addressed by ordered pairs of the form (id,n) where id is an identifier and n is an integer. The unique name id<sub>n</sub> addresses location (id,n) of the storage.

### 5.2 Transformation

The single transformation of CR is described briefly:

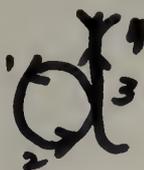
- 1) fetch the statement in the topmost text of the program in the stack which is indirectly pointed to by the ip.

\*These authors both refer to the problems arising from deletion combined with pointers, labels and procedures (cf. pp. 4-5 of [HJ 70] and p. 66 of [Weg 70c]). However, these definitions were given to handle Algol 60. It was discovered by this author that Wegner's model has retention for pointers and procedures (he doesn't discuss labels). The model in [HJ 70] has retention for pointers but a simplification was made to the model for procedures and labels which was allowed by the restrictions of Algol 60 and which destroyed retention for procedures and labels. Also the machine has call by name.

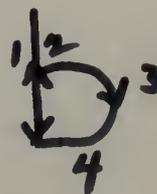
Print the letter b on a card and the letter d in identical size on tracing paper. Place the paper on the card and have the child point out the differences. Remove the tracing paper and show the letter b again. The same technique may be used with sets of words beginning with the confused letters, such as "big" and "dog;" "pig" and "quack." One word is printed on a card, the other on tracing paper. Encourage the child to notice parts which are different. Remove the tracing paper, place it alongside the printed word, and ask for differences.

The teacher may have pictures illustrating words that begin with b and d, such as "boat," "duck," etc. The pictures should be pasted alongside the rounded part of the letter. That is, a picture of a boat should be pasted next to the lower part of the b and to the right of it. A picture of a duck should be pasted next to the lower part of the d and to the left of it. In each case the picture accents the direction of the rounded part of the letter.

The child should be encouraged to always make the "d" beginning with the circle, thus:



and the "b" beginning with the stick, thus:



### 3. Medial Vowel Sounds:

When the children have been introduced to differences

in sounds of the short vowels, further practice should be given in context reading. Multiple-choice sentences can be given that will make the children focus attention on the medial sound. For example:

The cat sat on the (rig, rag, rug).

The pig was asleep in the pig (pan, pin, pen).

Still later practices in context reading should make the children focus on the total word. Multiple-choice sentences should be constructed that include initial and medial letter differences. For example:

The bear was fast asleep in the (hut, log, leg).

The farmer was in his (bag, hat, hut).

Snow White was in the last (bed, led, bad).

#### 4. Card Calling Game:

On small cards--3 by 5 inches--print words with different vowel sounds, such as "pig," "hat," "wig," "can," "ran," "sat," "big," etc. Shuffle the cards and give four to each child. A small pack should be left face down on the table. The first player reads a word from any of his four cards. If another player holds a card that contains a rhyming word, he must give the card to the player calling for it. The next player receives a chance to call any of his words. When a player fails to get a card from any of the players, he may draw from the pack on the table. If he still fails to get a rhyming word, or if he cannot

read the card he has chosen, he must discard the card he called. The player with the most cards at the end is the winner.

#### 5. Sounds in General:

In teaching letter sounds, it may be helpful to identify as many of these sounds as possible with familiar sounds. For example:

- wh What sound do you make when you blow out a candle?
- r What sound does the lion make when he roars?
- sh What sound does Mother make when she doesn't want you to wake Daddy?
- ch What sound do you make when you sneeze?
- ow What sound do you make when you hurt yourself?
- o, ow What sound do you make when you are surprised?
- oo What sound does the wind make when it blows around the house?
- s What sound does the radiator make when steam comes out?
- gr What sound does a dog make when he growls?
- m What sound do you make when you eat something very good?

A word which is causing trouble may be printed on transparent paper. The child then finds the same word by placing the transparent paper over words in a known sentence until he comes to the word which exactly coincides

with the one on the transparent paper. Example: If the child confuses "boy" and "big," the word "big" might be written on the transparent paper, and he might be asked to find it in several sentences, the first few of which would not contain the word "boy."

The house is big.

The dog is big.

The big cat is black.

The boy is big.

The boy has a big cat.

The big boy has a dog.

The teacher selects a word with which the child is having difficulty, writes it on a card in cursive or manuscript, and hands it to the child. The teacher pronounces the word, and the child repeats it. Then he traces over the word with his finger as he says it (either orally or silently). He then writes the word without copy, saying the syllables to himself. The word is now presented to the child in printed form, and subsequently used in context.

#### 6. What Day Is It?

The children complete the words and draw pictures for spelling practice:

sn\_wy day    sun\_\_ day    c\_l\_ day    h\_pp\_ day

b\_\_thday    h\_l\_day    gl\_\_my day    r\_\_ny day

g\_\_d day    st\_\_my day    d\_\_k day    h\_t day

## 7. Letter Puzzles:

The purpose of this puzzle is to give practice in spelling.

- a. Give each pupil a copy of the following:

c	t	u
m	a	g
p	s	e

Two-letter words:

---



---



---

Three-letter words:

---



---



---

Four-letter words:

---



---



---

Longer words:

---



---



---

- b. Ask the pupils to write as many words as they can, using the letters in the square.

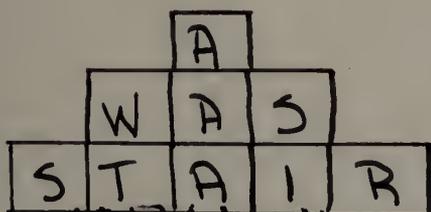
Note: This is a good game to take on the bus for field trips. It is easily distributed and keeps the children busy on the bus.

## 8. Pyramid Puzzles:

The purpose of these puzzles is to provide spelling practice.

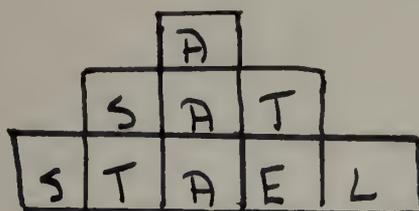
- Give each child a copy of the following.
- Ask him to begin at the top of each pyramid and work down to fill in empty blocks with appropriate letters in order to complete the pyramid.
- When he is finished and his word has been checked by the teacher or a neighbor, he may total his points. All the words in a given pyramid must be correct in order for that pyramid to count.

Example:



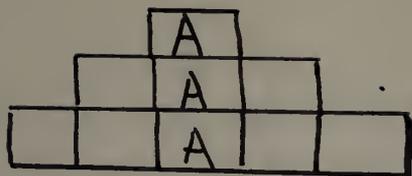
5 points

Correct--total 5 pts.

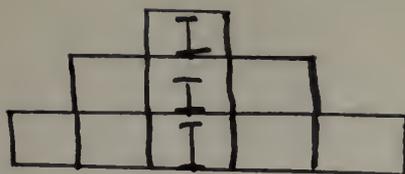


5 points

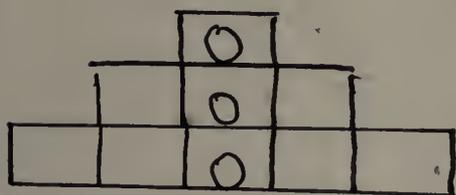
Incorrect--total 0 pts.



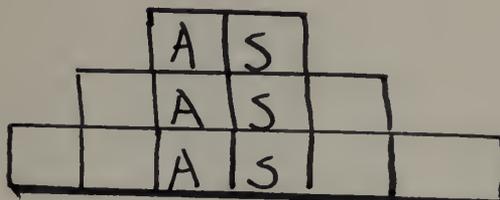
5 points



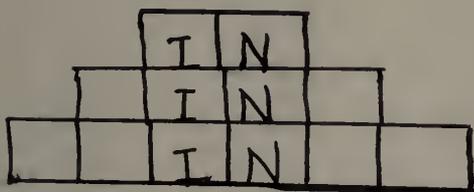
5 points



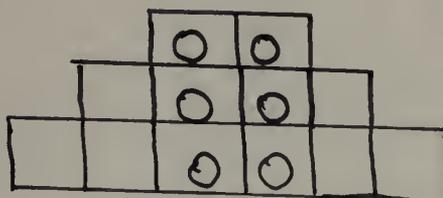
5 points



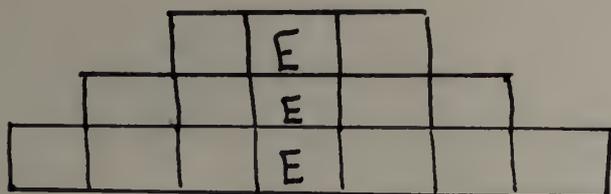
10 points



10 points



10 points



15 points

Total Points \_\_\_\_\_

## 9. Apartment House:

The purpose of this game is to provide practice in word recognition skills.

a. Choose five pupils to represent the heads of five families. Give each of these children a large card (approximately 5 by 12 inches) on which is written the name of his family.

Example:

OUT

able

ail

ill

and

- b. Make word cards, one at least for each member of each team, from the following list of words.
- c. Place these on chalkboard ledge.
- d. Divide remaining children into five teams.
- e. On signal, each child finds a word belonging to his family, and lines up in front of the head of his family.

First team to assemble completely wins.

stable	still	stand	shout	pail
cable	chill	hand	pout	quail
table	drill	bland	snout	nail
sable	will	brand	spout	trail
fable	grill	land	sprout	hail

## 10. Spell-A-Fun:

The purpose of this game is to provide practice in spelling.

a. Give each pupil a chart like the one below:

m	n	o	y	b	a	i	r	x
e	t	u	r	c	o	q	t	o
d	i	f	o	p	h	e	j	y
l	i	t	r	g	a	i	o	a
p	o	m	a	s	a	t	y	p
v	k	w	i	h	e	m	o	u
h	e	y	i	t	n	o	e	s
o	u	e	r	z	u	r	l	t
b	p	m	d	i	p	t	h	e

b. The pupils draw lines from one letter to another to spell words. A line may not cross a letter unless the letter is part of the word.

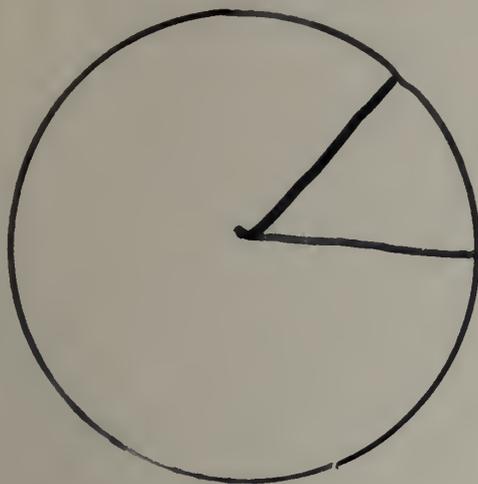
Variation: Make a bulletin board. Attach a large envelope of yarn and a small envelope of thumb tacks or pins.

Pupils use the yarn to connect letters to spell words. After a pupil has spelled all the words he can, he writes these on a sheet of paper and places all the yarn and tacks back in the envelopes.

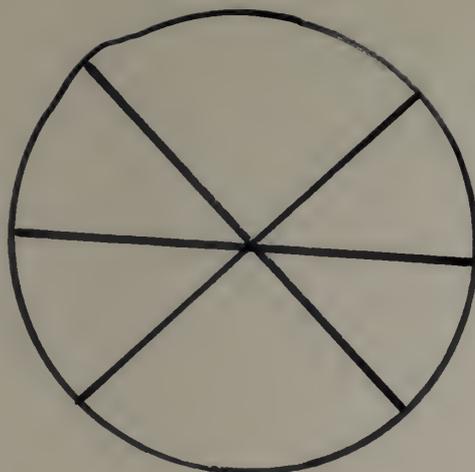
#### 11. Mystery Letters:

The purpose of this exercise is to provide practice in applying the following generalizations: The letter "c" and the letter "k" are used to represent the same sound. The letter "c" is usually used preceding "a," "o," and "u;" the letter "k" is usually used preceding "e" and "i."

- a. Cut three circles from cardboard approximately 9 inches in diameter. Cut a triangle (base of  $11\frac{1}{2}$  inches) from two of the circles.



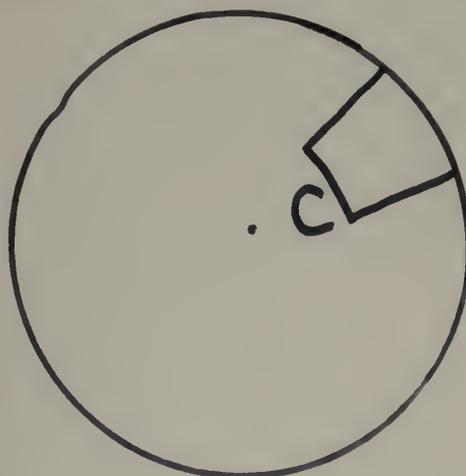
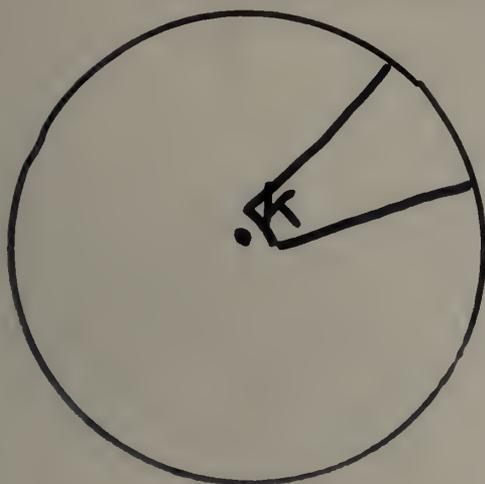
- b. On both sides of the third circle, draw lines from the center, approximately 3 inches apart at the outer edge of the circle.



Note: May be adapted for hard and soft "g."

c. Placing the circle with the lines in the middle, punch a hole in the center of each circle and connect all three with a paper brad. This represents a wheel.

