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Methods and materials for a primary transitional class

Dorothy A. Olszyk

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METHODS AND MATERIALS

FOR A

PRIMARY TRANSITIONAL CLASS

By

Dorothy A. Olszyk

A RESEARCH PAPER

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This research paper has been

approved for the Graduate Committee

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CHAPTER I

The Problem

Introduction

This paper is an outgrowth of the development of a proposed program designed to prevent learning failure, specifically reading failure. It was decided to create a special, self-contained transitional class for those children who have finished kindergarten training but whose potential success in learning activities in primary school is doubtful because of learning handicaps. There has been an increasing awareness that children who enter the typical lower primary program with skill gaps and are not ready for reading often develop into reading disability cases when they have reached grade four on the academic ladder.

> Allowing 'non-ready' children to enter first grade in the belief that they will outgrow their difficulties is a procedure fraught with hazards. Immature first graders do not necessarily 'catch up' but instead fall further behind.[1]

The other alternative to passing a child to first grade in the hope that he will outgrow his immaturity is retention in kindergarten for another year. Reasoning behind this approach again depends on time to solve the problem. However,

> students who are delayed in readiness lack certain necessary basic skills and abilities. They have definite skill gaps which can be filled, but this must be done through aimed instruction and not merely 'another year to mature.'[2]

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[1] Katrina de Hirsch, Jeannette Jefferson Jansky, and William S. Langford, Predicting Reading Failure (New York: Harper and Row Publishers, 1966), p. 58.

[2] Mary Lou Durbin, Teaching Techniques, (Springfield, Ill.: Charles C. Thomas, 1967), p. 37.

Significance of the Problem

The proposal to establish a transitional class to meet the needs of children delayed in readiness skills recognizes that while in theory, differentiated instruction should solve the learning problems of these children either in kindergarten or primary school, this ideal does not exist in practice nor is it realistic in expectation. To teach reading effectively and successfully to primary children in classes where enrollment often averages 33 or 34 children is no small task. It requires diagnostic teaching, adjusting teaching methods to individual learning styles, preparing materials suited to individual needs and providing for repetitive learning experiences to accommodate different learning rates. Adding to this the emotional demands children make on the teacher, it should be evident why teaching reading in primary school requires more effort and skill than an average teacher can produce on an already strained teaching schedule. To handle successfully a group of first graders that evidence the average number of social and emotional problems and the typical range of academic abilities requires great skill.[1] The high percentage of children who read below and well below their expected level when they enter the intermediate grades should be sufficient evidence that there exists a wide discrepancy between what is and what ought to be.

To say that the teacher is the critical factor in reading and that good teaching will prevent reading failures is overly simplistic. Children who are learning to read now, or about to, cannot wait until

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[1]Gertrude Hildreth, Readiness for School Beginners, (New York: World Book Co., 1950), p. 222.

all teachers become good teachers of reading. What must be done is that which can be done without too much delay. Providing a special environmental and instructional program for children who are not ready for the primary school curriculum serves three purposes:

1. It assures these children greater chances for success in subsequent learning experiences.

2. It permits the primary school teacher to teach with greater effectiveness those children for whom learning expectations would be average and above, since the burden of preparing for and teaching those who are not ready has been taken from her.

3. Greater chances for success and more effective teaching should add up to fewer learning disabilities or failures in later grades and reduce the need for costly and often unsuccessful attempts at remediation.

Perhaps, most important, providing for success rather than failure should certainly foster positive attitudes towards learning as well as develop a satisfying self-concept and promote better mental health.

Statement of the Problem

To make this program successful in accomplishing its goals, it is necessary to examine the various aspects of readiness to arrive at instructional objectives and determine the best methods to accomplish these objectives as well as what instructional materials to use.

> A specific objective which identifies the behavior which a learner is to "exhibit" when he has completed a program will allow us to select relevant content or experiences for instruction and will provide a basis for evaluating the outcome.[1]

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[1] Robert F. Mager, Preparing Instructional Objectives, (Palo Alto, California: Fearon Publishers, 1962), p. 24.

The purpose of this study is, therefore, to identify the learning needs of children classified as being delayed in readiness skills and to find ways and materials to correct or alleviate their problems.

No attempt will be made to report on the implementation or success of the program since this study has necessarily preceded the actual program.

CHAPTER II

Survey of Related Literature

The Problem

He can't follow directions, yet he has perfect hearing and average to above average intelligence. He can't sit still and pay attention, yet he's very interested in the class discussion about baby animals. He can't tie his shoe strings, yet he very accurately described the last moon shot. He can't catch a ball -- no one wants him on the team, and yet he wants so badly to join his peers during recess. His printing looks like the scribbling of a three-year old child -- the letters are all sizes and shapes. He can't read -- he guesses he's not very smart -- some kids say he's dumb.[1]

So described is the plight of a child whose syndrome is similar to many children in our early school population whose multiple problems affect every aspect of their school life, academic, social and emotional. Durbin lists the following as the most common pupil problems at the beginning of the first grade school year, any of which pose an obstacle in meeting the demands of learning in the first grade curriculum.

1. Inability to concentrate purposefully; extremely short span of interest and attention.

2. Inability to follow specific oral directions; especially if they are lengthy or involve more than one direction.

3. Few independent work skills.

4. Lack skills in handling tools, scissors, pencils, etc.

5. Lack of conceptual vocabulary caused by an insufficient experiential background.

6. Inability to classify, make generalizations or verbally tell why things belong together or may not belong to a group; especially if likenesses or differences are more abstract or depend on experience for interpretation.

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[1]Joan Hagen and Gordon Marchionda, "He Flunked Recess Too--," Wisconsin Journal of Education, CIII, No. 9 (1971), pp. 16-17.

7. Lack of self confidence in their ability to follow directions or complete tasks without seeking almost continual approval or directions from the teacher.

8. Poor motor and eye-hand coordination skills.

9. Lack of perceptual development.[1]

Hildreth describes the typical reading failure at the end of the first grade as the child "who was immature when he entered school or the one who showed from the beginning all the signs of being a slow learner."[2] It would seem, therefore, that for some children, school life represents a continuous struggle against frustration and failure.

Recent emphasis on compensatory education which has resulted in a growing number of theories that posit the importance of early experiences and training in the development of the child as they influence later academic experiences, the national declaration of everyone's right to read arising from an awakening idealism to "lessen intellectual waste"[3] and the increasing demands made by a modern technological society for well-trained citizenry serve to direct the concerned attention of authorities in educational and related fields to the mounting number of unsuccessful children in our schools. (Hardy speculates about the "hazards of being born" and the "ever-increasing number of language-

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[1]Mary Lou Durbin, Teaching Techniques (Springfield, Ill.: Charles C. Thomas, 1967), p. 219.

[2]Gertrude Hildreth, Readiness for School Beginners, (New York: World Book Co., 1950), p. 319.

[3]Thomas J. Edwards, "Teaching Reading: A Critique," in The Disabled Reader, ed. by John Money, (Baltimore: The John Hopkins Press, 1966), p. 361.

deviant children.")[1] Many believe that children who have a learning impairment or disadvantage require special consideration in the educational process with much advocacy in the direction of early identification in order to "overcome, minimize or prevent learning problems."[2] Wepman and Frostig make similar suggestions that all children be studied before they become problems to offset their lags in development if such a problem is indicated.[3] Frostig claims that about 10 to 15 per cent of all children suffer a specific learning difficulty of one kind or another, most often in the area of reading, which is not related to lack of intelligence. "Since emotional disturbance accounts for but a small proportion of these learning failures, the necessity for probing other areas of development becomes apparent."[4]

Learning Problems

The National School Public Relations Association published a special report on children with deep-rooted reading problems which, in most cases, according to the report, result from a series of causes.

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[1] William G. Hardy, "On Language Disorders in Young Children," in Educating Children with Learning Disabilities, ed. by Edward C. Frierson and Walter B. Barbe (New York: Appleton-Century-Crofts, 1967), p. 41.

[2] James J. McCarthy and Joan F. McCarthy, Learning Disabilities, (Boston: Allyn and Bacon, Inc., 1969), p. 85.

[3] Joseph M. Wepman, "The Perceptual Basis for Learning," p. 361; Marianne Frostig, "Education of Children with Learning Difficulties," p. 390, in Educating Children with Learning Disabilities, ed. by Edward C. Frierson and Walter B. Barbe (New York: Appleton-Century-Crofts, 1967).