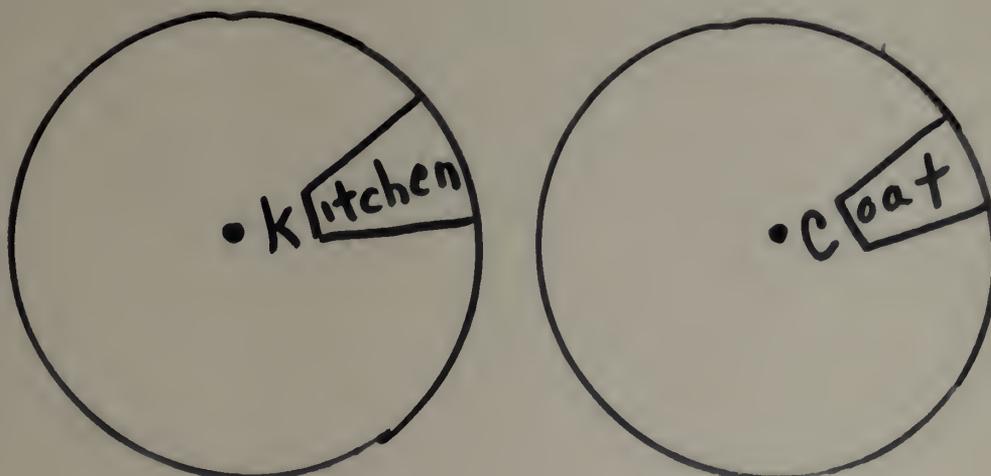
d. Label the wheel as pictured:



e. On the chalkboard or on chart paper, write the following:

itchen	ut	ite	andy
at	oal	ute	ettle
ey	andle	oat	it

f. The children form words by writing each of the above on the lines of the middle circle on the appropriate side.



Variation: Any initial consonants, blends, or digraphs may be substituted for the letters "c" and "k."

## 12. Make-A-Word Prefixes and Suffixes:

The purpose of this exercise is to give practice in using prefixes and suffixes to build new words.

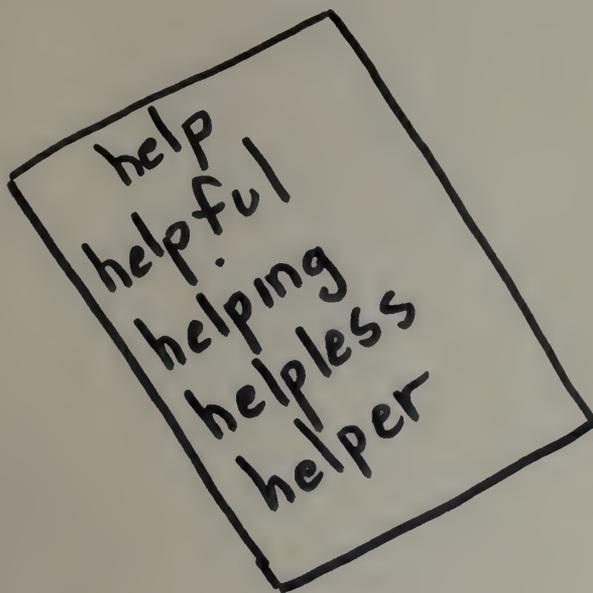
a. Print words such as these at the top of sheets of paper and place them in a stack easily accessible to pupils:

help	run	color	talk	try
find	eat	sleep	paint	shout
keep	sing	ride	laugh	give
send	read	fish	cry	write

go

b. Pupils select a word from the stack and change it in as many possible ways as they can by adding prefixes and suffixes. Dictionaries may be used for help.

Variation: This can be used as independent seat work activity with extra incentive being provided by allowing pupils to share with the class the number of word changes and to take the paper home at the end of the day. It also makes a fun group game if pupils are divided into two teams with the same words and allowed to check orally to find which team has the most words.



Worksheet for Make-A-Word:

Find below the missing endings. Cut and paste each one where it belongs in the story:

Jill was play\_\_\_ with her friend, Margo. They were dress\_\_\_ their doll\_. Jill had the tall\_\_\_ doll. Margo's doll was small\_\_\_.

Soon, Jill's little brother Ted came out to play. He want\_\_ to play too, but the girl\_ said, "Go away!" Ted was sad, but he walk\_\_ away slow\_\_.

ing            s            ed

est            ed            er

ly            ing            s

### 13. Silly-Sacks (Controlled R):

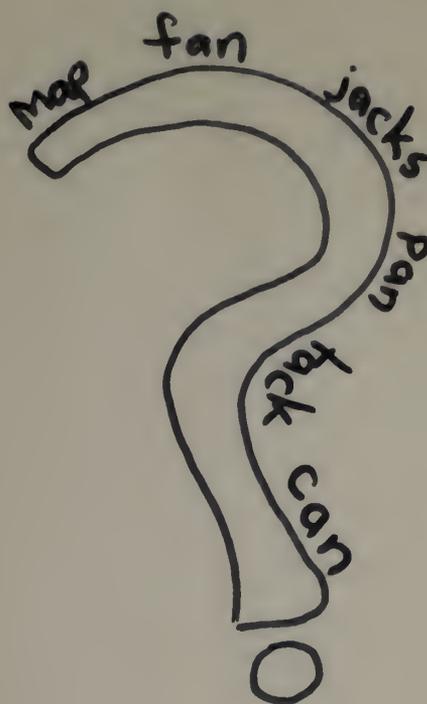
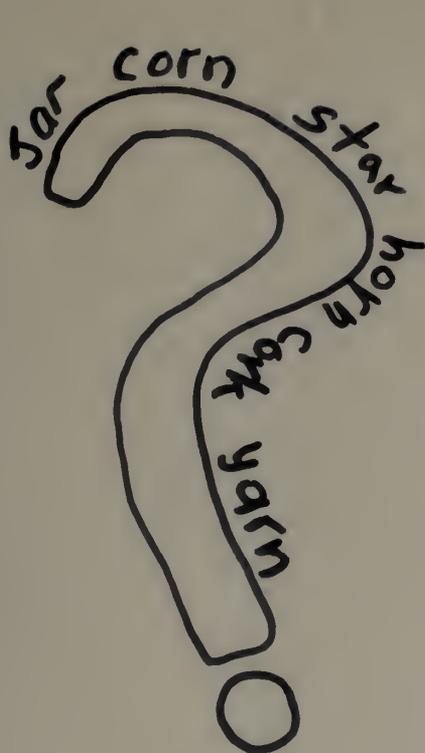
The purpose of this game is to give pupils practice in recognizing words which contain the letters ar and or and to provide opportunities for spelling these words.

a. Place each of the following items in a paper sack: card, corn, car, cork, jar, scarf, marble, fork, yarn, horn. Place a number 1---10 on the outside of each sack.

b. Pupils number their papers from 1---10 and are told that the name of the item in each sack contains either the letters ar or or.

c. As the sacks are passed around the room or group, pupils pinch, smell, or shake to determine "what's in a sack." The answer, correctly spelled, is written by the number on the paper which corresponds to the number on the sack.

Variations: Other items whose names follow a spelling pattern may be used. For example: (one syllable, short a) hat, cap, bag, fan, jacks, map, pan, tack, rag.



#### 14. Vowel Chart

The purpose of this exercise is to develop auditory discrimination of vowel sounds.

a. Give each pupil a copy of this chart:

	a	e	i	o	u
long					
short					
r					

Print words such as the following on cards. Put these cards in an envelope attached to the board.

hat	birch	teach	bank
hot	for	sit	coat
hate	met	barn	burn
cut	lock	meet	like
butter	cord		

Children pin or tack words in correct block.

15. Sleepy Words or Wide Awake Words (Silent Letters):

The purpose of this exercise is to give pupils practice in identifying letters which represent no sound.

a. Write on the board several words that contain silent letters, such as:

night	two	neat	soap	take
hair	eight	shoe	come	life
four	sea	lie	toe	boat

b. Ask pupils to discover what is alike about these words.

c. As they discover that these words all contain silent letters or "have sleep spots," ask individual pupils to underline the "sleepy spots" in each word and say the word.

d. Another place on the board, make a list of words in which every letter is heard, such as:

run	me	go	cat	list
six	ten	it	sink	dog
bed	test	cry	rap	ship

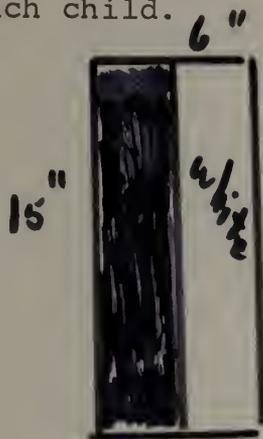
e. Ask individual pupils to identify the words orally and look carefully for sleepy spots. They will discover that these words are all "wide awake."

#### 16. Syllable Strips:

The purpose of this exercise is to provide practice in dividing words into syllables.

a. Cut a strip of white construction paper approximately 15 inches long and 6 inches wide. Cut a strip of another color 15 inches long and 3 inches wide. Paste this strip on top of the left side of the white paper.

Prepare one for each child.



b. Give each pupil a container with scissors, paste, black crayon and five 3 by 5 cards. Write a two-syllable word on each card. (The words may follow the same pattern: Yellow, better, manner, puppy, etc. Or the words may be of different patterns: Yellow, market, away, something, etc. Follow the procedure which best fits the needs of the pupils.)

c. Each pupil is to take a word card and cut the card between the two syllables; paste the first syllable on the colored part of his paper, and the second syllable on the white part. Then, using his crayon, place the accent mark in the correct place.



#### 17. Affixes:

The purpose of this exercise is to provide opportunity to develop an understanding of prefixes and suffixes.

a. On pieces of blue felt, write with a magic marker the following words:

hunt	pay	work	tell
play	slow	like	open
lock	read	teach	

b. On pink felt, write the prefixes re and un, and on yellow felt, write the suffixes er and ly.

c. The pupils manipulate the words, prefixes, and suffixes on a flannel board to see how many new words they can build. Pupils may be asked to give the meaning of each new word.

re	write
----	-------

un	lock
----	------

un	like	ly
----	------	----

pre	view
-----	------

18. Word Tag:

The purpose of this exercise is to provide practice in recognizing contractions.

a. Give cards on which a contraction is written to half the pupils. Give the other pupils cards on which are written two words from which one of the contractions is formed.

b. Ask one child to be "it."

c. As the teacher says either a contraction or a combination of two words, the child who holds the card with the contraction and the child who holds the card with the two words change seats. "It" tries to get a seat. The child who doesn't get a seat becomes "it."

## 19. Here We Go:

The purpose of this exercise is to employ a meaningful activity as pupils move from the reading group to their seats.

a. Say to the pupils: "If your name begins with the same sound as ball begins, you may go to your seat." Continue with other initial sounds until all pupils are dismissed.

b. Say to the pupils: "If you have on something which is red, you may go to your seat." Continue with other colors.

c. Have pupils frame with their hands words written on the board. Example: "The person who can frame the word which means the opposite of up may go to his seat."

### Lessons and Games to Develop Comprehension Skills

#### Riddles:

The purpose of this exercise is to provide an opportunity for practice in spelling.

1. Print words pupils need to learn to spell on 5 by 7 cards. These may be words on the weekly spelling list, from their science or social studies units, or other timely lists.

2. Have one pupil come to the front and sit facing the group while the "leader" selects a card and holds it over the seated pupil's head.

3. The leader calls on group members to make riddles or sentences leaving out the word.

- Example:
- The boy found an \_\_\_\_\_ in the next.
  - I had a scrambled \_\_\_\_\_ for breakfast.
  - What is almost round, almost white, and breaks easily? Answer: egg

4. The "guesser" must say the word and spell it correctly. The pupil who supplies the clue enabling the "guesser" to get the word comes to sit in the chair and has the next turn. The "guesser" becomes the leader.



#### What Did You Say?

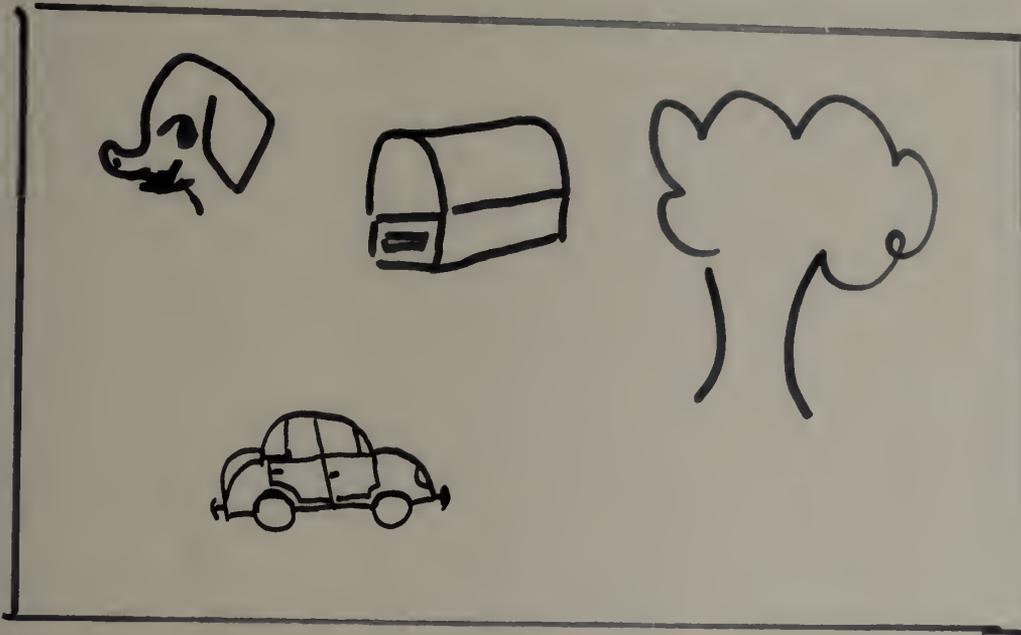
The purpose of this exercise is to provide an opportunity for understanding multiple meanings.

1. Give each pupil a piece of 12- by 18-inch newsprint or

construction paper. Write a word on each pupil's paper, such as trunk, light, match, bar, check, strike, fly.

2. Each pupil then illustrates, either by drawing pictures or cutting pictures from magazines, different meanings of the word.

Example:

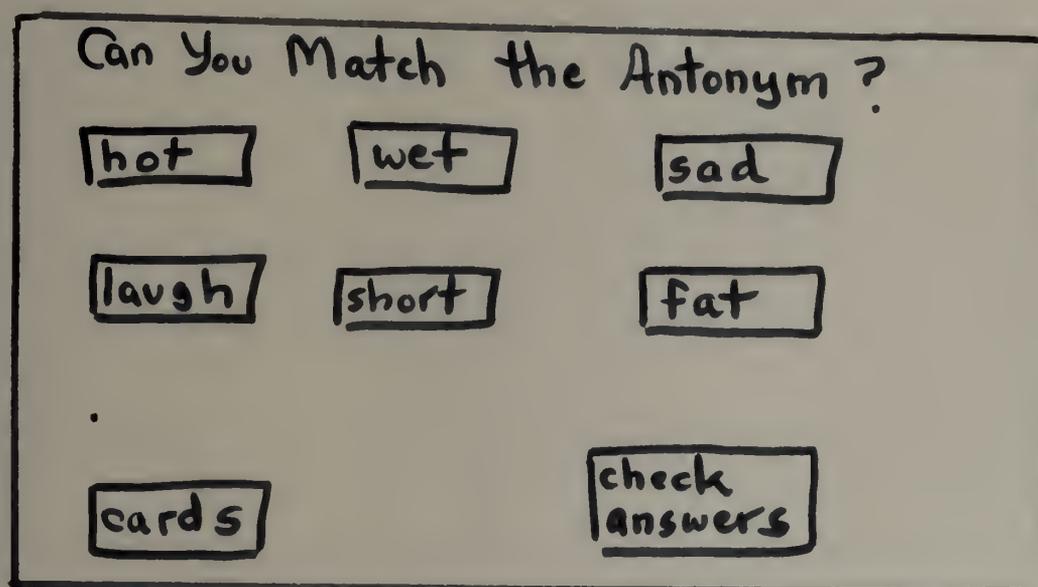


Write surprise letters on the chalkboard before the students arrive. Be sure to write, "I love you," often.

Make-A-Match:

The purpose of this exercise is to provide practice in recognizing antonyms.

1. Place standard envelopes (flap on the outside) on a bulletin board. Write a word, which has an antonym, on each envelope. Place a larger envelope in the bottom left corner of the bulletin board. In this envelope, place 3 by 5 cards on which are written antonyms for the words in the envelopes. In the bottom right corner place an envelope containing the answer key (a small card on which is written the matching antonyms).



2. As an independent activity, pupils take the cards from the envelope in the left corner and place each one in an envelope which represents an antonym. After each card is placed, the pupil may check himself by looking at the answers. He then removes all cards and puts them back in the envelope for the next pupil.

Variation: This activity may be used for synonyms, homonyms, matching colors, matching sight words, matching shapes, or classifying.



### Phrase Reading:

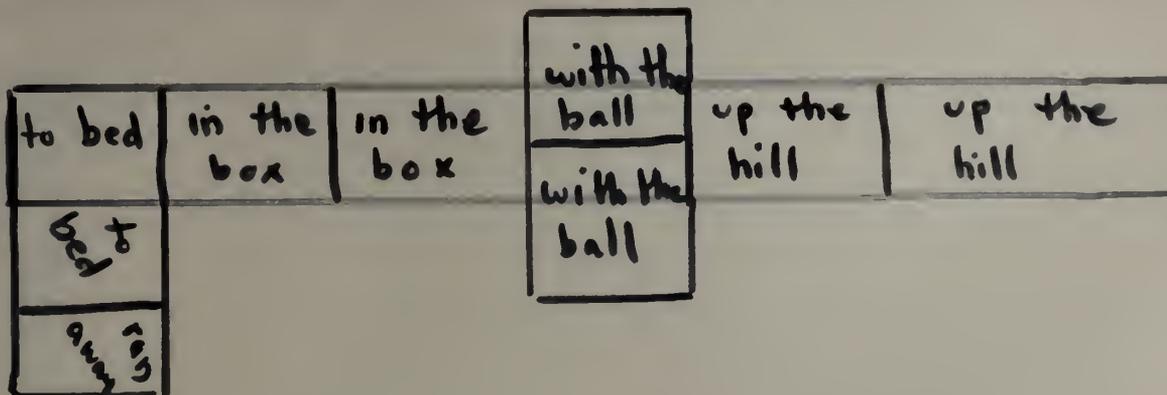
This is a skill which can reduce the number of small word omissions.

1. The teacher prints on cards phrases from a given selection in the reader. These cards are given to the children, who match the phrases with those in the selection.

The teacher has phrase cards placed along the chalkboard ledge. She reads one of these phrases and calls upon a child to go to the board and pick out the phrase she has read. The child then reads the phrase to the class.

2. The children are given several phrase cards based on a story which they have read. The teacher writes on the board a question which can be answered by one of the phrase cards. The child who thinks he has the phrase to answer the question correctly raises his hand. He reads the question from the board and the answer from his card. The teacher writes the answer on the board, and then writes another question which is answered as before.

3. Dominoes: This is played with phrase cards made to resemble dominoes, with phrases taking the place of the dots.



Note: This exercise helps children understand the term "sentence," and gives nice reinforcement of sequence skills.

#### Scrambled Sentences:

The teacher writes a jumbled sentence on cards or on the board. The children have to reassemble the sentences. Examples:

more splashing and a loud grunt then she heard  
king's golden came on coach the  
Baby down from seat her slid  
a puppy with Tracks was black and white spots

#### Writing Sentence Answers:

The children are assigned to pick a selection to read. After they have read the selection, the children answer the written questions on the blackboard. Example:

Carl and Zeke were two brothers. They lived in a small village near a large river. Carl had a beautiful home, fine horses, and plenty of money. Zeke was very poor. He lived in a little wooden cottage and worked hard all day. He worked as a fisherman.

#### Questions on the chalkboard:

What were the names of the brothers?

What did Carl have?

Where did Zeke live?

What work did Zeke do?

In this exercise the children must answer questions in sentence form: Example:

The names of the brothers were Carl and Zeke.

or,

Carl and Zeke were two brothers.

Paragraph Reading--Matching Titles with Paragraphs:

The children are given a paragraph to read. A list of suggested titles is prepared and placed in random order on the chalkboard or on printed sheets. The children either write the number of the best title or, if the material has been printed on sheets, underline the best title. Example:

Headlines and stories from the grade level newspaper may be cut apart. The class or reading group is divided into two teams. Titles and matching feature articles are divided into two envelopes. The team completing the matching first, wins.

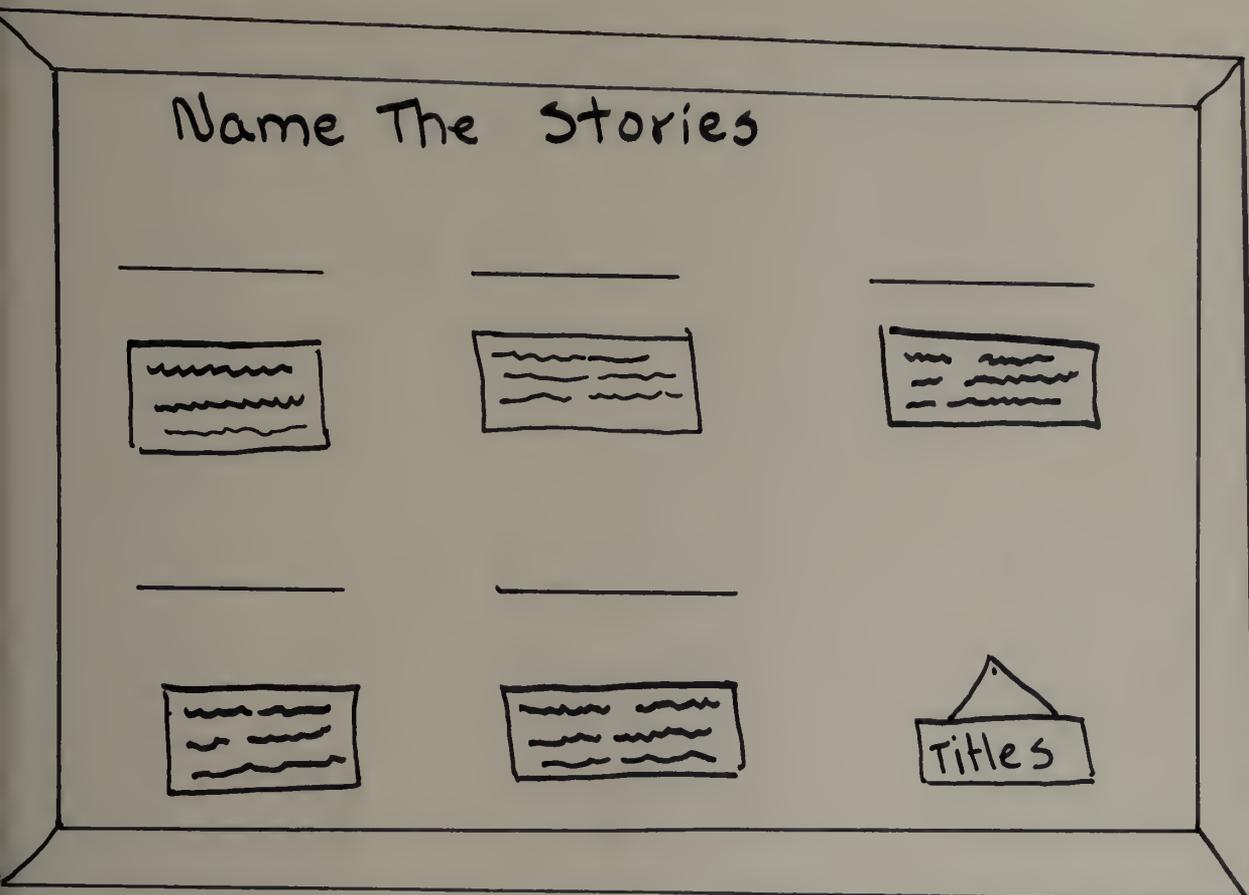
Name the Story:

The purpose of this exercise is to determine the main idea of a paragraph.

1. Using manuscript or a primary typewriter, write several short paragraphs. Mount these on construction paper and place on the bulletin board.

2. Write a title for each paragraph on separate strips of paper. Place these in an envelope attached to the bulletin board. Include a few extra titles which would not fit any paragraph.

3. As an independent activity, pupils may tack above each paragraph the best title for that paragraph.



#### Context Clues:

1. Extensive drill on context clues will help eliminate many substitutions. The child should be taught to see that the word which he has substituted for the correct one cannot have much meaning in relation to the sense of the words which he has correctly recognized. Example:

Correct sentence: The bear went to sleep in a hollow log.

Sentence as read: The bear went to sleep in a hollow dog.

The child can be led to see that in this sentence "a hollow log" makes sense, whereas "a hollow dog" does not.

The child may be trained to look beyond a word which is troubling him to discover whether the following few words will give him any clue to the meaning of the difficult word. A distinction must be made here between blindly guessing at a word, and the intelligent use of known words and context clues.

Lem lived on top of a h--- mountain.

Teacher: "What word can you think of that begins with h that might tell something about the mountain?"

2. Another method of teaching the intelligent use of context clues is the completion sentence. Example:

R--- fell from the clouds.

run rain rat roll

3. Different types of completion sentences can be given which employ words of similar appearance.

Boys and girls live in \_\_\_\_\_.

\_\_\_\_\_ live in barns.

houses heather horses

A \_\_\_\_\_ is the home of a bird.

Clean children are \_\_\_\_\_.

near nest neat

The leader gave the \_\_\_\_\_ for them to \_\_\_\_\_.

sign sing

A \_\_\_\_\_ cannot sleep in a \_\_\_\_\_.  
 horse      house

4. The child is given a card containing several sentences from each of which a word has been omitted. He is also given an envelope containing an assortment of words. Each word is represented in several forms, singular and plural for nouns, comparative and superlative for adjectives and adverbs, and the various tense and number forms for the verbs. The child is supposed to find the correct word for each blank. Example:

My doll is \_\_\_\_\_ than Peggy's.

My doll can \_\_\_\_\_.

The dog \_\_\_\_\_ with the ball.

Among the possible words will be: "big," "bigger," "biggest," "walk," "walking," "walks," "play," "playing," "played," "plays."

5. The child is given a card containing sentences, such as:

Peggy is play\_\_\_\_\_ with her doll.

Peter ride\_\_\_\_\_ the horse.

This tree is big\_\_\_\_\_ than the house.

An envelope containing endings accompanies the card. The child is to select the proper endings for the unfinished words.

Note: These lessons give practice in auditory closure as well as in using context clues.

6. When a child encounters a new word which he cannot read, the teacher may encourage first reading the rest of the

sentence and then coming back to the unknown word. This teaches the child to anticipate meaning. The teacher may say: "Read the rest of the sentence and see whether it will help you know what the word is." The teacher may also ask guiding questions, and make comments or suggestions that will lead to the meaning. For example, if the new word is "toys:" "Baby Ann saw many \_\_\_\_\_ in the store window." The teacher asks, "What do you think Baby Ann saw when she looked in the store window?" If the child answers, "A doll," the teacher suggests other possibilities. "Yes, she may have seen a doll, but what are some of the other things she may have seen that begin with the letter t?"

7. New words should often be introduced in sentences that give their meaning or by questions that will lead to their meaning. For example, to teach the word "smashed," the teacher may ask: "What do you think happened to the cup when it fell?" To teach the word "yawn," the teacher may ask: "What do people sometimes do when they are sleepy?" When the correct words are elicited, the teacher prints the words on the chalkboard for further study.

#### Riddles:

1. The teacher writes the name of one word family on the board, such as "ame." She says to the children, "I am thinking of a word that belongs to the 'ame' family. Can you guess what it is?" A child who responds goes to the board and either

writes a consonant in front of the family, or chooses a letter card from the chalkboard ledge to indicate his guess. For example, the child suggests an l and says, "Is it 'lame?'" The teacher may then write the word "lame" on the board, saying, "No, it is not 'lame.'" Another child suggests another word in like manner, and it is written on the board under "lame," and so on until the right word is found.

Riddles are an excellent training device not only for a specific phonetic skill, as above, but for the communicative skill of auditory closure.

## 2. Finding Partners:

The teacher passes out to half of the class cards bearing word families, and to the other half of the class cards bearing consonants or phonograms. The children with the consonant and phonogram cards pass around among the other children to see if they can make a word by combining their cards. When a word has been made, the child says, "We made \_\_\_\_\_ with our cards," until the entire class is paired.

## Sound Dictionary:

A scrapbook is used, the edges of the pages being so cut that they can be thumb-indexed. As the various consonant sounds are being studied, the child finds pictures in old magazines, and so forth, of objects or actions, the word for which begins with the sound being studied. These pictures are then pasted in the appropriate place in the book. Later, if the

teacher wishes, the correct word may be cut out and pasted beside the picture illustrating it. Phonograms may also be taught by this device. The child thus makes his own picture dictionary, which can be used for future reference.

#### Charades:

The purpose of this exercise is to provide opportunity for following written directions.