[4] Marianne Frostig, "Education of Children with Learning Difficulties," p. 388, in Educating Children with Learning Disabilities, ed. by Edward C. Frierson and Walter B. Barbe (New York: Appleton-Century-Crofts, 1967).

Among them are poor auditory and visual discrimination, memory and
association deficiencies, psychomotor disturbances and accompanying
emotional strain.[1] Monroe's list of causative factors in reading
disabilities adds to the above defects in speech and visual acuity,
discrimination of orientation and sequence of patterns, difficulty in
seeing relationships and environmental factors.[2] Retarded language
development and social immaturity are also cited as causes.[3] The
educational problem becomes extremely complex in view of the fact that
learning disorders present a continuum from mild to severe. Children
may exhibit characteristics which suggest a learning handicap "singly
or in combination with varying degrees of difficulty. Each child has
his own particular cluster of symptoms."[4] Special help is usually pro-
vided for those children at the extreme end in severity of problems but
there remain those children in the "twilight zone between normalcy and
established handicap" who are referred to under such titles as cul-
turally disadvantaged, the dropout, educationally retarded, the slow
learner and the child with learning disabilities. "Generally found in
the regular classes, they are failed, socially promoted or assigned to

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[1]National School Public Relations Association, Education U.S.A.
Special Report. The Problem and Suggested Solutions, (Washington, D. C.:
National School Public Relations Association, 1970), p. 5.

[2]Marion Monroe, Children Who Cannot Read, (Chicago: University
of Chicago Press, 1932), pp. 105-10.

[3]Frostig, "Learning Difficulties," p. 388.

[4]Sam D. Clements and John E. Peters, "Minimal Brain Dys-
functions in the School-Age Child," in Educating Children with Learning
Disabilities, ed. by Edward C. Frierson and Walter B. Barbe (New York:
Appleton-Century-Crofts, 1967).

remedial and other ancillary specialists," and, with rare exceptions, such approaches have been no real solution to the problem.[1] Ellingson also expresses concern for the fate of the child with a very mild or subtle learning handicap. Because his disability is not obvious, his problem is not recognized nor is it fully understood. While this child requires special help in order to learn successfully, he does not qualify for special education.[2] As a result of his experience with neurologically testing essentially normal children, Cohn speculates that "normalcy must have a considerable range."[3]

Typical of the learning disorder labelled dyslexia in which the major problem area is perception, are the following: poor visual perception and memory for words; poor auditory memory for words or for individual sounds in words; reversal and confusion in direction; poor recall for reproduction of simple figures; reversal and confusion in direction; ambidexterity; clumsiness and poor coordination; poor ability to reproduce rhythm sequences, speech disorders and lack of oral facility with language. Hyperactivity may add to the problem.[4]

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[1]McCarthy, Learning Disabilities, p. 74.

[2]Careth Ellingson, The Shadow Children, (Chicago: Topaz Books, 1967), p. 7.

[3]Robert Cohn, "The Neurological Study of Children with Learning Disabilities," in Educating Children with Learning Disabilities, edited by Edward C. Frierson and Walter B. Barbe (New York: Appleton-Century-Crofts, 1967), p. 165.

[4]Ellingson, The Shadow Children, p. 31.

Cruickshank lists sensory and motor hyperactivity, disassociation, figure-background reversal, perseveration, motor incoordination and psychological disorientation to self as characteristics of brain-injured children, all of which may not be present in every child, nor in the same degree, but states that the presence of any one of these will result in "serious problems of learning and adjustment."[1] The term "minimal brain dysfunction" is applied when only a few symptoms appear in a child.[2]

Cohen reports that in his work with culturally deprived children, he found "visual dysfunctions which were so serious that beginning reading taught by traditional methods would fail with a large percentage of these children, regardless of the teacher's skill and the size of the class." He asserts that an even larger percentage of failure can be expected when "visual dysfunctions are compounded by auditory perceptual dysfunctions, sub-standard verbal environments and psychosocial deficits associated with disadvantaged children."[3] They appear to lack the necessary quantity and quality of early visual, perceptual, visual-motor, tactual and kinesthetic experiences which adversely affect their chances for success in school "... a condition which becomes most apparent at the reading readiness and early elementary levels."[4] It seems relevant

[1]William Cruickshank, et. al., A Teaching Method for Brain-Injured and Hyperactive Children, (Syracuse, New York: Syracuse University Press, 1961), p. 55.

[2]Clements and Peters, "Minimal Brain Dysfunctions," p. 69

[3]S. Alan Cohen, Teach Them All to Read, (New York: Random House, 1969), p. 95.

[4]Ibid.

at this point to call attention to the fact that not all culturally
deprived children live in what is considered a culturally deprived
area. "Experience-starved and vocabulary-limited children" can be
found in many kindergarten and first grade classrooms and they may
be "deprived in other areas as well that influence their reading
performance."[1]

Bilingual children present a special case of the slow learner.
They are not slow learners in the real sense but are backward because
their background does not reflect the American culture and the foreign
tongue is used more often than English. A distinction must be made,
however, between the child who suffers "language limitations" only
and the child who has both "language and mental limitations."[2]

Kephart discusses the problem of the slow learner as follows:

> Over a number of years, research studies have indicated that
> slow learning children lack basic readiness skills which, it
> is often assumed, the average child brings with him when he
> enrolls in kindergarten or the first grade. Since these
> skills enter into a major portion of the activities pre-
> scribed by the school, the child who has not developed them
> will find a large number of school tasks impossible.[3]

It seems apparent that learning problems may stem from a variety
of conditions, with considerable overlap in syndromes. To the list of
developmental lags, neurological impairments, experiential deficits,

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[1]Durbin, Teaching Techniques, p. 7

[2]Hildreth, Readiness for School Beginners, p. 212.

[3]Newell C. Kephart, The Slow Learner in the Classroom, (Merrill
Publishing Co., Columbus, Ohio, 1960), p. 42.

genetic variations, sensory losses and brain damage can be added
nutritional and chemical imbalance, metabolic disorders and emotional
distrubances as a cause of learning disabilities among children with
normal or near normal intelligence. One cannot ignore also the effect
of inappropriate education.[1] Causes in themselves have "little
relevance for the educator. More important is the idea of specific
learning problems and of techniques to alleviate or correct them."[2]
Unfortunately, children who deviate from the norm, either to a greater
or lesser extent are not all disabled learners, but most of them are in
terms of the "mass-production educational system with which they are
confronted."[3]

Bateman refers to "educability of educability." Generally,
educators are concerned with developing achievement in specific areas
overlooking that academic achievement depends on certain cognitive
abilities. Training which focuses on spatial orientation, visualization,
retention or auditory discrimination is the essence of remediation
applied when failure in an academic area reveals a weakness in under-
lying cognitive skills. "If in this case, an ounce of prevention is
worth a pound of cure, it would follow that a broadening of curriculum

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[1]Edward C. Frierson and Walter B. Barbe, Educating Children
with Learning Disabilities, (New York: Appleton-Century-Crofts,
1967), pp. 7-8.

[2]Robert E. Weber, "Who Are the Variant Children," in Montessori
and the Special Child, edited by R. C. Orem, (New York: G. P. Putnam's
Sons, 1960), p. 47.

[3]McCarthy, Learning Disabilities, pp. 104-105.

to ability as well as achievement training is in order."[1]

Rambusch indicts the "lockstep method of the American educational system which bases its judgements on norms of maturity rather than actual children" as being responsible for many "casualties" in education.[2] She refers to "illusion of achievement rather than the fact" as a result of practices designed to make all children participate in "group activity, on an identical level, despite individual differences."[3] In a similar vein, Ilg and Ames believe that chronological age alone is not sufficient criterion to determine when a child is ready to read. Many reading difficulties develop because a child was given reading instruction before he was ready. It is the child's behavioral level rather than his age in years which should be considered in making grade placement.[4]

Development and Learning

Behavioral level is the function of maturity and learning. Maturity implies "physiological development such as faster nerve conduction, stronger muscles, finer sensory focusing."[5] Previously learned

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[1]Barbara Bateman, "Learning Disabilities - Yesterday, Today and Tomorrow," in Educating Children with Learning Disabilities, ed. by Edward C. Frierson and Walter B. Barbe, (New York: Appleton-Century-Crofts, 1967), pp. 21-22.