1. Write directions for stunts or pantomime activities on folded slips of paper. Some suggestions are:

- a. Act like a farmer.
- b. Act like you just won a new puppy.
- c. Act like a crying baby.
- d. Act like you are eating a fluffer-nutter sandwich.
- e. Act like your team just lost the ball game.
- f. Act like you are an astronaut.
- g. Act like the fireman putting out a fire.
- h. Act like you are swimming.
- i. Act like you are a rag doll.
- j. Act like you are a twinkling light on the  
Christmas tree.
- k. Act like you are a monster.
- l. Act like you are building a snowman.

2. Place these in an interesting or seasonal container.

A gaily decorated shopping bag, a Christmas stocking, a jack-o-lantern, a lunch box, or a suitcase are a few examples that would lend themselves to specific occasions.

3. Direct pupils to draw a slip of paper, read it, and act it out.

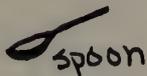
4. The pupil who guesses what the stunt is may either have the next turn or choose someone who has not had a turn.

Note: This is an excellent device for the child who needs help with motor expression.

Cooking Fun (to give practice in following written directions):

1. Make a large chart with printed directions for cooking something simple. Stick-figure illustrations help children to read directions.

## Making Pudding



Put pudding mix into bowl.



Fill cup with milk.



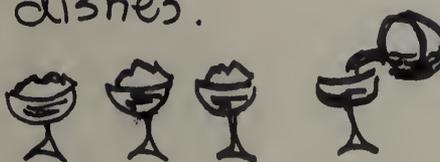
add milk to mix in bowl.



Stir mix a long time with the spoon.



Pour pudding into dishes.



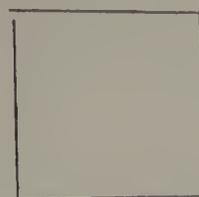
Following Directions:

The purpose of this exercise is to provide practice in following directions and discriminating colors and shapes.

1. Make a folder by taping together two pieces of 8-1/2- by 11-inch cardboard or tagboard.

2. On the inside of half of the folder, print simple directions:

a. Put the candy cane in the red



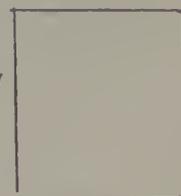
b. Put the flag in the green



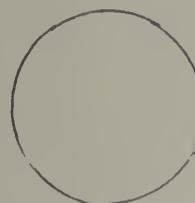
c. Put the boy in the blue



d. Put the girl in the yellow



e. Put the pipe in the brown

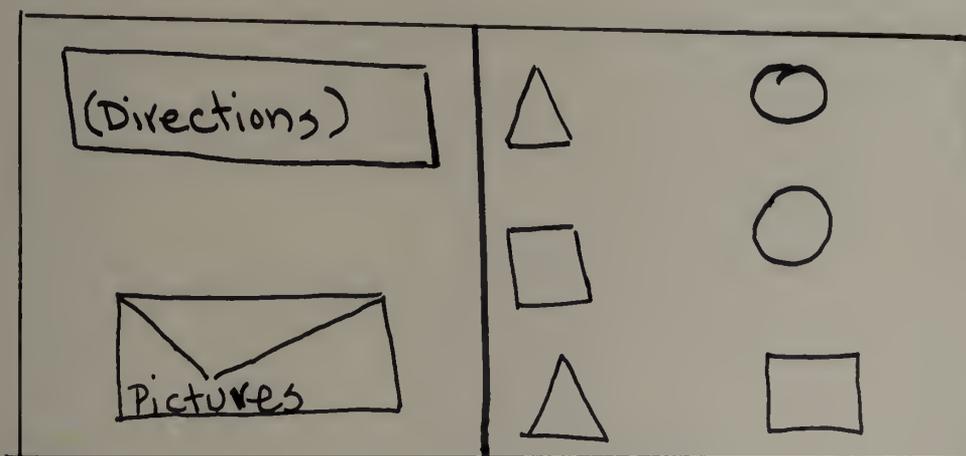


f. Put the dog in the black

3. Cut the pictures and paste on a small card. Place an envelope under the directions to hold the pictures.

4. On the inside of the other half of the folder, paste the shapes.

5. As an independent activity, the pupil follows the directions, placing the pictures on the correct shape. When he finishes, he places the pictures back in the envelope for the next pupil.



#### Classification:

1. Put two large colored pictures on the bulletin board, one of fall and one of spring (or city and farm, football and baseball, etc.).

2. In manila envelope place word, phrase or sentence strips pertaining to each category.

3. Pupils remove strips and attach them to board under appropriate picture.

4. Answer card in another envelope so that the children can check their answers for accuracy.

## Sequence:

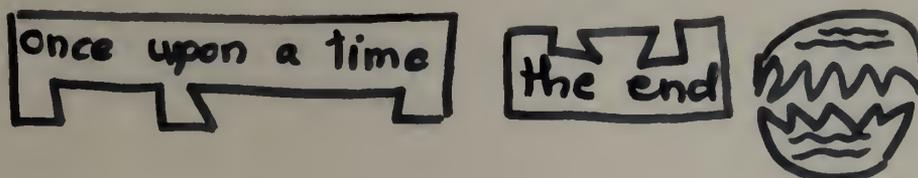
## 1. Story Puzzles

a. Print simple stories on appropriate reading level, on cards cut in half. Omit endings. Place unfinished stories in box on the table.

b. In another box place half-cards with story endings.

c. Pupils paper clip appropriate endings on stories and invite another pupil to share reading stories aloud.

Note: Stories may be cut in jig-saw shapes so that interlocking pieces of correct response match correct story beginning.



## 2. Picture Stories

a. Cut illustrations from familiar nursery rhymes, fables and stories.

b. Direct the children to place story pictures in proper sequence and tell the story.

Note: This is fun when adapted to "special days" such as Washington's birthday, Christmas, etc. The re-telling of the story is good practice in verbal expression.

## 3. Our Own Stories--Variation

a. Children or the teacher may write an original story and illustrate different parts. The class is

divided into two teams, one to illustrate the story and the other to guess at the correct sequence.

### Multi-Purpose Games

#### Leap Frog:

Place elements to be mastered on the sheet, leaving from one to five spaces between entries. Use spinner or dice to determine the number of spaces a player moves. Each player marks his moves with a different color or different shape playing piece.

The object of the game is to move along the playing path, leaping over the obstacles by responding verbally to the task presented. The first to reach the finish line is the winner. Player moves the number of spaces indicated by his play. When he reaches a "task" block, he must perform the required task in order to leap over to the next space. If he fails to make the leap, he must remain in front of the task until his next turn. This gives him the opportunity to hear a correct response when the next player reaches that position. If none of the players can respond correctly, or if no player reaches that position before the next turn around, the "supervisor" should give the correct response, or refer the child to possible responses.

Pictures may be used instead of letters or words for auditory reinforcement of phonetic skills. Pictures also can be used for classifying objects into groups or for practice in recalling synonyms and antonyms.

Skill: Discriminating between the letters b, d, p, and q.

Task: Name the letter.

Go	b	d				p		q		b	d
stop	d	q				p					

fish	fished	fishing	cook	cooks
help	helps	helping	jump	jumped
stop			hits	hitting
			hit	
			looking	looks
				look

Vary the rules for this game by not using the spinner or dice. Let the child go as far as he can without missing. Let each child have as many trials as the first child who makes it to the finish line. Winners are all who reach the line.

Skill: Using root words to unlock words with endings.  
 Task: Read the words.

### Footsteps:

Place elements to be mastered on the footprints. Footprints are lined up with a starting line and a finish line indicated. Player must respond to a footprint in order to keep moving toward the finish line. If the player makes an error or fails to respond, he goes back to the starting line, taking the footprint he misses with him. He places this footprint in the first position, moving the other prints to fill in the vacant space. By so doing, he changes the order of the prints and has a chance to hear the word he missed immediately. Next player from the opposing team now has a turn. Players on alternating teams take turns until one team has all players over the finish line. That team is the winner. Be sure that both teams have equal trials to reach the finish line and declare a "tie" if both finish in the same number of trials.

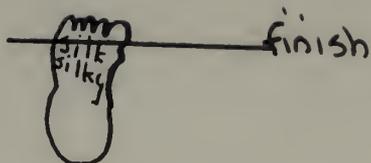
This game can be adapted for use in teaching many of the phonetic skills from letter recognition to root words and endings. Some suggestions are:

digraphs

compound words

consonant blends

categorizing (by labeling the footprints Fables,  
Sport Stories, Poems, Sea Stories, etc.)



Skills: Structural analysis of words having "y" endings. Understanding the meanings of words having "y" endings.

Task: Read the words and/or use them in sentences.



Forward, March:

Place elements to be mastered on the game sheet. Place matching elements on the cube, the spinner or the index card.

The game is played by moving from left to right along the "march line," making a return sweep along the "return-sweep line" to the beginning of the next "march line," continuing from left to right with a return sweep until player reaches the finish line.

In order to move, the player spins, throws, or flips, depending on which playing piece is used. He moves on the game sheet to the first matching element indicated by his play. In most cases a verbal response should be made. If an incorrect response or play is made, the response should be corrected and the player must return to his last position on the sheet, the play then going to the next player. If he responds correctly, he moves along the "march line" to the first match for his play. If he skips over a match or matches incorrectly, he must return to his former position, and the play goes to the next player.

Winner is the first one to reach the finish line.

Go H U M T H

Y U T R U

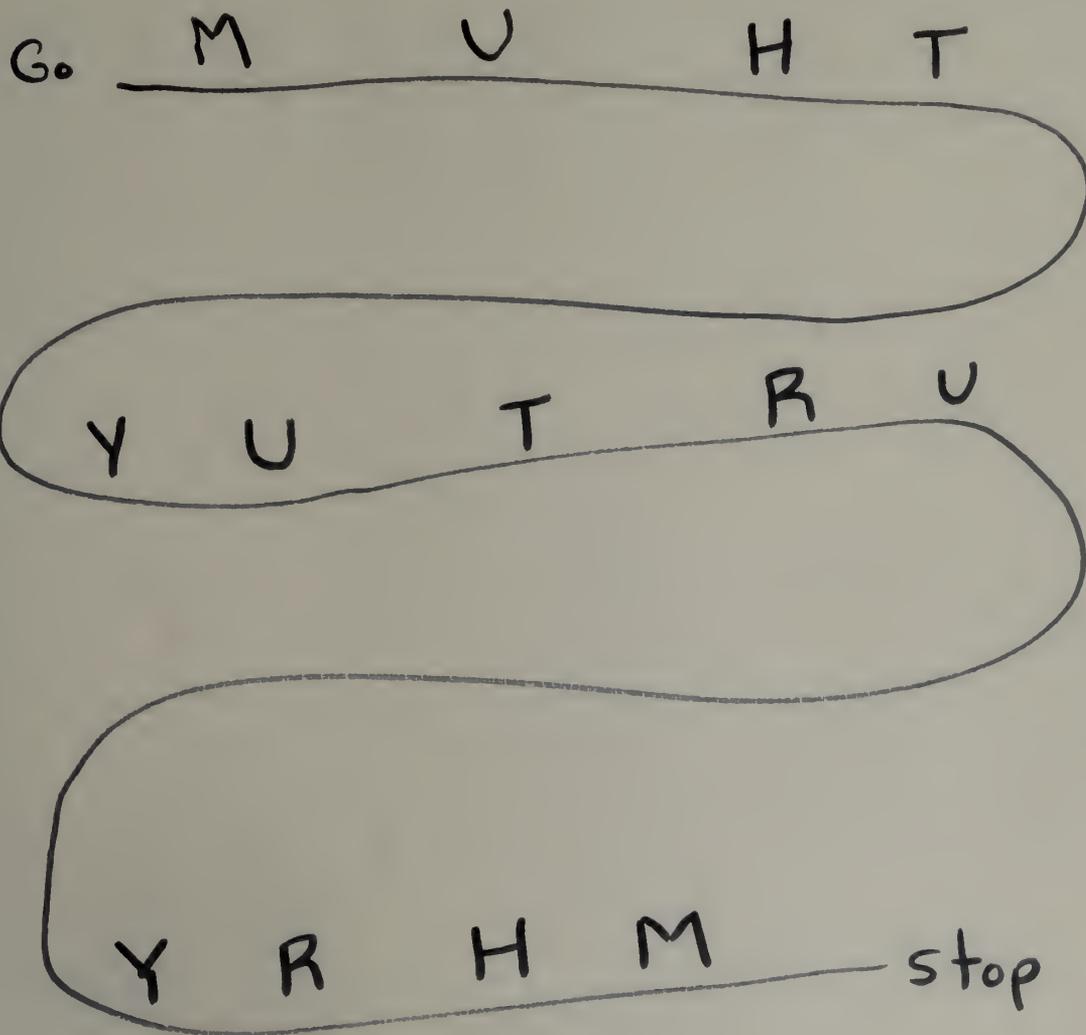
Y R H M R

stop

Use the cube. Put the following on the sides: m r y  
t u h. This is an abbreviated game.

Skill: Mastery of upper case letters of the alphabet.

Task: Read the letter and move to the first match.



WANTED                      WAVED                      LANDED                      WALKED

GO \_\_\_\_\_

RAIDED                      MENDED                      MINDED                      ROBBED                      SIPPED

HOPED                      WAITED                      PLANTED                      LIVED                      LOADED

TALKED                      SPILLED                      HINTED                      LIFTED                      WASHED

LIFTED                      WASHED                      TAGGED                      NEEDED                      ENDED

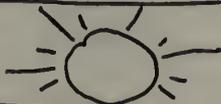
STOP

Place on the spinner: t    d    ted    ded

Skill: Mastery of the four sounds heard when "ed" is added to a word.

Task: Move to the first word that has the ending sound indicated by the play. Read the word.