[2]Nancy McCormick Rambusch, Learning How to Learn, (Baltimore: Helicon Press, 1962), p. 5.

[3]Ibid., pp. 5-6.

[4]Frances L. Ilg and Louise Bates Ames, School Readiness, New York: Harper and Row Publishers, 1965), p. 5.

[5]Hans G. Furth, Piaget for Teachers, (New Jersey: Prentice-Hall, Inc., 1970), p. 78.

skills develop readiness to learn new skills. We learn to learn.[1]

In learning about himself and his environment, the child develops his intelligence. "A child's intelligence develops because it functions."[2] "There is evidence that the efficiency of the higher thought processes can be no better than the basic motor abilities on which they are based."[3] Referring to children who experience failure in school as a result of inefficient or insufficient earlier learnings which are ordinarily presumed by the school curriculum, Kephart writes:

> A more fruitful school experience and better school
> achievement could result if the pre-school learnings in
> which he is weak could be strengthened so that he would
> have a more solid base for school learning. Before we
> can provide this additional help, however, we need to
> have in mind the nature of the basic learned skills which
> underlie the school readiness skills.[4]

Because the slow learner is less quick in learning and less extensive in experimentation, he has failed to develop some of the "basic patterns of the organism" and those which he has developed, he has failed to complete in the learning process. It is necessary, therefore, to return to basic motor movement patterns and permit the child to "recapitulate the process of development by which finer and more complex patterns are achieved."[5]

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[1]Rambusch, _Learning How to Learn_, p. 57.

[2]Furth, _Piaget for Teachers_, p. 5.

[3]Kephart, _Slow Learner_, p. 37.

[4]Ibid., p. 18.

[5]Ibid., pp. 162-163.

Movement is the key to "sensory inputs and motor outputs, to sensing, knowing and learning," and is vital to growth and mental development. If information or experience "doesn't get into the muscle, it doesn't get into the brain."[1]

Memory and learning are dynamic ongoing processes modifying all future activities.[2] "Many past activities are retained in the organism, not as separate pieces of information, not as independent data, but as alterations of the organism itself."[3] All learning proceeds in a hierarchical fashion from the perceptual level to the conceptual level.[4] Harris summarized Kephart's theory of learning sequence as follows:

> ... consistent and efficient motor patterns permit a child to explore his environment and systematize his relationship to it. Perceptual data are similarly systematized by comparing them with this motoric system; babies, for example, learn up and down, near and far, from relating what they see with what happens when they reach for things. Through matching perceptual experience with motor experience, the perceptual world and motoric world of the child come into agreement, and this provides a foundation for the development of symbolic and conceptual development.[5]

Hendrickson traces the states of development and performance in vision development and visual knowledge in more detail. "Vision is

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[1]Homer Hendrickson, "Vision Development and Learning," in Montessori and the Special Child, (New York: G. P. Putnam's Sons, 1969), p. 66.

[2]Kephart, The Slow Learner in the Classroom, p. 66.

[3]David H. Russell, Children's Thinking, (Boston: Ginn and Co., 1956), p. 25.

[4]Wepman, "Perceptual Basis," p. 354.

[5]Albert J. Harris, How to Increase Reading Ability, (New York: David McKay Company, Inc., 1970), p. 18.

the combining and efficient utilization of the four processes of obser-
vation and movement; orientation to environment; identification and
differentiation; and communication. The first stage involves total body
movement for locomotion and exploration to enable the child to organize
himself within the environment. He learns about himself and what his
body can do. He needs to look while he is moving and exploring space
and things so that he will later know where he is by looking alone.

The second stage involves learning to know where things are in
relation to where he is: orientation of things in the environment to
himself. Movement of body parts provide kinesthetic, tactual and visual
appraisal. He learns to look and align his eyes on things moved or
touched for purposes of steering and directing movements. He matches
"inputs of vision to outputs of movement patterns." He learns to
establish effective balance (bilaterality). He learns about space,
distance and direction, through exploration of direction and extent of
his movements. He learns to control the movement of his eyes by
accurately directing them to follow his hand (binocularity). He
learns to make visual judgements which leads to "integration of body
scheme data with visual information."

He learns to identify the "whatness" of objects in the third
stage by "manipulation of things (feeling, rubbing, tasting, throwing,
mouthing, smelling, lifting, looking) and develops sensitivities to
textures, temperatures, tastes, weights, sounds, odors, sizes, shapes,
distances." Likenesses and differences emerge as patterns are matched.[1]

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[1] Hendrickson, "Vision Development, " pp. 62-69.

Things are first explored by direct contact, then as they are looked at and felt, they begin to look like they feel, then they feel like they look, and finally need only be looked at without touching and the child can "know" what it feels like, what it is without further exploration of hand or mouth or nose or ear. Knowing what a thing is visually is the result of matching patterns of sight with the patterns of the other (sensory) inputs while the object is being explored.

The need to move in order to know is lessened as matches are perfected and storage of information is increased. The only movements needed then are the movements of the eyes. "Vision is beginning to be what it will finally be, the dominant process of development and learning."

The final process has to do with communication: language or speech and "audition." The child's early sounds are repetitive and exploratory leading to imitation. "Imitative sounds lead to imitative speech." He develops awareness of likenesses and differences in speech sounds. He learns to match speech sounds with things and experiences acquired through movement. He also learns to match speech sounds he hears others make and those he makes. He practices talking to himself and to "pretend" friends, learning to communicate with others. He learns that using language to exchange information and ideas reduces the necessity for movement and is more efficient in time and effort. "He still falls back on movement when he lacks the appropriate speech sounds to communicate."

He needs to be encouraged to listen carefully to differentiate speech sounds to perfect his own "audition" and, in turn, his own speech.[1]

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[1]_Ibid._, pp. 62-69.

He needs to talk about things as he does them and looks at them, thereby expanding the match between all patterns of input -- sight, sound, speech, movement, touch, etc. "Thus is laid the foundation for the ability to visualize things, places, persons, events, sequences, relationships, and moods triggered by a word or words heard or said."[1]

At each stage of development, "massive amounts of experimentation" are necessary. The child first needs to try out all the possible muscular responses of which his body is capable in order to find out what his body and its parts can do. Through observation, he learns how to obtain sensory information concerning things and how sensory impressions vary with the relative position of things to his body. He must learn to match an appropriate response to sensory impression -- to change the relative position of things to himself in the direction he desires. Finally, he must observe the relationships between things and how things operate together. To discover how things work, he needs to take things apart and, later, put them together again. To develop his sense organs and his motor system, the child plays simple games and experiments with things by looking at them, feeling them from all angles, smelling them and tapping them for sound. These are "games of experience." "By the manipulation of things and his own body in relation to things, he is perfecting the sensory-motor process and is learning to match sensory data to motor data."[2]

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[1]Ibid., pp. 62-69.

[2]Kephart, Slow Learner, p. 13.

How does a child relate himself and things in space? "As
philosophers and scientists have pointed out, the only information we
get from the outside world is relative. We see and respond to objects
in relation to other objects."[1] Since space does not come to us
directly but is inferred from changes in visual impressions which we
must learn to interpret, any clue to distance or space is the result of
a process of learning. A child learns to operate in a "space domain."
This involves setting up a complete "spatial structure" for any environ-
ment in which he finds himself, simultanouesly locating each object in
relation to himself and in relation to every other object. "To construct
a complete space world requires the translation of a temporal series of
impressions into a simultaneous impression in space,[2] or reconstructing
actual experiences into mental images. He must learn to put objects
around him together, into a space structure, and this includes all
space within the realm of his experience and not just that space within
the scope of his present vision. It involves not only seeing but visual-
izing as well. Slow learning children need help with this.[3]

> "Inner criteria must be generated which reliably relate spatial
> factors to temporal factors." For example, a child must be
> able to understand such relationships that "in front of" a word
> stands for "first" and "in back of" a word stands for "last."[4]

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[1]Kephart, Slow Learner, p. 13.

[2]Ibid., p. 13.

[3]Ibid., pp. 111-114.

[4]Caleb Gattego and Dorothea Hinman, "Words in Color," in
The Disabled Reader, edited by John Money, (Baltimore: The John
Hopkins Press, 1966), pp. 176-77.