Go



stop

Place the following letters on the spinner: b s h p l

Alphabet

Blends

Visual Discrimination

Digraphs

Sight vocabulary

Vowels

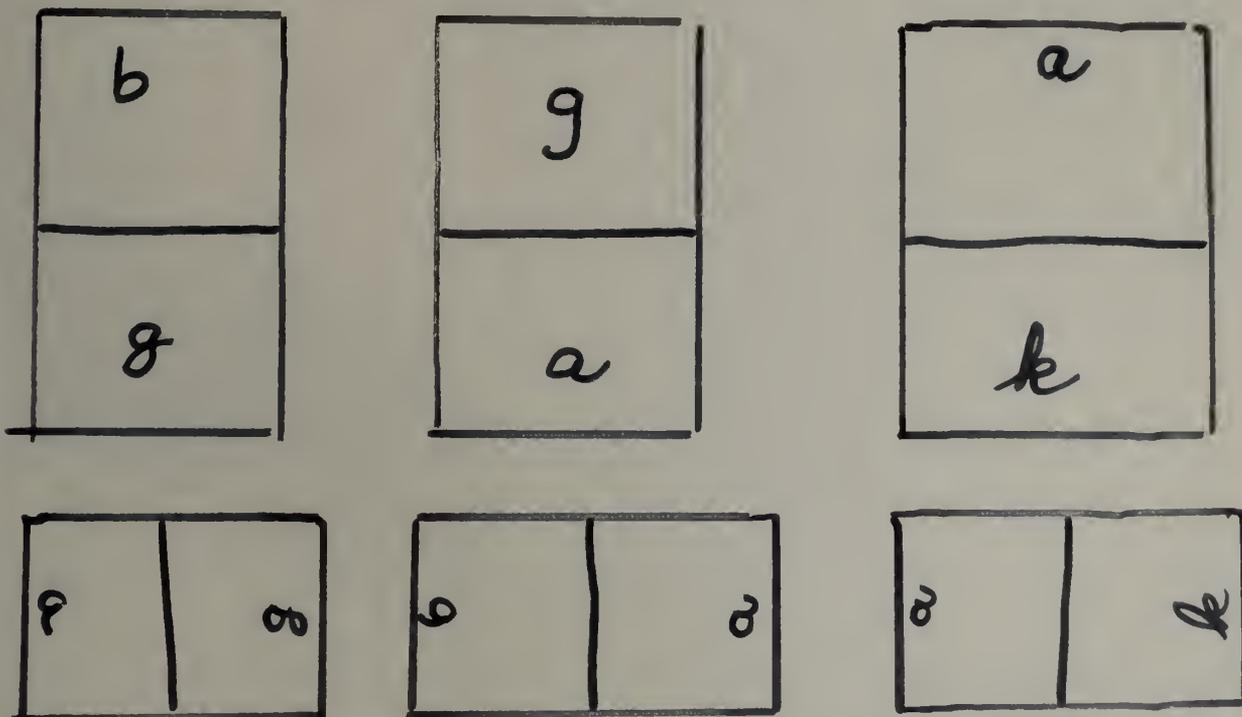
Consonants

Endings

Rhyming Words

### Dominoes:

Construct dominoes so that a number of matches can be made. Matches should not be on the same domino. The game may be played as traditional dominoes or as a simple matching game. As a matching game, divide the dominoes equally among the players. First player starts by making all of the matches he can. When he can no longer match, next player continues, making all of his matches. After the last player has played, the play returns to the first player. The game continues until a player is out of dominoes. He is the winner. The game may go on until all dominoes are used up or until no more matches can be made. If this is done, then you will have a first place, a second place, a third place, etc., winner.



Skill: Recognition of cursive and manuscript forms of letters.

Task: Match cursive and manuscript forms of letters.

Skill: Using pronunciation symbols for vowel sounds.

Task: Read the word and match it with the correct vowel symbol.

pat
e

about
â

care
ä

Skills: Recognizing root words in words with endings.

Reading words containing root words plus endings.

Task: Read and match the root word and the word containing the root.

playing
look

looking
run

running
sit

## Tick-Tack-Toe:

Place elements to be mastered in the spaces on the sheet. Elements may be repeated as many times as may be necessary to complete the sheet. Use playing pieces of two different colors or shapes to mark the moves. If the games are covered with clear contact paper or plastic folders, grease marking pencils may be used to make "X" and "O".

The game is played as "Tick-Tack-Toe" except that a correct verbal response must be made for a player to move into a space. If the player cannot respond correctly, he must move to a different space. The "supervisor" should clear up the difficulty immediately by telling or referring the player to the correct or a possible response. The first player to mark three in a row is the winner.

In a game such as this one which is set up for mastery of consonant digraph endings, some possible responses are:

X = wash, watch, ring

O = with, both, catch

<del>sk</del>	<del>ch</del>	(th)
<del>ng</del>	(th)	sh
(ch)	ng	th

en	pro	pre
im	re	en
pro	pre	im

You may wish to display a list of words, such as the following, to which the children may refer:

- enrich
- enable
- enlighten
- entrap
- enlist
- protest
- prolong
- proclaim
- preserve
- prevent
- resign
- restate
- impovertish
- implant

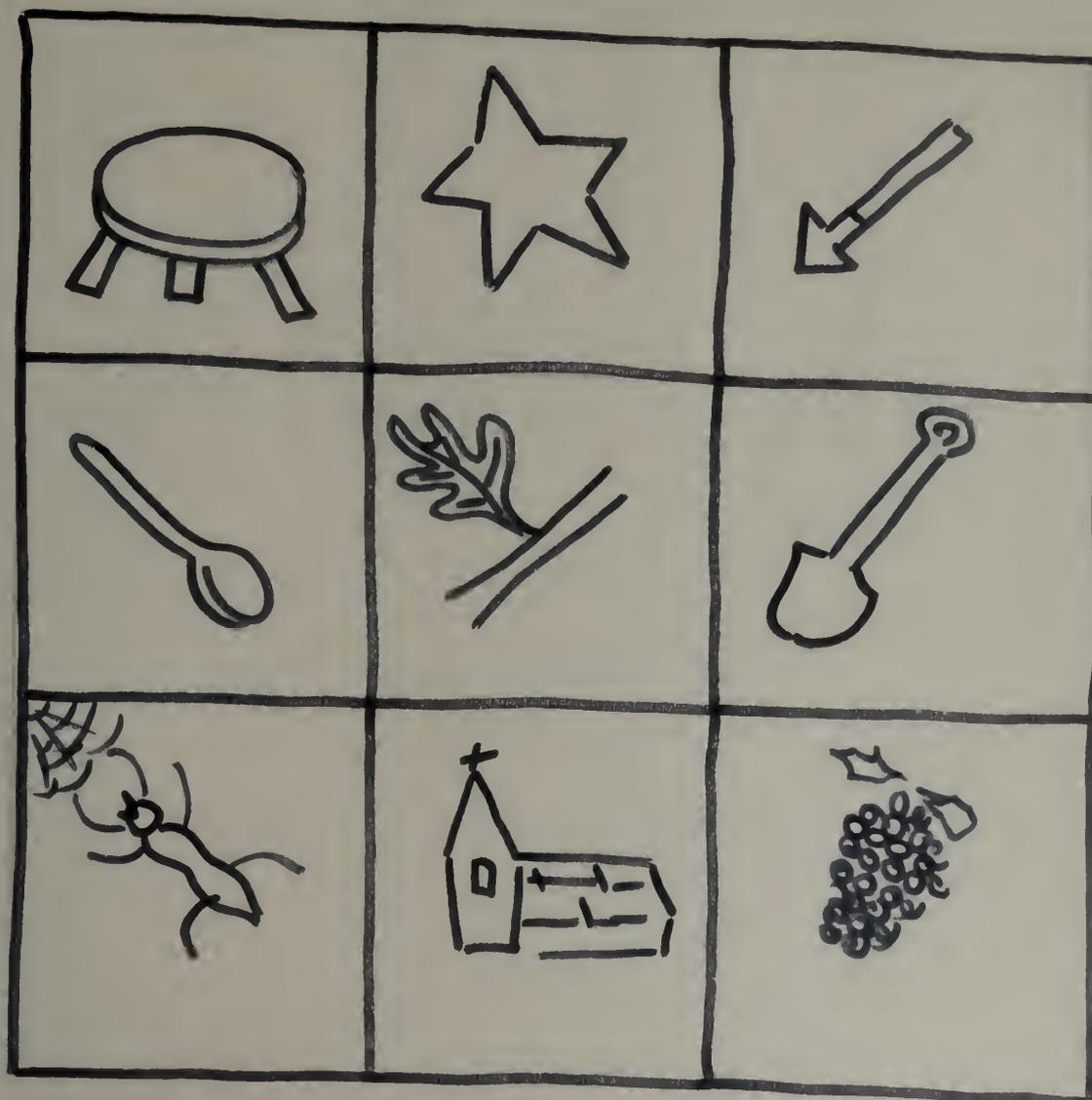
Skill: Vocabulary enrichment through understanding prefixes.

Task: Give a word beginning with the prefix.

ă	run	let
map	ĕ	did
ı	got	ü

Skills: Recognition of short vowel patterns.  
Sound-symbol associations for short vowels.

Tasks: Say the vowel sound.  
Say another word having the same vowel sound.



Skill: Auditory discrimination of consonant blends.

Tasks: Name the picture and give a word that begins with the same blend. Name the picture and give the blend that begins the picture word.

## Bingo:

Place elements to be mastered on the Bingo sheets. Vary the sheets by making one different entry on each row of each sheet. Make a master sheet of all of the elements for ease of checking. Make a separate calling disc of each of the elements on the master sheet. Players respond by covering with the Bingo discs the elements called. Play as traditional Bingo except that player must respond verbally to his winning card.

1	2	3	4	5
A	B	G	C	D
B	A	E	D	C
C	G	Free	F	B
D	F	B	E	A
E	D	A	G	F

1A 2A 3A  
 1B 2B 3B  
 1C 2C 3C  
 1D 2D 3D  
 1E 2E 3E  
 1F 2F 3F  
 1G 2G 3G  
 etc.

Skill: Recognition of upper case alphabet letters.

Task: Mark the letters called and read the "Bingo."

One Bingo calling disc has been circled in each game.

Make separate calling discs for each item.

ow	aw	oi	oy	oo
owl	saw	boil	boy	toad
gown	jaw	soil	toy	soon
frown	law	noise	joy	too
town	hawk	point	alloy	loop
prowl	yawn	voice	enjoy	cool

Skill: Sound-symbol associations  
for special vowel sounds.

Task: Mark the word called and  
read the "Bingo."

	b	f	t	h	l
free	fall	tall	hall	look	
ball	free	tap	hook	look	
book	fat	free	hat	land	
bat	fan	fan	free	live	
band	fig	top	hand	free	

Skill: Consonant substitution in familiar words.

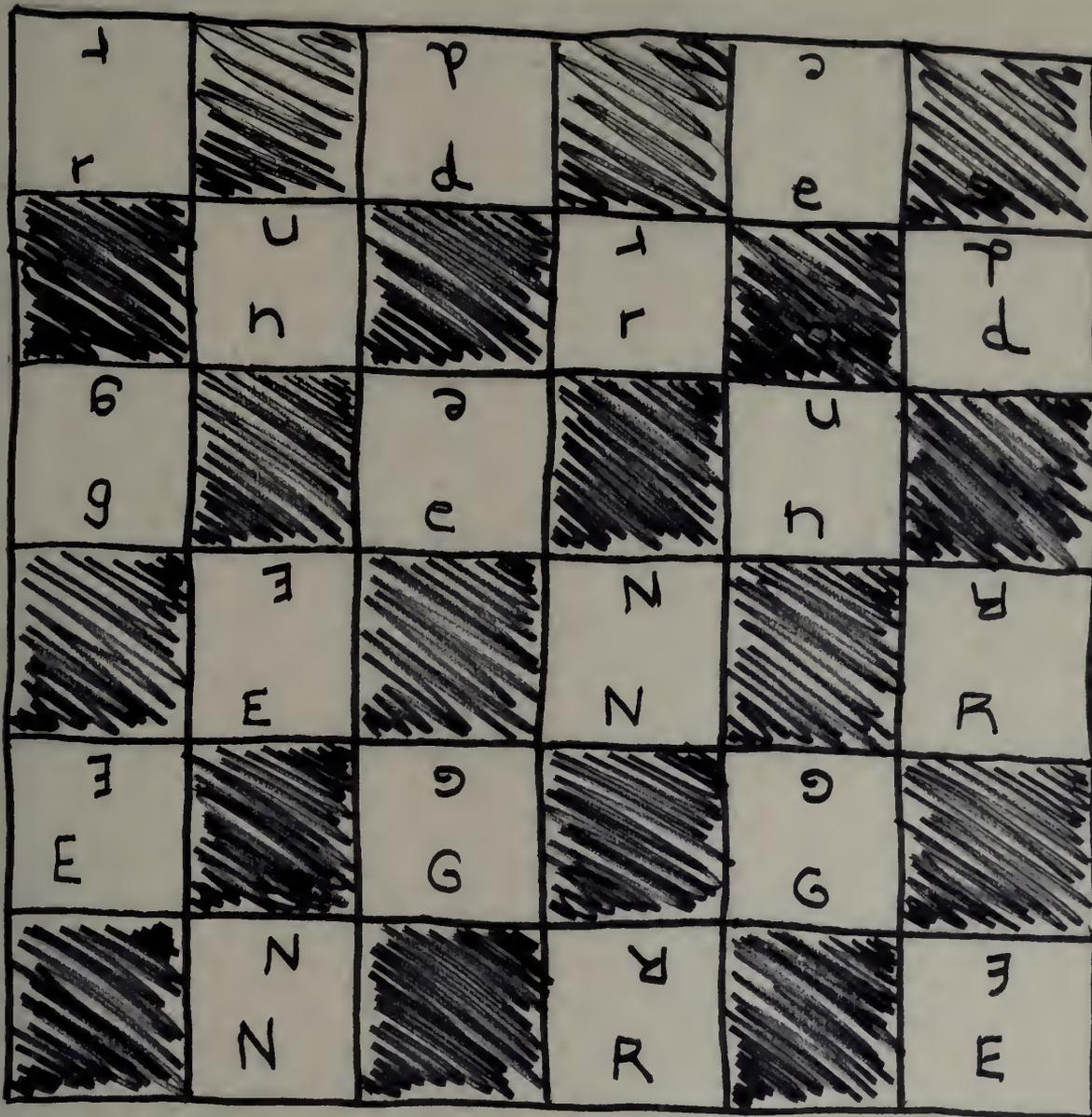
Task: Mark the words called and read the "Bingo." (The children should be told to listen for the beginning sound in order to find the words quickly.)

### Checkers:

The checkerboard is completed by placing in the playing squares the elements to be practiced. Words or letters should be written twice in a space so that they are viewed correctly from both directions. The checkerboard is an abbreviated form. It can be turned either way. It is desirable to turn the sheet horizontally when long elements are to be written in and vertically for short elements.

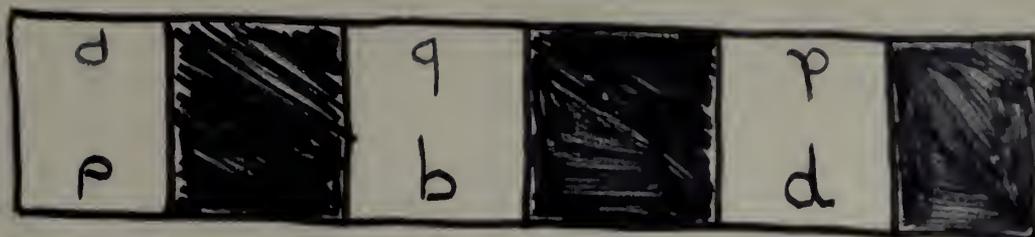
The game is played according to "Checker" rules, except that, in order to move or jump into a space, the player must make a verbal response to the task. In a game of "antonyms" he must say "long" to move into the "short" space. To jump over "down" into "short," he must say "up" and "long." The player must respond to the space over which he jumps and into which he lands.

In a game of "synonyms," older children might enjoy using the dictionary to help make more mature responses and increase their vocabularies.



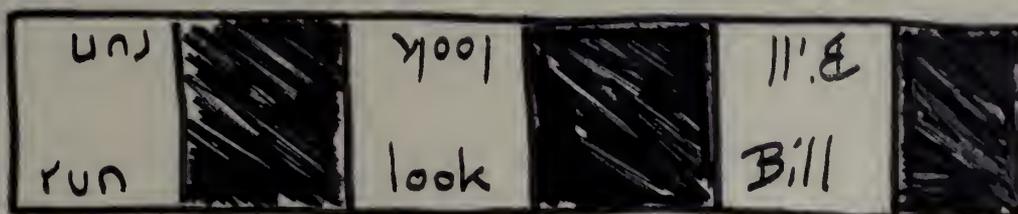
Skill: Recognition of upper and lower case letters.

Task: Read the letters.



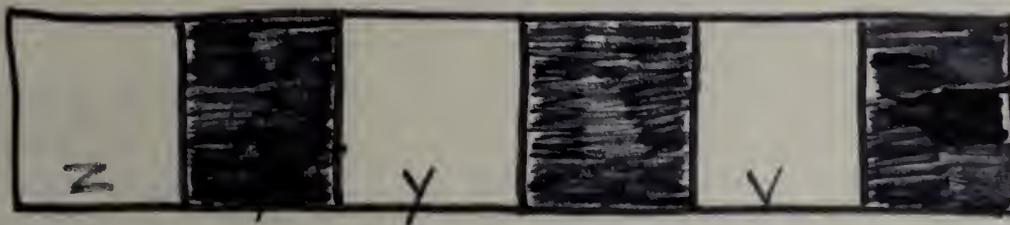
Skill: Visual discrimination of common reversal letters.

Task: Read the letters.



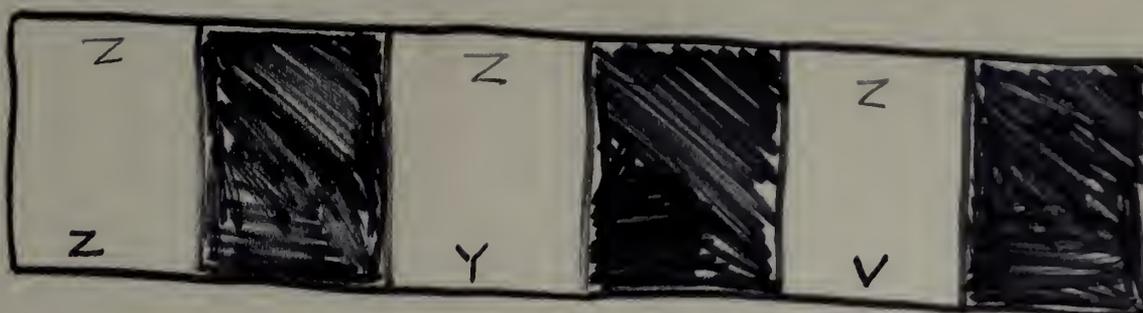
Skill: Mastery of sight words.

Task: Read the words.



Skill: Making words that rhyme with familiar words.

Task: Give a word that rhymes.



Skill: Sound-symbol association for consonants.

Task: Give a word beginning with the consonant.

#### Card Games:

By making cards in sets of fours, you can play all eight of the games that follow:

1. Concentration: The game is played with pairs of cards. Place the cards, face down, in rows, with one set in the top rows and matching cards in the bottom rows. Vary the number of cards and the number of rows with the maturity level of the children playing.

The object of the game is to win the greatest number of points by making matches and naming cards. First player turns over card from top group, leaving it at its place. He names the card and then turns over card at the bottom, naming it. One point is scored for each card named correctly. If the cards match but the child cannot read the card, he must return the card, face down, to the same place, and no score is earned. The play goes on to the next player. An extra point may be made by the next player if he names the missed card correctly.

He does not have to use this card if he does not wish to. The teacher should correct an incorrect answer if it is not corrected in this manner.

Player with the most number of points when all cards are removed wins.

Note: This game in all its forms is highly recommended for developing visual memory.

2. Change: The game is played with sets of fours.

Matches are made in fours.

The object of the game is to be the first to get rid of all of the cards dealt to you.

All of the cards are dealt. Player on dealer's left lays one card on the table, face up, making a verbal response that names the card or uses the sound. Other players in turn match it, making a correct verbal response, or they pass if they cannot match.

Suppose the game is designed for mastery of initial consonants: First player lays down "b" and says "ball." (If the player has more than one "b," he plays them all, saying a different "b" word for each card.) Second player plays "b" and says "book." Third player plays "b" and says "box." Fourth player plays "b" and says "boy." Fourth player then immediately cries, "Change!" and plays a different letter.

A faster game may be played by not requiring the players to play in turn. They play as soon as they recognize that they have a match.

First to get rid of all of his cards wins; or the player with the fewest cards remaining when no more matches are being made is the winner.

3. Old Maid (adaptation): Make pairs of cards using elements to be mastered. Make one extra card. (The design should be one that appeals to the age group.)

Play as "Old Maid" with the exception that pairs must be verbalized as they are laid down. If a player wishes to lay down two cards that say "run," he must say, "run, run" when he lays them down.

4. Go Fishing (adaptation): The game is played with sets of fours. Matches are made in fours.

Five cards are dealt each player. The remaining cards are placed in the "fish pond." Players get rid of cards by laying down sets of fours. First to get rid of all of his cards wins. If no one gets rid of all cards, the player with the greatest number of sets wins.

Players first make all matches with the five cards they have been dealt, naming the matches as they are laid down in groups of fours. Player No. 1, to the left of the dealer, asks player No. 2, to his left, for a card he needs. If player No. 2 has a match, he gives it to player No. 1. Player No. 1 continues to ask until player No. 2 has nothing that matches. When No. 2 has nothing to give, he says, "go fishing." Player No. 1 goes to the "fish pond" (the stack of cards that have not

been dealt) for a card, which he uses if he has a match. If he cannot use it, he places it, or another card in his hand, in the discard pile. Player No. 2 checks the discard pile for any cards he can use. He then asks player No. 3 for what he needs and proceeds as player No. 1 has played.

Suppose the game is constructed for mastery of "blends:" The teacher makes four picture cards for each blend she plans to use. Player will ask for other pictures that begin like his by saying, "Give me a match for 'broom.'" He may receive "bread."

5. Rummy (adaptation): Cards are made in sets of fours.

The object of the game is to get rid of cards by laying down three of a kind and adding the fourth.

A "prefix" game may be made by using "exceed," "excuse," "exhale" and "extend" as one set, and as many other prefix sets as may be needed to make an interesting game.

Deal six cards to each player. Place the next card face up on the table to begin the "discard pile." The remainder of the pack is placed face down beside the discard pile.

Only three cards may be laid down at a time. When a player's turn comes around again, he may play the fourth card on his or his opponents' triplet.

Player No. 1 checks the discard pile to see if he can use any of the cards toward completing a set. If he cannot use any of the discarded cards, he goes to the "draw" pile and takes

the first card. If he is holding "exceed" and "excuse" and he draws "exhale," he has triplets. He may elect to lay down immediately or hold until later. He discards "unhappy." Player No. 2 follows the same procedure, looking for his triplets. Once a set of triplets has been laid down, players may elect to add onto triplets already on the board instead of laying down triplets. Only one play may be made after a "draw"--one triplet laid down or one card added to the triplet already down.

When a player discards his last card, he calls "Rummy."

6. Match Me: Pairs of cards are made. All cards are dealt. Player No. 1 plays a card: a triangle, for example. Player having another "triangle" plays it and says, "I match." If shapes are identifiable by name, the teacher may require that the shape be named. If sounds, words or letters are used, answers must be verbalized. Winner is the first to get rid of all his cards.

7. Solitaire: Make cards in groups of four, such as four cards with the same prefix. Cards are shuffled and laid out in two rows of five each. The remaining deck is placed face down.

Player checks board for pairs, in this case pairs of words with the same prefix. He turns up the two top cards in the deck and covers each card of the pair on the board with these cards.

preview, disenchanted, unready, replay, exclude,  
explain, repeat, predict, disassemble, unhappy

On his first play he may cover "replay" and "repeat." He turns up two more cards and covers "unready" and "unhappy." He has now created a new board with the possibility of other pairs. Each time he covers a pair, he has a different board to study. If at any time there are no new pairs to be covered and the deck has not been exhausted, the player loses to the board. Player wins if he gets rid of all cards in the deck.

8. Solitaire (adaptation No. 2): Make cards in groups of four, such as four cards with the same special vowel sound.

The object of the game is to clear the board by combining all cards in sets of four of a kind.

Shuffle the deck and lay out two rows of five cards each, face up. Place the remainder of the deck face down.

toil	law	cow	moon	know
few	join	boy	stood	now

Player picks up "toil" and places it on top of "join," leaving "toil" space free. He places "cow" on "now," leaving "cow" space free. He replaces cards removed with new cards from the top of the deck and then checks for new matches. As long as he can make matches, he replaces the empty spaces with cards from the deck. When he can no longer make new matches, he picks up the deck, counts off three cards and turns the "three-stack" up. This is his "play" pile. He tries to use the top card of the "play" pile to make a match in the rows. If he can use the top card, he next tries to use the second and then the

third of the three cards. When he finds he can't use the top card, he counts off three more and repeats this step. Each time he makes a stack of four matches on the board, he removes the four and places them aside, thus freeing another space to be filled with cards from the "play" pile. When all sets of fours have been removed and the board has been cleared, the player wins. If this does not happen, then the "board" wins.

#### Football:

Make a number of task cards on the skill. The game is played with two teams or players. Players try to move the playing piece to the opposite goal to score a 6-point touchdown. The ball is placed on the 50-yard line. Team No. 1 has the ball. Players on the team must perform correctly in sets of four. (It may be to read four sentences correctly, or name four suffixes, or say four words that begin with "ph.") First player may be required to make all four responses, or it may be up to the first four players to complete the task. If the task is performed correctly, the ball moves 10 yards. When a team fails to gain 10 yards, the ball goes to the opposing team and it moves in the opposite direction from the last position. (The game can be speeded up by requiring only one answer for the team to move 10 yards.)

When the goal is reached, a touchdown is made and six points are scored for the team. The ball is then returned to the 50-yard line and the play begins again with the opposing team having the ball.

Players may be given a chance to "recover a fumble" by having another try at the task. This should be decided at the beginning of the game.

An extra point system may be added for more fun. Extra point cards may be made with very difficult skills. "Field goals," for three points, may be earned at the 20-yard line, by completing the extra point cards. This game should be timed. Task cards can be shuffled and reused throughout the game.

Track, Baseball and Football are highly motivational, especially for boys who make up so many of the numbers of children with learning disabilities. They are easily adapted to many different kinds of seatwork.

#### Track:

Make a number of "task" cards on the skill. Place the "task" cards on the spaces around the track.

Playing pieces are lined up at the starting line. First player moves around the track the number of spaces indicated by a throw of the dice. (An adaptation could be to have the player go as far as he can go without limitation being placed by a throw of the dice.) Player must perform the tasks as he comes to them. If he reaches a task to which he cannot respond correctly, he stops in front of that task. Next player moves out, going as far as his throw has indicated. When all players have had their first chance, the play returns to the first player,

who tries again to get over the difficult hurdle. If at any point in the game all players reach a task to which none of them can respond properly, the correct response is given by the "supervisor" and all players return to the starting line and begin again.

All players to make it around the track within a reasonable number of plays (the number being set at the start of the game) are winners.

Cards may be changed at the end of a game, or the same task cards may be used again to give further practice in the skill.

#### Baseball:

Make a number of "task" cards on the skill. Place the "task" cards on the rectangular space on the baseball sheet.

The game is played with two teams or players. Playing pieces are moved around the baseball diamond as correct responses are made. One player or team is at bat. Pitcher from the opposing team turns up "task" card to which the player must respond. Each time a player responds incorrectly, or fails to respond, an "out" is called. Three "outs" retire a side and the other team is "up."

When "task" cards run out, they are shuffled and used again. The number of innings is decided ahead of time. The team with the most "runs" wins.

An adaptation could be to assign a "catcher" for each

team. If the player at bat misses the task, the catcher would try to perform correctly. If the catcher misses, a "foul" is called and the player gets another task. If the catcher responds correctly, the player is "out."

The game procedures outlined for Track, Baseball and Football should be followed for the following games:

1. Write the following on "task" cards: Who? What? Why? When? Where? How? If a player turns up "Who?" he must ask a "What?" question, etc. You may wish to structure the game a bit more by deciding on a unit, such as "Questions About Our School" or "Questions About the Farm."

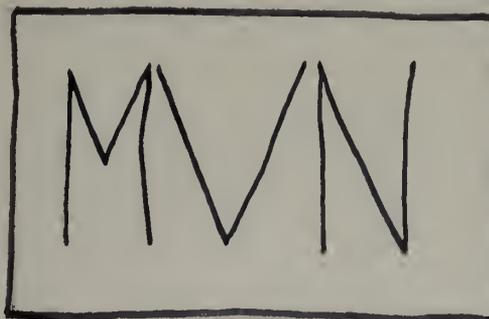
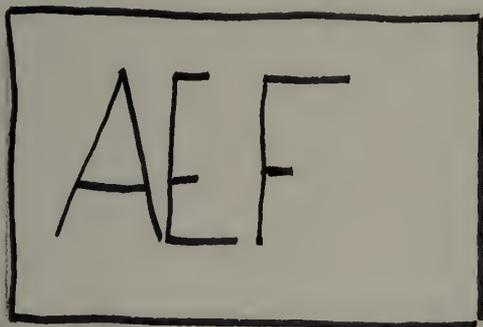
2. Make "task" cards containing phrases for which the children must make up "Who? What? Why? When? Where?" questions. For example, the responses to the phrases "on the table" and "after school" could be: "Where is the book?" and "When will we play ball?"