There is a relationship between space discrimination and con-cept building. Conceptualization is relating what is perceived.[1]

> Concepts in effect are categorizationsin which the common factors are elements within the objects. To develop such concepts, we need to compare many objects, selecting those in which the characteristics forming the basis of the con-cept is present, grouping these together and extracting from the group the common characteristics which then becomes the concept. It is such categorization which leads to generalization and abstraction.

The child who has difficulty with space is likely to have similar difficulties in thinking. "We observe similarities and differences between objects by locating them in space and then observing these characteristics. Such similarities and differences are very important to advanced thinking."[2] Cruickshank advises that much practice is re-quired by the brain-injured child in order to develop conceptual skills.[3]

Visual perceptual functioning, then, is basic to verbal skills, cognitive development and intelligence.[4]

> Visual development demands that the child learn to move himself by means of his own movement, learn how to participate as a sighted, visually steered, and visually directed, multi-systemmed, controlled organism. As time and growth occur, previous stages of development are re-experienced by means of visualization -- reviewed and remembered as if the original actions were actually repeated -- or the original auditory judgements, visual judgements, or tactual judge-ments -- and all are related through the ability to visualize for comparisons and analysis. Finally, finding

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[1]Mary Lou Ebersole, Newell C. Kephart and James B. Ebersole, Steps to Achievement for the Slow Learner, (Ohio: Charles E. Merrill Publishing Co., 1968), p. 75.

[2]Kephart, Slow Learner, p. 95.

[3]William H. Cruickshank, The Brain-Injured Child in Home, School and Community, (Syracuse, N. Y.: Syracuse University Press, 1963), p. 42.

[4]Cohen, Teach Them All to Read, p. 98.

there are pictures, words, or numbers that express these
experiences and visualizations, he can read, communicate
with himself and others through symbols and eliminate all
hindrances of time and space.[1]

Stages of development of visual perception are the same for all

children, whether they are labeled normal, special, gifted, exceptional

or retarded,[2] although the time and timing is different for each child

and can be different in each stage, depending on the needs of the child

for learning certain skills. Efficient visual functioning for adequate

visual perception requires adequate learning at each stage of develop-

ment and in proper sequence. Higher level skills build upon earlier

learnings.[3] Both Piaget and Montessori view the need for practising

and perfecting motor and mental abilities as the manifestation of

"intelligence unfolding." Repetitive behavior is the "external mani-

festation of cognitive growth and expresses the need of emerging

cognitive abilities to realize themselves through action.[4]

Readiness

Cruickshank cautions that although a child's visual equipment

may appear intact, the impressions which he receives may not be in

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[1]Hendrickson, "Vision Development," p. 71.

[2]G. N. Getman, "The Physiology of Development and Learning,"
in Montessori for the Disadvantaged, ed. by R. C. Orem, (New York:
G. P. Putnam's Sons, 1967), p. 83.

[3]Hendrickson, "Vision Development," p. 66.

[4]David Elkind, "Piaget and Montessori," in Montessori and the
Special Child, ed. by R. C. Orem (New York: G. P. Putnam's Sons,
1969), p. 53.

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accord with reality. Since the child fails to perceive properly, his concepts are incorrect.[1] Since stabilizing the space world is one of the most complicated readiness skills and develops last in the series of skills, we may expect that many children who have otherwise developed adequately until they have reached this stage of development will, for some reason, fail to complete this final stage. "It seems probable that this group of children represents many of the apparently specific arithmetic disabilities which we find in our schools.[2]

> Because of the changing or epigenetic nature of the developing
> structure of behavior and conceptualization, it is no easy
> matter to apply what have come to be called the laws of
> learning to the education of the very young. It would appear
> that intellectual competence is based upon a complex hierarchy
> of subordinate abilities. Each of these subordinate abilities
> that becomes incorporated into the successively higher levels
> of ability appears to resemble what Harlow has called a "learning
> set." A learning set is a kind of generalized habit or ability
> that derives from repeated experience in coping with problems
> of a given kind... Before we can properly arrange experiences
> for the very young to foster maximally the development of
> intellectual competence, we must learn more about the nature
> of this hierarchy of learning sets that appears to underlie
> such competence. We must also develop ways to assess what
> abilities are present in any given child in order to decide
> what kinds of experiences will be relevant and profitable
> for his intellectual development.[3]

[1]Cruickshank, The Brain-Injured Child, p. 200.

[2]Kephart, Slow Learner, p. 93.

[3]J. V. McHunt, "On Fostering the Development of Intellectual Competence," in Montessori for the Disadvantaged, ed. by R. C. Orem (New York: G. P. Putnam's Sons, 1967), p. 57.

Much of the pioneering investigation of the learning process
and its developmental aspects in order to better understand how to
facilitate its development has been in the area of working with dis-
advantaged children, slow-learning children and brain-damaged children.
It is recommended that many of the suggestions in Cruickshank's book
on teaching methods for brain-injured and hyperactive children may be
applied to the immature.[1]

"Unless perceptual discrimination is truly operant in the
sensory, kinesthetic and motor realms, children's responses to pencil-
and-paper-type training will be mere surface learning."[2] Learning and
using the "tool skills " of reading, writing and arithmetic rests on the
development of perception skills. If one examines the skills and
sequences in learning to learn, one will notice that "the perception
tasks move quite far into the tool skills areas. These should function
smoothly together since one forms the base on which to build the other."
The major goal of perception training is to teach a child "intentionally
things which most children learn incidentally during earlier stages of
normal development."[3]

Frostig refers to the examples of athletes, who have developed
a high degree of skill in their field as a result of intensive training,
to refute the argument posed by those educators who believe that

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[1]Katrina de Hirsch, Jeannette Jefferson Jansky and William S.
Langford, Predicting Reading Failure, (New York: Harper and Row,
Publishers, 1966), p. 87.

[2]Cohen, Teach Them All to Read, p. 117.

[3]Cruickshank, The Brain-Injured Child, p. 167.

individual disabilities in a child's development "are beyond the realm of educational influence and intervention." Practice can improve a skill.[1] Direct and deliberate action must be taken to improve teaching and learning by helping to develop both "cognitive and non-cognitive" readiness.[2]

Readiness is a "repertoire of learned behaviors."[3] The basic needs of a child are met only when each child receives instruction at a level that meets his maturity and readiness to learn.[4] It is necessary, therefore, to explore the steps leading to new learning and determine whether a child has the foundation upon which a new learning is based.[5] Cohen deems it important to discriminate between reading readiness and readiness for learning since the first has reading a book as an "operational goal" and the second, reading readiness. Experiences and training must be defined in terms of the learning process needed to meet the particular goal.

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[1]Frostig, "Learning Difficulties," p. 390.

[2]Fred T. Tyler, "Issues Related to Readiness to Learn," Theories of Learning and Instruction, The Sixty-third Yearbook of the National Society for the Study of Education, Part I, (Chicago, Ill.: National Society for the Study of Education, 1964), p. 34.

[3]Cohen, Teach Them All to Read, p. 176.

[4]Hildreth, Readiness, p. 222.

[5]Bernice G. Hron, "The Development of an Informal Initial Readiness Inventory," (Unpublished research paper, Cardinal Stritch College, 1969), p. 13.

Some socially disadvantaged children are so perceptually
and cognitively deprived, so unable to concentrate or
fixate on an auditory or visual stimulus, so poor in
perceptual development, so devoid of oral language,
sequential thinking, and mastery of basic linguistic
patterns that they are not ready for reading readiness.[1]

Teachers must know "precisely what behaviors they are trying
to shape in their children and why they are doing so. The more precise
they are in analysis, the more effectively they will teach." For
example, they will need to know which skills "pay off" in learning to
read, which is reading readiness, and those that are valuable to
cognitive development but are not directly related to reading
achievement, which is learning readiness.[2] The child needs to prepare
for learning skills other than reading. "Readiness for reading is
only one aspect of the larger concept of readiness."[3]

Physiological Readiness

What are the nature of the basic learned skills which underlie
the school readiness skills or readiness for learning? Those areas
believed to represent the basic processes necessary for the performance
of academic tasks are: visual perception, eye-hand coordination,
auditory discrimination, visual attention span, directionality, audi-
tory attention span, large muscle coordination and general language

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[1]Cohen, Teach Them All to Read, p. 130.

[2]Ibid., p. 177.

[3]Robert C. Aukerman, Approaches to Beginning Reading,
(New York: John Wiley & Sons, Inc., 1971), p. 24.

development.[1] According to Kephart, the major skills are sensory-motor learning, ocular control and form perception. Sub-skill areas are development of posture, laterality, directionality, body image, perception and space discrimination.[2]

The development of adequate form perception depends upon the adequate learning of basic sensory-motor skills. Constructive form is dependent in large part upon the relationships between elements or relationships in space. Information is gained through sensory-motor learning. When these skills are adequately developed, additional help is needed in the development of form itself. The problems in form perception result from inability to attend to details and inability to integrate details into a whole because the response is to elements only.[3]

Kephart refers to the development of an understanding of three aspects of time through motor activities: synchrony, simultaneity in time; rhythm, a temporal scale; and sequencing, the ordering of events in time. An intuitive grasp of synchrony develops when muscles move in "concert;" rhythm when muscles move alternately or recurrently and sequence when movements occur in coordinate patterns.[4]

Cohen subscribes to the method and sequence of training outlined by Kephart for a basic visual-motor training program in

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[1]Norris G. Haring and Robert W. Ridgway, "Early Identification of Children with Learning Disabilities," in Learning Disabilities and Reading Difficulties, ed. by Robert F. O'Neil and Robert Weinberg, (New York: MSS Educational Publishing Company, Inc., 1969), p. 35.

[2]Kephart, Slow Learner, p. 158.

[3]Ibid., pp. 71-87.

[4]Ibid., pp. 411-412.

developing a program for disadvantaged children. Activities proceed from the sensory-motor level which focus on the body to activities requiring manipulation of concrete objects to visual discrimination of abstract pencil and paper exercises. All activities are sequenced from simple to complex and progress from large muscle activities to fine motor coordination and control.[1] Cohen also endorses use of the Getman and Frostig programs as supplementary training: "which are the best visual perception programs currently available on the commercial market."[2]

Getman sees the basic skills as general coordination, balance, eye-hand coordination, form perception and visual memory. His program includes exercises in general coordination which involve head movements; bilateral actions in arm movements, leg movements, head and arm movements, arm and leg movements; alternate actions of head, arms and legs; and exploration of body function in relationship to gravity pull such as jumping, hopping, skipping and rolling sit-ups. The walking beam is used to practice balance, visual as well as arm and leg balance. Chalkboard exercises are used to develop eye-hand coordination.[3]

Frostig considers eye-motor coordination, figure-ground perception of spatial relationships as areas of visual perception which are significant for school learning. She refers to her Developmental Test of Visual Perception which --

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[1]Cohen, Teach Them All to Read, p. 105.

[2]Ibid., p. 115.

[3]Getman, "Development and Learning," pp. 76-83.

now provides information on which to base training
programs for visual perception, but because the other
developmental abilities are interrelated with per-
ception and all are required for adequate functioning
in and out of school, training programs must take into
account not only perceptual abilities but also sensory-
motor and language functions, higher thought processes,
emotional development and group adjustment.

She has developed a program for the development of visual perception

as well as a short physical education program "specifically designed

to aid the development of body image, body concept and body schema,

gross and fine muscle coordination, correct eye movements and direc-

tionality" which she considers necessary for adequate perceptual

functioning.[1]

Cruickshank and Durbin have developed instructional programs and

techniques along similar lines: Cruickshank for training brain-injured

children and Durbin for pre-reading students, slow-learning students

as well as the retarded.[2]

In addition to physiological readiness or learning to learn,

Cohen advocates a readiness program which teaches control, adjustment

to routine and language and concept development. "The first purpose of

a learning readiness program is to prepare children to operate in a

classroom shared by other children and adults."[3]

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[1]Marianne Frostig with Wilma Hart, "Developmental Evaluation
and The Institution of Remedial Programs for Children with Learning
Difficulties," in Learning Disabilities and Reading Difficulties,
edited by Robert F. O'Neil and Robert Weinberg, (New York: MSS
Educational Publishing Company, Inc., 1969), p. 81.

[2]Cruickshank, Teaching Methods, pp. 219-234; and
Durbin, Teaching Techniques, pp. 69-90.

[3]Cohen, Teach Them All to Read, p. 115.

Language Development

Pasamanick, working for the Institute for Developmental Studies for the New York Medical Center and on Mobilization for Youth, developed a program for language development based on some of the most promising activities she observed in experimental classrooms in these projects. She categorized language behaviors into three levels: vocabulary development, sequencing skills and classification skills and ordered them into four stages of sequential linguistic development. The first stage builds on and reinforces what the child already knows from his own experiences and on that which is familiar in the environment by labelling simple nouns and a few basic verbs. The second stage attempts to expand the child's noun and verb repertory. The third stage develops the use of language as an "expressive and descriptive tool adding common descriptive words and connectors as well as nouns and verbs." In the final stage, children use the language developed in the earlier stages to categorize, classify and catalog. Language development is concommitant with other activities of the curriculum.[1] To integrate the child's psychological functioning, to achieve balance and develop the "whole child,"

> a variety of skills such as vocabulary development, the
> ability to tell a story or describe an object, the
> ability to follow oral directions or to classify, and so on,
> may and should be trained while using the perceptual exercises.[2]

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[1]Cohen, Teach Them All to Read, pp. 145-147.

[2]Frostig, "Remedial Programs," p. 81.

Richardson describes the procedure of a "three-period lesson"
to associate an object or quality with its name. The first period
establishes identity, associating the sense perception with its name.
For example, the teacher presents to the child a long rod and a short
rod and says, "This is short. This is long." She repeats this, slowly
and clearly, as many times as necessary, depending upon the learning
rate of the child. No other words are used to avoid confusing the child.

The second period tests the child's recognition by asking him
to relate the object to its name. The teacher presents the name to the
child for a necessary period of time. She then asks,"Which is short?"
or "Which is long?" If the child answers or signals correctly, the
rods are mixed and the teacher repeats the questioning to strengthen
and fix association adequately.

The third period tests recall. Upon showing the short rod, the
teacher asks, "What is this?" Considerable repetition may be needed,
as well as time, to establish the association so necessary in language
development. "Vocabulary, wherever and however you find it, has to be
committed to memory one way or another."[1]

Durbin classifies language skills into the ability to recognize
pictured objects, ability to use sentences, classification, interpretation
and identification of emotions and learning to call up and talk about
sensory images.[2] It is reported that Wiseman views key language

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[1]Sylvia Onesti Richardson, "Application of the Montessori
Model," in Montessori and the Special Child, edited by R. C. Orem,
(New York: G. P. Putnam's Sons, 1969), pp. 78-79.

[2]Durbin, Teaching Techniques, pp. 41-46.

abilities as auditory and visual decoding, association and memory. He
suggests activities to train auditory and visual memory and automatic
and visual closure as a remedial language program. Regular and intense
application of these activities is recommended for children who need
them.[1]

Experience in working with disadvantaged children seems to indi-
cate that it is difficult to fully compensate for early language
deprivation. Only minimum benefits will be accrued by the child if
reliance is placed on "indiscriminately increasing the amount of verbal
communication." Precise language goals aimed at meeting the academic
demands made upon the child as he learns to read in the first grade will
more likely insure his success in reading.[2] The same is true for
mentally normal bilinguals who need special language training to pre-
pare them for English reading.[3]

Since general language enrichment as an instructional method
is ineffective for culturally deprived children, Cohen advocates "high
intensity sessions" as a teaching technique in language instruction
where ten-to-twenty-minute periods of intensive instruction are inter-
spersed with play periods. Research reports dramatic results using
this method in language development. He answers any anticipated
criticism of this method as being overly structured with the statement:

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[1]McCarthy, Learning Disabilities, pp. 65-66.

[2]Cohen, Teach Them All to Read, pp. 147-149.

[3]Hildreth, Reading Readiness, p. 212.

"Preschoolers love structure, they enjoy direction and before they are tainted by cultural distortions, they love to work and achieve."[1]

The principle of operant conditioning is another technique used to improve oral communication of these children with good results. An automated stimulus, feedback and reinforcer is used. The correct response is rewarded; neither punishment or reward is given for an incorrect response. Much of Montessori material is based on this principle.[2] Aukerman reports, however, that research found the use of the Montessori program did little to alter the intellectual functioning of the disadvantaged child. "The failure of the Montessori group to register psycholinguistic gains is not surprising in view of the fact that there is very little discussion or verbal sharing in the program."[3]

It should be of interest here to note that studies by Gesell, McCarthy, Karlin and others have shown that "there is a simultaneous development of higher mental functions, cerebral dominance, handedness and language skills." Karlin found that "the more strongly handedness was developed, the higher was the language ability." It is suggested, therefore, that specific training in left-to-right progression needs to be started early and should be continued in every activity until it is well-established."[4]

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[1] Cohen, Teach Them All to Read, pp. 142-149.