3. Using a selection the children have read: Divide the group into two teams. Have each team make up questions to ask the other team, using all of the question words. Make "task" cards of these questions. Team No. 1 must answer team No. 2's questions in the game chosen, and team No. 2 must answer team No. 1's questions.

Another approach would be to make "Who? What? Why? When? Where?" task cards. Team No. 1 turns up a card. If it is a "Who?" card, team No. 2 asks one of its "Who?"

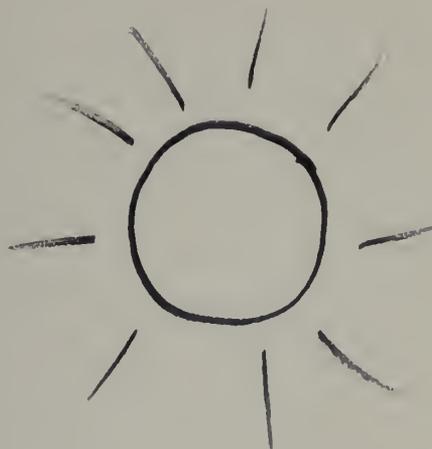
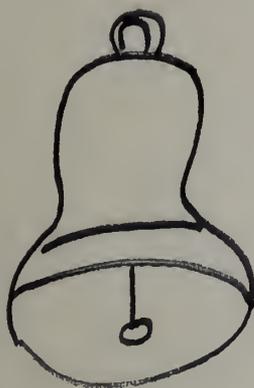
questions in the game chosen. If it is a "What?" card, team No. 2 asks one of its "What?" questions, etc.

Following are other suggestions for "task" cards. Follow the game procedures for Baseball, Football and Track to give drill and practice using these cards.



Skill: Recognition of upper case letters of the alphabet.

Task: Read the letters.



Skill: Auditory discrimination of rhyming words.

Task: Name the picture and give a word that rhymes with the picture word.

Pat tap saw was

Skill: Visual discrimination of common reversals.

Task: Read the words.

ran fast will come is happy

Skill: Phrase reading.

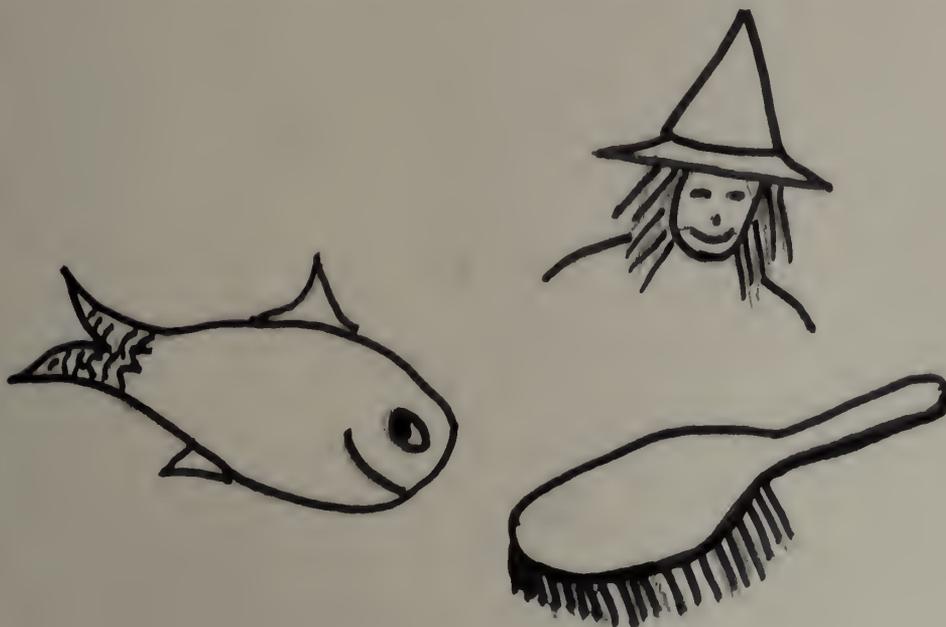
Task: Read the phrase.

Toss the b\_ \_ \_ to second base.

Give the p\_ \_ \_ \_ the bone.

Skill: Using initial consonants and context clues.

Task: Read the sentence and supply a word that fits.



Skill: Auditory discrimination of consonant digraph endings.

Task: Name the picture and give the sound heard at the end.

Name the picture and give another word having the same ending sound.

star

clock

glass

blue

crown

plant

sled

grape

flame

Skill: Sound-symbol associations for consonant blends.

Task: Read the word and give another word beginning with the blend.

I can be tall.

I give shade.

People like to sit under me.

What am I?

(a tree)

Skill: Auditory discrimination of long vowel sounds.

Task: Read the riddle and answer it with a long vowel word.

## CHAPTER V

## EGO CONSIDERATIONS IN TEACHING THE DISADVANTAGED

Our study has pointed to the creative teacher's need to understand the role of self-concept as it affects a child's personality development. Experiments in this field, with children as subjects, are gradually coming to the fore. But in this writer's opinion, too little attention has been directed to the self-concept of the teacher herself. The teacher's ego must be satisfied if, in turn, she is to help develop positive self-concepts in her pupils. Since ego considerations play a powerful role in determining the outcome of educational conflicts, this chapter will treat the concept in some detail. In most instances, the findings are those of the writer, developed during years of teaching.

To define our terms first, we are not using "ego" in the technical, Freudian sense as the rational, conscious sector of the personality. We are using ego in the popular sense, as a term indicating a person's feeling about his own worth.

More strictly, we are using ego as a self-estimate, a self-comparison of one's adequacy, worth and acceptability in relation to other people. Yet even in this context, ego is not a precise, fixed value. Each person's ego, or self-estimate, varies according to the situation in which he finds himself,

and the people with whom he is interacting.

Moreover, these self-estimates usually are complex states of mind composed of several differing elements. The content, the emphasis and the basic pattern of these ego-elements vary from one person to the next. Most educators accept the concept of individual differences among children. For teaching to be truly effective, the same concept must be extended to adults.

Some of these variations are caused by social circumstance, for ego-elements may be significantly influenced by a society's economic or class structure. They may take different forms for people of different national traditions, for people living under different types of social systems--even for people living in the same social system but at different periods of its development. A vivid illustration of the latter point is provided by the plays of Anton Chekhov, which describe, among other things, the bored, pointless, futile and indecisive lives led by the 19th-century Russian gentry. The descendants of feudal aristocracy, these people were witnessing the sociological decay of their class, the loss of their social function. But how different were their pride, their sense of worth, their ability to defend themselves, from those of their ancestors! In feudal times the aristocracy were proud, self-confident and aggressive. They knew where their interests lay, and they did not hesitate to use the most brutal and aggressive means to pursue them.

An ego-estimate contains, among other elements, opinions and ideas formulated in the customary modes of abstract thought: internalized words and sub-vocal speech forms. A self-estimate also comprises a good many memories of events that have defined one's relationship with others. It includes emotional responses. Some of these emotions are based upon reactions to value judgments, although these values may be implicit rather than consciously thought out. But implied or formulated, value judgments have a decisive influence upon some feelings. These feelings sometimes become so intense that teachers do not hesitate to impose their own regional speech patterns upon children with other speech patterns.

Some feelings are a form of conditioned response that have their origin in occurrences that took place as long ago as one's early childhood. Such are conditioned responses to criticism, praise, blame, punishment, dislike, disapproval, etc., at the hands of parents and family. An irritable, perfectionist housewife who habitually loses her temper when her baby spills food on the table is conditioning that child to anticipate an unpleasantly severe response from others whenever it makes a mistake. If these training experiences are sufficiently harsh and repetitive, they will lead the maturing youngster to expect that any mistake he makes will be followed by the disapproval and loss of affection that were associated with his childhood mistakes. Such a conditioned response to error and to anticipated disapproval creates timidity. This

timidity often betrays itself as lack of confidence concerning one's reception by acquaintances or by uncertainty in new activities where mistakes are likely to be made. Many adults bring this timidity into the classroom under the guise of excessive strictness and cutting sarcasm.

In short, these conditioned emotional responses to certain types of stress situations or to situations involving a chance of error are elements in a lowered self-estimate. A person with a lowered self-estimate acts with less confidence than normal in new situations; and we often say that he feels "inferior." More accurately, he is displaying a conditioned response to certain kinds of social experience. A teacher with a positive self-estimate is less likely to betray these symptoms of favoritism, negative criticism and prejudice.

A self-estimate is difficult to define precisely or to measure quantitatively because it manifests itself most often in personal action or behavior. But this behavior is not necessarily part of a person's self-awareness at all times; and, indeed, it may be more evident to others than to the person himself. It is a constantly changing response representing the final common expression of some abstract ideas, some memories, some value judgments, some emotional responses and some conditioned emotional reactions. All of these various elements have arisen from the individual's interaction with parents and other people, dating from earliest infancy down to the present hour. Since these responses define the nature of self and the self's

relation to others, they are ego phenomena. Arising from experiences in the social matrix, they prefigure one's place and value in the family and classroom specifically, and in the social order generally.

Once formed, the ego-estimate or ego-system operates as a perceptual filter. A person sees his relationships with others through this filter, whose characteristics determine the quality of his perceptions.

The filter also determines the specific things that are "seen" in a given situation. It operates selectively to blur some components in one's psychic vision, to highlight other components, and to erase still others altogether. If one's self-estimate filter is set inordinately high, one is inclined to be arrogant, to undervalue others, to underestimate the force of circumstances, to overlook hidden or subtle warnings of difficulty, to disregard one's impact upon other people, to exaggerate one's own potentialities, to misread others' intentions, and to ignore criticism.

Conversely, if one's ego-estimate filter is set too low, he may find it difficult to perceive love, acceptance and approval. If, however, one's ego-estimate is not polarized at either extreme, one may be an exemplary teacher--sincere, straightforward and, like classroom pupils, impatient with sham.

The more critical or uncertain a teacher may be herself, the less her filter transmits the approving attitudes that others hold toward her and the more it transmits any

element--indeed, any faintest trace--of social criticism, any implication of weakness, failure, or rejection by others. The low ego-estimate thus winnows out the positive and joyous components of experience. It permits to pass only those perceptions related to fear, criticism, danger, adverse judgments, disapproval, derogation, humiliation and failure.

A low ego-estimate filters out one's perceptions of another individual as a person in his own right and for his own sake, with his own specific needs and reactions that exist independently and have a bearing upon another person only insofar as he happens to be in the vicinity. If the second person were not nearby, the first would have these same traits and would act very much the same way, in any event. But the person with the low ego-estimate does not recognize this. His filter rejects all of the other's reactions that are his or hers alone. Thus, the person with a low ego-estimate does not see another as a distinct individual; only as a person-in-relation-to-himself. On the day an acquaintance is happy, he thinks the acquaintance likes him; on the day the acquaintance has a headache, he thinks the acquaintance dislikes him. Assuredly, such a person could not provide the warmth and friendliness a child needs away from home.

Once a person's ego-estimate drops below a certain tolerably low level, he becomes increasingly concerned--even obsessed--with others' reactions to him. A low ego-estimate is painful; and the lower it is, the more painful. As pointed out

by students of the problem, starting with Alfred Adler, a painfully low estimate engenders psychological irrationalities that may shade off into neurosis and even psychosis. Such a teacher would not be able to accept children's tempers and temperaments for what they are.

Since one's ego system determines the type and quality of his reality perception, it also controls behavior in relation to other people. That is, in a given situation different levels of ego will produce different reactions. This we have heard from teachers who have described variations in their handling of several similar problems, depending upon their level of self-confidence when they encountered each. Thus, the lower one's ego estimate, the less free he is to work well. He is less able to cooperate because he is less able to judge a situation objectively. He tends both to see and to act one-sidedly, because he feels he must prove or defend himself. In the conflicting interests and changing needs of education, this can interfere in a hundred different ways with cooperative, friendly actions.

Adler coined the term "inferiority complex" to denote the low self-esteem that influences, shapes and guides some people's personal relations and inner responses. Adler himself, and many others since, including Sullivan, Horney and Fromm, have related the individual's sense of inferiority to his oppression by the dehumanizing rivalries and power struggles of society.

As a teacher pursues her career, she should consider that questions of ego may be involved in virtually all cases of friction. One can never be sure that ego questions are not involved, either in disputes or in a person's general behavior, until the possibility has been considered and ruled out. Various questions may be asked of oneself to make sure: Is anybody's prestige or sense of worth at stake? Are anybody's feelings being hurt? Is anybody being treated with less respect, consideration and restraint than would be accorded a stranger? Is anybody being humiliated, or derogated, or made to appear foolish? Could it be that any of these things are happening unintentionally? Would anybody feel personally attacked if the conflict-solution advocated here were undertaken?

One of the problems in answering such questions as these is that the answerer is inclined to grant himself undue credit for the fairness of his views and the generosity of his intentions, nor may he clearly see how those with whom he works could possibly feel otherwise. Even if he more or less vaguely discerns that they do feel otherwise, his human tendency is to minimize the evidence.

But if the answer to any of the preceding questions is affirmative, pure logic is unlikely to prevail. One's disputants are arguing from a basic position that requires them to protect their sense of self-worth. In most instances, this necessity outweighs the importance of the problem apparently involved. Indeed, that problem may seem nonexistent or

irrelevant to anyone sensing an ego assault in the situation!

Furthermore, there are certain other points that are directly connected with the ego-estimate concept itself. It is necessary first of all to differentiate ego-issues from other elements of a conflict; and the attempt must be made, whenever possible, to settle those other disagreements on a realistic basis. If no clear-cut ego issues emerge, an effort should be made to detect any elements that conceivably are related to the ego of a participant, and then to handle these in a constructive manner.

Secondly, it is necessary to be constantly aware of the legitimate ego needs of colleagues and children. This does not mean that these needs are in the forefront of one's thinking at every moment. It does mean that a teacher must recognize those situations in which someone can be hurt. As much care must be devoted to protecting each person's self-esteem as his eyesight --and this is particularly true with a child. How many parents and teachers would agonize with remorse if they realized that their laughing about the "cute" behavior of a five-year-old struck the child as an unbearable humiliation! One does not "harden" or "toughen" children by such behavior. One scars them for life.

A key to protecting self-esteem is learning to censure acts only, and then not in public. The distinction must be clearly made between a person's specific shortcomings and his value as a whole person. Even in anger it is mistaken to say,

"You did this and you are such-and-such!" Instead, one criticizes specific actions. A lesson for many an educator to learn!