[2] Ibid., p. 142.

[3] Aukerman, Beginning Reading, p. 406.

[4] Cruickshank, A Teaching Method, p. 237.

Auditory discrimination is an essential element in learning to read and is directly related to the child's knowledge and use of language. Hearing readiness contributes to reading readiness to the extent that it aids language development. Since lack of auditory discrimination stems from linguistic immaturity and, in some cases, from speech defect, the best training would be to learn to speak correctly and in "using oral language more freely, not in artificial drills in sound discrimination."[1] Frostig lists the basic skills in auditory perception as auditory discrimination, phonics, understanding words, vocabulary, memory for auditory sequences, listening to and understanding oral language. She believes practice should be given in discrimination of sounds other than speech sounds.[2] Cohen, however, cautions that there is no evidence that auditory discrimination of the sound of a "tinkling bell" will transfer to auditory discrimination of oral language sounds.[3] A similar conclusion was drawn from an experimental study that learning of auditory skills was not enough; practice in transfer and application of skills to a reading situation is an equally important step.[4]

Cohen speculates that training in modality shift at the learning readiness stage might influence language and concept development. Recent

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[1]Hildreth, Reading Readiness, p. 286.

[2]Frostig, "Remedial Programs," p. 82.

[3]Cohen, Teach Them All to Read, p. 128.

[4]Shirley C. Feldmann, Dorothy E. Schmidt and Cynthia P. Deutsch, "Effect of Auditory Training on Reading Skills of Retarded Readers," in Learning Disabilities and Reading Difficulties, edited by Robert F. O'Neil and Robert Weinberg, (New York: MSS Educational Publishing Company, Inc., 1969), p. 74.

research indicates that there are relationships between cross-modal
transfer or poor auditory-visual integration and reading ability. While
this may not cause reading retardation, it may be a contributing factor.
Modality shift or perceptual shift is the ability to process stimuli
through one sense and transfer it to another or to "coordinate information
processing through more than one modality simultaneously."[1] "Delayed
maturation or impairment of inter-sensory transfer is believed to be
the factor responsible for some cases of language disability, including
reading disability."[2] It seems to be vital to the learning act.

> In gaining comprehension from any input signal, a child
> must use that signal to evoke previously learned symbols
> received along many input pathways to form the associations
> necessary for comprehension. This act of arousal and
> integration is seen as the probable final stage of per-
> ceptual behavior before comprehension is achieved.[3]

The slow progress of the immature child or slow learner shows
up mostly in reading because learning to read makes such "large demands
on mental ability, logical thinking and associative processes." He
has considerable difficulty in "catching on to meaning clues when he
attempts to work with word symbols."[4]

Concept Development

Children perform three basic processes in concept learning. On
the easiest level, they discriminate and identify; on the second level,

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[1]Cohen, Teach Them All to Read, p. 139.

[2]John Money, "On Learning and Not Learning to Read," in The
Disabled Reader," edited by John Money, (Baltimore: The John
Hopkins Press, 1966), p. 34.

[3]Wepman, "Perceptual Basis," p. 359.

[4]Ebersole, Kephart, Ebersole, Steps to Achievement, p. 75.

they match and construct and, at the highest level, they group and classify. Learning experiences should be ordered in sequence and designed to move from "perceptual motor manipulation of structures to abstractions (words or word sequences) that are manipulated (concepts)." Activities should be planned as opportunities to expand oral language.[1] "The child must learn to expand labels and word groups into concepts. The word 'bread' must also include concepts of crust, slice, loaf, white, soft, whole wheat."[2]

It is suggested that the teacher master a model of concept teaching. A subject is chosen which is then analyzed into parts and sub-parts. It is then analyzed as to its relation to other subjects. The subject is then synthesized into part of a greater whole. Techniques to motivate the learner are suggested.

> Pictures can be put in boxes or pinned on walls as parts of murals. Simple tasks can be purposely complicated by requiring more or less verbalization or by requiring the children to hold concepts in their memory. A simple request, such as asking children to find a picture in a magazine at home of something that rolls, is a method of reinforcing concept formation at higher levels of complexity, for the child must maintain the concept over time and space.[3]

An effort should be made to incorporate, in a gradual way, "concepts necessary to the child's understanding of the printed materials which he will learn." Much practice is required by the brain-injured child in order to develop conceptual skills.[4]

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[1]Cohen, Teach Them All to Read, pp. 150-152.

[2]Ibid., p. 145.

[3]Ibid., p. 150-152.

[4]Cruickshank, Brain-Injured Child, p. 214.

When a child is having noticeable success with form perception, left to right progression, sequence stories, rhyming and sorting and matching, he is probably ready to work more intensively in the area of reading.[1] Reading readiness is a function of development -- " a progressive increase in complexity of behavioral patterns."[2] Learning readiness flows into reading readiness.

Only by analyzing educational objectives into specific behaviors can the success of instructional programs be assured.[3] For example:

> Movement efficiency must be thought of not only in terms
> of gross bodily movement, but movements of the eye along
> the printed line such as the visual conception of a
> problem on the blackboard and the correct translation of
> it in writing on the paper in front of the individual...[4]

Cohen is critical of goals stated in terms of generalities. Lack of specificity in defining educational objectives is "an occupational hazard at all levels of professional education." General goals should be replaced with realistic behavioral description that would give the teacher practical guidelines for developing her own classroom methods.[5]

Prereading activities of the child are so vital to his successful preparation that in addition to the general planning of instructional aims in lesson plans, the teacher of kindergarten or first grade may do

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[1]Cruickshank, Brain-Injured Child, p. 214.

[2]Katrina de Hirsch, "Tests Designed to Discover Potential Reading Difficulties at the Six-Year Old Level" in Educating Children with Learning Disabilities, edited by Edward C. Frierson and Walter B. Barbe, (New York: Appleton-Century-Crofts, 1967), p. 312.

[3]Cohen, Teach Them All to Read, p. 127.

[4]Cruickshank, Brain-Injured Child, p. 157.

[5]Cohen, Teach Them All to Read, p. 123.

well to ask: "'For what reading skill is this lesson preparing this child?'" In this way, help can be provided which will prevent some reading difficulties.[1]

If reading is the "processing of a symbol of experience, then pre-schoolers should be given those experiences and oral-aural symbols for the words they must eventually read." Their training should relate directly to the demands of the subsequent reading curriculum. Auditory and visual perception training of sounds and letters, field trips planned for specific concept and oral language development and pictures and stories read should all be planned to help in their work with preprimers, first readers and phonic exercisers. This is reading readiness.[2]

Behaviors directly related to reading include letter knowledge, visual discrimination of letters and words, auditory discrimination of sounds in words, love of books and interest in the printed symbol, story sense and memory for sequence, vocabulary for reading and attention to the reading task. Because these behaviors are learned, they can be trained.[3] Children must be taught how words relate to one another, how they are put together to form a sentence and how one sentence relates to or follows another.[4]

Aukerman identifies six segments of the kindergarten program which generate reading readiness. They are:

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[1]Durbin, Teaching Techniques, p. 40.

[2]Cohen, Teach Them All to Read, p. 130.

[3]Ibid., p.176.

[4]Ibid., p. 144.

Learning to identify names
Learning the sounds of letters and whole words
Language-experience reading activities
Communications skills
Experiences with books
Listening to poetry[1]

The following are listed as basic reading readiness needs:

Facility in oral language
Concept and vocabulary development
Listening abilities
Visual discrimination
Auditory perception
Social skills
Emotional development
Attitude toward and interest in reading
Work habits
Muscular coordination[2]

To these, Durbin has added physical and mental health, aesthetic needs,

experience background for conceptual building.[3]

Montessori believed that preparation for reading is achieved

through writing. If a child can write, he can read, since he is

reading the letter when he is learning to write it. "The child hears

the sound of the letter and sees the shape and also writes the shape,

thus utilizing several senses."[4] Some psychologists also believe that

"writing will 'fix' the visual pattern in the memory of the child."[5]

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[1]Aukerman, Approaches to Beginning Reading, p. 34.

[2]Theodore Clymer, Bernice M. Christenson and David H. Russell, Manual for Building Pre-Reading Skills, Kit A Language, (Boston: Ginn and Company, 1965), p. 8.

[3]Durbin, Teaching Techniques, p. 38.

[4]Aukerman, Approaches to Beginning Reading, p. 400.

[5]Ibid., p. 231.

It is suggested that the use of VAKT or the multisensory approach to reading by tracing and/or writing furnishes the added stimulation necessary to make and retain the association between the spoken word and the written form.[1] "Visual perception combined with auditory skill will form the basis for the child's phonetic analysis of words."[2]

The program of readiness activities should contine for those children who need it until there is ample evidence that they have thoroughly developed the capacities upon which their academic progress depends.[3] Readiness must be permitted both the needed instruction and time to develop.[4]

Teacher's Task

The most important aspect of the education of brain-injured children, whether in the home or school, is to experience success.[5] "The child must yet demonstrate to himself that he is able to achieve and that he has a personality respected not only by others but by himself."[6]

The child's self-concept is an important aspect of his personality development and is significant to his achievement. "Early

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[1]Marjorie Seddon Johnson, "Training and Kinesthetic Techniques," in The Disabled Reader, edited by John Money, (Baltimore: John Hopkins Press, 1966), p. 158.

[2]Cruickshank, Teaching Techniques, p. 240.

[3]Hildreth, Reading Readiness, p. 213.

[4]Durbin, Teaching Techniques, p. 7.

[5]Cruickshank, Brain-Injured Children, p. 131.

[6]Ibid., p. 131.

effort to give help in experiences that promote a worthwhile pupil

self-concept can help to minimize a feeling of inadequacy due to

failures in school.

> There is no greater learner need than that of mental
> hygiene in the classroom. Teachers have an obligation
> to build rapport with all children to the extent that
> all pupils can realize that they are important as persons
> whatever their abilities may be. The statement has been
> made that school should be a place where every child
> feels good about who he is, where he is and what he is."[1]

The teacher must create an environment where "warmth and con-

cern for human welfare, love and kindness and fun and excitement kept

at appropriate levels can be incorporated into a concept of structure

and they must be." Helping children achieve confidence and competence

as learners "depends to a greater degree on his first rather than his

last teachers."[2]

The teacher must also be able to establish and maintain limi-

tations, at the same time making the child understand that they are

essential for his well being "not hurdles to be challenged."[3] The

correct method to achieve desirable behavior from children is to teach

correct behavior and to ignore misbehavior as much as possible. The

teacher should rely on "action" in her approach to teaching, with

demonstration-verbalization as a technique rather than reliance on

verbalization alone.[4] Montessori developed the concept of the

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[1]Durbin, Teaching Techniques, p. 32.

[2]Cruickshank, Brain-Injured Children, p. 128.

[3]Ibid., p. 129.

[4]Cohen, Teach Them All to Read, p. 135.

"prepared environment," exercises of "practical life" and self-teaching materials to develop self control and acceptance of routine in children.[1]

It is important to reduce the number of visually stimulating and otherwise distracting elements in the classroom. A cluttered classroom, noise, incorrect placement, light distortion and complicated instruction giving are all deterrents to successful teaching and learning, especially for the child with learning problems. When the child's attention span is not distracted by the unessential in the environment, his attention span increases. An increased attention span provides the teacher with more time for teaching and the child with more time for learning.[2]

Teachers must be selected with great care. The teacher must be a patient person, creative, observant -- adopting an experimental approach to teaching. The teacher's approach to each child must be based on observation and knowledge.[3] She must be innovative to be effective. All children need such teachers if learning is to be maximized.[4]

The length of time necessary for teaching children with special problems varies with the individual child and depends upon the type and degree or severity of his handicap. Any learning disorder

[1]Orem, Montessori and the Special Child, p. 60.

[2]Ellington, Shadow Children, pp. 82-83.

[3]Cruickshank, Brain-Injured Children, p. 129.

[4]Orem, Montessori for the Special Child, p. 21.

requires very specific methods of teaching and teaching techniques must vary or change to meet the specific nature of the individual child's strengths and weaknesses.[1] It was found in a study made to identify kindergarten children who would later develop learning problems, that they exhibited few common learning patterns which could be analyzed on a battery of tests. The implication is that "individual assessment, individual programming and individual teaching decisions for the modification of individual behaviors" are necessary.[2] Learning is an individualized process in many ways for each child. Just as he is different in personality, in intelligence and in language ability, so, too, is he different from others in how he learns.[3] Rates of learning should be considered and provision for needed repetition in skill development is also of major concern.[4]

There are four avenues of learning through which a child learns and the teacher may teach and children with learning disorders need to employ them all. They involve using the visual, auditory, kinesthetic and tactual senses. The basic means of learning for all children is through visual and auditory channels. Kinesthetic adds a motor activity to the learning process; for example, tracing or outlining a large letter or word, doing it over and over again with the letter or word being large enough to require the use of the arm muscle, thereby

[1]Ellingson, Shadow Children, p. 81.

[2]Haring and Ridgway, "Early Identification," p. 40.

[3]Wepman, "Perceptual Basis," p. 355.

[4]Durbin, Teaching Techniques, p. 54.

reinforcing what the eye is seeing. It helps the child to coordinate what the eye is seeing with what the hand is doing, "... an almost physical pull that reaches the brain..." Tactile refers to the sensory modality touch for learning, "similar to the way the infant and blind learn about the world."[1] A child's learning type, "his maximal modality or pathway of learning, his differential ability to learn by eye, or by ear, or even by touch" needs to be determined before any particular method is chosen for him.[2]

> It is imperative that methodology fit the developmental
> stage of the child. The problem is rarely what to teach
> as often as it is how to teach.[3]

It is important to determine which sense avenue is the most efficient for a particular child. The use of this sense should be emphasized in introducing a new learning with other sense avenues complimenting it.[4]

To further help a child with a learning disability, the principle of association should be applied. To underline or circle right answers in a phonics workbook does not reinforce the child's association of the letter with the proper sound. An "X" or a circle has nothing to do with the sound "a." Instead, the child should trace the letter with his pencil, verbalizing the sound at the same time. The child should be guided in learning how to make an association but it must come from within himself.[5]

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[1] Ellingson, Shadow Children, pp. 88-93.

[2] Wepman, "Perceptual Basis," p. 355.

[3] Cohen, Teach Them All to Read, p. 164.

[4] Ebersole, Kephart, Ebersole, Achievement for Slow Learner, p. 44.

[5] Ellingson, Shadow Children, pp. 88-93.

The teacher initiates a plan of education which, in reality, meets the developing needs and characteristics of each child. The curriculum for children with special problems in learning does not evolve by simply reducing the curriculum content or by emphasizing more drill on the same methods. Instead they need to be taught

1. with methods specifically adapted to individual needs which emphasize the best sensory avenue for learning but strives to improve learning by way of sensory approaches which have not been too effective for him.

2. with an emphasis on concrete techniques.

3. with a curriculum that builds upon itself so that objectives are accomplished by way of a well-planned series of learning steps.

4. with an understanding that there are three teaching levels: tolerance, challenge, frustration.

5. with a variety of methods that reinforce one another.

6. with curriculum objectives that encourage generalizations -- a generalization is the application of specific skills to many purposeful activities and permits a broad basis for conceptualization and allows variation and adaptation. Particularly with the minimally damaged child, much of our difficulty in teaching may be the result of not laying an adequate foundation on which the child can build generalizations.[1]

Montessori believed it necessary to prepare a child for certain learnings through mastery of simple tasks.[2] Tasks should proceed from simple to complex; from one item to greater numbers; from concrete to abstract. Everything that is presented to the child should have a successful beginning and end within the child's attention span.[3]

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[1]Cruickshank, Brain-Injured Children, p. 128.

[2]Aukerman, Beginning Reading, p. 400.

[3]Cruickshank, Brain-Injured Children, p. 128.