No provocation whatsoever can warrant a generalized attack upon a whole person. This applies especially to children. They should not be told they are "naughty" or "bad"--only that they have committed a naughty (if that old-fashioned word seems appropriate) act.

It is particularly important not to withdraw affection from children as a form of punishment, nor to act in such a way that the child may assume that this is happening. Withdrawal of love is perhaps the most devastating attack upon a child's sense of self that an adult can mount.

Particular attention must be paid to learning the sensitivities and vulnerabilities of children. Even if these vulnerabilities seem senseless and unfounded, they should not be exploited, even for what seem worthwhile purposes. In other words, a teacher's recognition of a child's vulnerable areas should be used to protect these sore spots whenever possible--not to win arguments. Many teachers, guilty of the latter practice, must devote self-study toward discovering and redirecting it.

A subtle but essential point is that it is often unhelpful to be over-helpful. Especially true in the case of children, this also applies to most adults. Except in truly life-and-death matters, one should grant others the right to

make their own mistakes doing things in their own way. That way demonstrably may not be the best, but they have the right to pursue it unless someone else violently objects to it for good reason. It is true that one sometimes can plead point of personal privilege if another person has a minor habit that seems particularly offensive. But this is a concession one cannot expect too often without paying for it with other concessions of one's own.

By being over-helpful, a person sets himself up as a benevolent judge who, in his superior wisdom, is extending his gracious help to the lowly. The lowly--in this case, the other members of his group--are sure to feel demeaned, even though they may not be consciously aware that they are. But they will feel lowered and they will, in some way, retaliate.

One of the secrets of success in teaching is not to raise unnecessary issues that becloud the solution of real problems. There are enough of the latter in any case, without needless ego involvement. Thus, a teacher must discover by observation and experimentation methods of criticism that are least painful, bearing in mind that these may vary according to the recipient. In all respects, individual differences must be considered!

Further, if a choice exists between two ways of criticizing--one somewhat more effective but ego-derogatory, the other less effective but ego-neutral or even ego-protective--

the latter should be selected. But these alternatives are evident only when one keeps the problem in mind.

Children's egos are protected when their individuality is respected. This implies granting them the right to do things as much as possible in their own ways. It also implies a refusal to coerce them into agreement with one's own behavior, taste, or opinions. If the question arises, one must defend publicly their rights in these regards, even though one may wish they would act differently.

It is a truism that a teacher must not criticize her pupils in public. While almost everybody has heard this, not a few teachers have an invincible compulsion to do it anyway, regardless of the price they may pay later in an unhappy professional relationship.

Nor must the teacher seek to overcome her own shortcomings by raising the devil with the line and staff over similar problems. This amounts to an attempt to solve one's own problems in effigy, as it were, or by projection. It will not work any better than other kinds of tribal magic, and besides, it often hurts people.

One may suspect he is attempting this magic when he becomes irrationally upset by another's mistake--irrationally in the sense of being more disturbed than the misdeed warrants. One may suspect this also when he pays more attention to the 5 or 10 per cent that others do wrongly than to the entire body of what they do right. One may suspect this when he lives

vicariously through others--thrilled by their successes, dejected by their failures. One may suspect this when he has a comprehensive mental plan of the way another person should act in every circumstance.

The ego-struggles in education can be vastly eased, too, by less subjective involvement with colleagues and pupils. A certain benign neglect, a "loving" detachment, gives others room in which to breathe. This applies to children preeminently. They must be given room--and the responsibility with it--to be themselves.

The aim is for each person to realize his own value. That is an adult responsibility. Mature adults should be able to evaluate their own situation without recurrent praise, reassurance, or gratitude from others.

Virtue of necessity must be pretty much its own reward. While it may be gratifying to be thanked, that is not the underlying reason why people seek to act well. They do so because they are living up to their own ethical standards. They act well because not to do so would be self-destructive, false to themselves and their established ethic. It also would be destructive to the people with whose interests they identify.

Every teacher needs a formulated code of ethical behavior. Such a code might well include the dictum, "Be cooperative." But if it did, it would arise from recognizing the social nature of man. Such a recognition brings with it responsibilities which outweigh the seeking of praise or

gratitude. These responsibilities are met not to win acclaim but to advance oneself and the social groups with which one identifies.

Since "No man is an island," it behooves every one to practice civilized and humane behavior. Ethical theory to one side, it is hard to believe that any system of ethics could be workable or even "ethical" if it condoned the exploitation of man by man. Further, a desirable system of ethics must deal with the specific situation and problems of modern man. Ethical systems derived from the religious beliefs of semi-civilized tribal peoples some thousands of years ago are no longer adequate for people's needs in the space-atomic age.

It is convenient and revealing to think of oneself not merely as a biological entity whose being is encompassed by one's skin, but as an expanded system of activities that take place in relation to the activities of others. Everything one does to some extent involves other members of the group.

A clear recognition of this fact minimizes self-centeredness and other manifestations of narrow ego. Instead of simply acting on impulse, one will in many instances first ask: What will be the effect of such an act upon others? Am I justified in doing it?

If the answers always are positive, one is either an accomplished rationalizer in his own interests or insufficiently aware of the extent of his responsibilities to others. If the answer is always negative, one is being impossibly altruistic.

Thus, we see that happiness in personal relations generally is not possible if much ego-struggle is taking place, for humanity and humility go hand in hand.

## CHAPTER VI

## SUMMARY AND CONCLUSIONS

The preceding chapters of this paper have suggested that a well-rounded program for the prevention and remediation of potential learning problems among children in the primary grades should pay special attention to those pupils thought to possess inadequate motor and language skills.

In making this presentation, the paper has drawn first upon previous studies showing that those children most lacking in basic physical and language skills also are those most deficient in academic areas. Previous investigations have indicated, too, that weakness of a child's motor apparatus interferes with his learning capacities by lowering his self-esteem and hindering interaction with his physical surroundings.

Furthermore, research has indicated that inadequacy in perceptuo-motor skills retards the development of those higher-order abilities that depend upon automatization of these simpler functions. If a child must devote his energies and attention to the act of grasping a crayon, he cannot be expected to draw a presentable picture.

The literature in language development has shown that a well-rounded school program develops community resources for

stimulating parental thinking about child development. Meetings devoted to training parents to become volunteer classroom aides, and to learn ways of improving their children's language, have proved beneficial. Such meetings also foster an understanding that long-range programs are more efficacious than short-range programs.

It has been learned that 4 to 9 per cent of elementary school children with normal to superior intelligence exhibit symptoms of developmental speech and language disorders.

Although the program herein described is concerned with the early detection of learning problems, especially those stemming from developmental lag, it is helpful for the participating teachers to have an acquaintance with the multi-faceted aspects of aphasia--auditory, expressive, formulation and nominal paraphasia--for these conditions may be more easily remediated at an early age. An early-identification program is more likely than a regular school program to detect problems associated with acuity, auditory imperception and discrimination.

Learning modeling procedures for extending children's vocabularies has alerted teachers to the symptoms of agrammatologia and alexia. Parents and educators concerned with early childhood often attribute these conditions merely to children's immaturity. But the informed diagnostician-teacher, working in an early-detection program, is likely to be more conscious of the causes of these conditions, including possible functional

or organic brain damage. At the same time, the professional knows that such extreme impairment is relatively rare, and so can protect parents from undue concern and children from over-referral.

Personnel working in an early-detection program also understand that although a child's oral language ability is only a part of his total development, it is an index of his capacity to conceptualize and therefore plays an important role in ego growth.

Total development involves a child's motor and cognitive skills, his ability to learn with others and from others, his total language development and formation of a positive self-concept. The current research has been supplemented by a chapter setting forth this writer's observations on the relationship between a child's self-concept and his teacher's ego needs.

The ability of a teacher to provide individual instruction, to develop individual case studies, to avoid a commitment to unitary remediation, to ensure thoroughly trained motor and language skills and to provide opportunities for overlearning depends upon maintenance of the proper conditions, including small-group instruction, informed use of remedial techniques, and availability of parent aides.

Administrators and teachers must develop their understanding of remedial techniques so that they can adapt them to

the developmental level of the individual child. To that end, this paper presents a sampling of remedial techniques paralleling the skills tested on the ITPA, all of which also are included in the Anton Brenner Developmental Gestalt Test of School Readiness and the Metropolitan Readiness Test.

With this information as background, the paper then traces the evolution of a program for 70 kindergarten children during the 1970-71 school year. From experience with this preliminary program, objectives and procedures were formulated for use in a more extensive program in the 1971-72 school year.

In establishing the program's aims and methods, the District Supervisor of Reading worked within broad guidelines based upon a recognition that pupils deficient in motor and language skills need a positive educational experience, as well as a solidly-grounded physical readiness and language base.

Chief objectives of the program, therefore, were to establish screening procedures for identification of kindergarten children with potential learning disabilities by confirming the reliability and validity of two formal screening procedures over an extended period; to select an appropriate curriculum for motor and language development at the pre-academic level; to expand training for school personnel and parents working with the children; and to form inter-

disciplinary teams of specialists to aid in diagnostic and remedial work.

To implement these aims, plans were drawn up for a special program starting in September, 1970, when entering kindergarteners scoring in the lower third of their class in standard tests of school readiness comprised a group given special training in gross motor development, eye-hand coordination, visualization patterns, and basic language skills. The other two thirds of the kindergarteners were given a standard curriculum. At the end of the school year, the lowest 70 children again were tested. Pre-test and post-test results for these same children were recorded for two years.

The findings suggest that other school systems might well consider incorporating a motor-language-skills program in their kindergarten curricula. Two documentable benefits of such a course are pupils' satisfaction in meeting classroom success, and lessening of the tensions that otherwise arise between teachers and their inexplicably "slow" students.

The study also suggests that kindergarten is the preferred level for such a program, inasmuch as the multiform causes of learning disability are more readily traced at the earliest school age. Moreover, training designed to forestall learning disabilities has a greater chance of success when given in the child's pre-academic years.

For the future, this study draws attention to the low

ranking of prematurely born children in the parents' inventory of physiological growth. Inasmuch as this finding parallels the observation by De Hirsch that "Prematurely born children . . . have to be regarded as an academic high-risk group,"<sup>61</sup> it suggests that information as to whether a child was maturely or prematurely born may be helpful to school personnel. Acknowledging that this is a private matter not always subject to verification, the District Supervisor of Reading is investigating ways of incorporating the question in parent interviews preparatory to next year's program.

The results of the study have been gratifying in several ways. Many more teachers and parents subscribe to the basic tenets of the program:

1. Educational programs sequenced strictly according to chronological age are virtually certain to suffer, resulting in learning loss. Now fewer children are entering kindergarten before they reach 5 years 9 months. Parents who have started their children earlier are more inclined to let them participate in the kindergarten experience another year.

2. Learning disabilities have many causes. Parents and teachers have become more sophisticated in searching for causes. They are not satisfied with the usual labels of effect, such as "He's lazy," or "He doesn't try."

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<sup>61</sup>De Hirsch, p. 64.

3. Detection and remediation of potential learning problems should begin early. Everyone involved in the program is pleased with his part in helping forestall later difficulties for the 70 children identified.

4. Teaching methods should be matched to a child's specific developmental needs. In practice, this is difficult for some teachers, even though they subscribe to the principle. For this reason, the possibility of establishing transitional classes currently is being investigated.

5. A child who fails in his initial school experiences will tend to avoid further reading and learning activities. Transitional classes--the need for which has emerged from this study--may be coupled with the early-identification program to lessen the likelihood of initial school failure.

6. Weak motor skills lower a child's self-estimate and hinder his participation in the learning process. Enthusiastic support from the primary physical education department, combined with classroom training in the "Developing Physical Learning Readiness" program, has trained each child in basic motor skills.

7. Over-learning of a skill beyond initial mastery is needed to make each skill automatic and allow the pupil's attention to be directed elsewhere. A manual of suggested teaching techniques in each of the major pre-academic motor and language skill areas has been presented so that the teacher may encourage over-learning for complete mastery.

8. Children who have not followed an orderly pattern of language learning manifest disordered or delayed language ability. Early childhood experiences have a strong effect upon language development. Teachers and parents have been trained in the techniques of modeling to help children extend their experiences with oral language.

9. Research has shown that the success of any program depends to a large extent upon the teacher's attitude toward her students, which in turn reflects an understanding of her own ego needs. One chapter in this study presents ideas exchanged on this subject during in-service training sessions. The same material also was adapted for use in parent training sessions which explored the need for a positive self-concept.

Other indications of favorable results include positive evaluations written by representatives of the Massachusetts Department of Education, letters of commendation written by professionals visiting from other school systems, and affirmative, thorough newspaper and radio coverage.

Another outcome of this study has been identification of specific subtests on two screening tests that have proved reliable predictors by withstanding the test of time for a given group of individuals characteristic of the school district. Program planners would do well to seek reliable tests for use in planning instruction adapted to the particular needs of children in their locales.

It has been this paper's contention that very little could be accomplished in early identification of public-school children with potential learning problems if learning-readiness tests administered in the kindergarten and first grade were unreliable predictors of the children's later academic achievement. But for this contention to be consistent with the writer's view of developmental stages, a caution must be entered against the use of global test results when prescribing individualized instruction or planning in-grouping within instructional units.

Improvement of any curriculum is dependent upon a thorough understanding of publishers' programs, maturational stages, teacher-administration limitations and community needs. The teacher or the school system that subscribes to a unitary curriculum approach, such as a basal reading system starting with a formal readiness program in the kindergarten, cannot, in practice, espouse developmental stages, multiple causation and the importance of individual differences. The very presence of such a program in the kindergarten militates against individualized instruction.

The greatest shortcoming of the 1971-72 program was its eclectic nature. While attempting to meet the individual children's needs by providing teacher-made materials and "bits and pieces" of publishers' programs, this writer found some of the school principals unaware of the rationale of the basal

programs in their curricula and unfamiliar with other programs and approaches. These principals appeared apprehensive about adopting new approaches for fear of losing "control" of the faculty and standing in the community. It falls on the shoulders of this writer to acknowledge an obvious weakness of the program: a failure to acquaint all the school principals with developmental theory, the rationale behind publisher's programs, and the case against adoption of a single program in each subject area.

Despite this weakness, the above-cited results and the enthusiasm displayed by some administrators and many parents and teachers lead to the conclusion that a program for detection of potential learning problems is of proven value and should be instituted in the kindergarten, if not earlier.

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