Activities should be rotated from active to passive. The curriculum should be interrelated so that one activity "flows into the next."[1]

Selection of Materials

There should be a close relationship between the teaching materials and the child's disabilities or learning needs.[2] Creative teaching involves wise choice of instructional methods and materials. It means knowing how to adapt them to a particular pupil's needs. Greater insight into individual need will demand that the teacher prepare her own instructional aids for specific application and sequential development. Meeting a specific need will direct any choice made from the wide variety of commercially-prepared materials.[3] However,

> One must not mistake the devices and materials for the method itself. Although the materials are used extensively, they are but one means of reaching the child. Unless the teacher thoroughly understands the child's problem and knows what she hopes to accomplish by using a teaching device, she will have little success. No matter how many ideas are presented here, the teacher must always be alert to the need for a new device, that will reach a particular child. No school, no classroom, no instructional materials are of any value without the teacher. She is the "core" of the program.[4]

Even so-called play materials are materials of instruction and should be given to the child for a definite reason.[5] A selection of "toys" have been classified as learning materials according to the

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[1]Ebersole, Kephart, Ebersole, *Achievement for Slow Learner*, p. 44.

[2]Cruickshank, *Brain-Injured Children*, p. 154.

[3]Durbin, *Teaching Techniques*, p. 183.

[4]Cruickshank, *Teaching Method*, pp. 164-165.

[5]*Ibid.*, pp. 164-165.

purpose and type of activity they serve.[1] Development and learning

depends "upon visual, tactual and manipulatory experiences with two

and three-dimensional objects." Activities which are thought of as

"play" are a"child's way of learning, through pure research in the

qualities of form."

> Putting together puzzles, and form boards, laying out
> patterns with parquetry blocks or on flannel boards
> provide important perceptual-motor experiences. Cutting
> and pasting his own designs involve planning as well as
> perceptual-motor practice.[2]

Teaching material must suit the child's achievement level but

it must also be intensified in terms of stimulus value, visual or

tactual. "The teacher should increase the stimulus value of the thing

to which he desires the child to attend." Through use of color, the

stimulus value of a letter, line, word and number concept which the

child is to recognize and learn is increased. Once an appropriate

response to the task is achieved, less stimulating materials may be

used. All unnecessary details should be removed from materials and

pictures should present a true concept to the child.[3]

Materials should provide short, easy tasks and should be

three-dimensional as well as flat in nature. Provision should also

be made for a variety of devices and activities as well as repetition

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[1]Lyndale D. Zimmerman and Gloria Colovini, "Toys as Learning Materials for Pre-School Children," Exceptional Children, (May, 1971), p. 643.

[2]Margaret Faust and William L. Faust, "Pathology or Immaturity: An Evaluation of Changes in Form Copying," Reading Is the Process of Making Discriminative Responses, Beyond Literacy, Thirtieth Yearbook of the Claremont Reading Conference (Claremont, California: Claremont Graduate School Curriculum Library, 1966), p. 109.

[3]Cruickshank, Brain-Injured Child, pp. 153-157.

of the same skills.[1] Cruickshank and Kephart agree on the provision

for variation and repetition. Different approaches, however, should

be spaced so that they add to learning rather than confuse. The purpose

of any training activity is to teach certain generalized skills.[2]

Montessori materials and exercises are designed so that a child

can apply several senses to a particular task. The materials promote

intuitive learning -- through the exercise of the sense of touch, the

child learns various principles and rules of mathematics, language,

and science.[3]

> Montessori programs revolve around thorough and sequential
> sets of manipulative materials and activities to teach
> basic perceptual and conceptual skills through discovery
> and self-direction. Montessori materials are excellent
> methods of teaching classroom routine and self control.[4]

Materials should be used which require only a few simple

directions. Little opportunity should be allowed for failure or error.[5]

"What are the mechanisms that enable perceptual, cognitive,

social and emotional behavior to alter and to grow as a result of

environmental and educational manipulation?" There remain many gaps and

inadequacies in the knowledge we have at present to be able to answer

this question with conviction and assurance. It seems that the only way

this can be done is through information gained by longitudinal studies.[6]

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[1]Durbin, Teaching Techniques, p. 184.

[2]Cruickshank, Brain-Injured Children, p. 204 and
Kephart, Slow Learner, p. 159.

[3]Orem, Montessori and the Special Child, p. 25.

[4]Cohen, Teach Them All to Read, p. 138.

[5]Cruickshank, Teaching Method, pp. 164-165.

[1]Stanley Krippner, Specialized Approaches to Instruction,"
Education, LXXXIX, (September-October, 1968), p. 17.

Research Implications

Comparative studies are being made of three major types of curriculum models which are used in remediating specific learning deficits. Results are just beginning to emerge and are as follows:

1. Curriculum models which stress cognitive or academic skill development produce largest I. Q. increases.

2. Traditional curriculum approaches produce significant intellectual growth only when the programs contain specific short and long term goals including language development and are highly structured and well supervised.

3. Structured programs other than cognitively or academically oriented ones produce intellectual gains only when they incorporate strong oral language development components.

4. A preschool academic-skill oriented program tends to produce rote reading and arithmetic computation skills rather than improved reading comprehension and arithmetic reasoning skills.

5. Unless the primary grade curriculum can be modified, preschool programs must develop the fine motor, memory and general language abilities of disadvantaged children. These skills, rather than abstract reasoning and critical thinking, appear to be needed to succeed in the primary grades.

A common feature of all successful intervention studies was the large proportion of adults to children in each of the experimental classrooms -- in no case was the ratio lower than two adults to every 15 children.[1]

McCarthy and McCarthy have reviewed research on learning disabilities thus far and conclude results are "inconclusive." In regard

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[1]Howard H. Spicker, "Intellectual Development Through Early Childhood Education," Exceptional Children, (May, 1971), pp. 629-640.

to the variety of remedial approaches such as linguistic, perceptual-motor and neurologic, research recommends no single approach to the exclusion of the others. "Few generalizations are warranted from the present literature on learning disabilities."

> It is unlikely that any single approach to the education
> of children with learning disabilities will succeed in
> all cases. The research literature suggests otherwise,
> for each presents a different set of learning problems.
> The best educational approach would seem to lie in
> using those techniques shown to be successful with each
> type of problem.[1]

Durbin suggests classroom action research to "determine the effectiveness of materials and instructional techniques and also to evaluate them as they are used with the children."[2]

School Organization

What significance does kindergarten attendance have on school achievement? Cohen has reviewed a number of research studies made in this area and finds that results vary with the kind of children studied and, therefore, it cannot be assumed that it has the same effect on all children. "It is necessary to tailor the preschool program for the particular group that we are dealing with."[3]

A number of organizational approaches have been reported which provide for children delayed in readiness skills. A study was made of a program designed to keep children out of formal reading until they had reached the necessary state of readiness. This study revealed

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[1]McCarthy and McCarthy, Learning Disabilities, pp. 104-105.

[2]Durbin, Teaching Techniques, p. 7.

[3]Cohen, Teach Them All to Read, p. 125.

that moving children ahead into formal reading only after they succeed on the Junior Primary Level (a readiness program) does not delay their school progress. Their rate in moving ahead depends on their speed of maturation in mental, social and emotional areas. Significant in this program was the finding that teachers were unable to recognize the opportune time to accelerate or slow down a child's program. Also, teachers had a tendency to even up reading groups.[1]

Under the concept of the ungraded primary, children lacking in readiness skills would receive instruction at their level of development until such time when they are adequately prepared for reading readiness or reading. However, this has not always worked out too well in actual practice. According to Ames, "Goodlad himself commented ... that it might be better to keep the grade labels and teach flexibly than to give up grade labels and then teach in a rigid way."[2]

Harris reports that a transition class formed for "first grade entrants who are quite lacking in readiness," was tried out successfully in some large cities around 1940 but has not been widely adopted. The transition class has been strongly recommended by Ilg and Ames "who found a large percentage of middle class children to be lacking in some aspects of readiness, although of at least average intelligence." Limited in size with a specially trained teacher directing a planned readiness program, gradually leading into reading, characterized this

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[1]Helen Roche, "Junior Primary in the Van Dyke Level Plan," Journal of Education Research, LV, (February, 1962), pp. 232-233.

[2]Louise Bates Ames, Is Your Child in the Wrong Grade?, (New York: Harper and Row, 1967).

class. Harris is of the opinion that the transition class deserves a "wider tryout."[1]

de Hirsch, Jansky and Langford suggest "small transition classes between kindergarten and first grade for children who, regardless of age are not ready."[2]

Assigning a child who is not ready to a transition room rather than a regular classroom was a way to prevent learning failure. "Here the child would be given time to develop and mature under the direction of an alert, capable teacher." The program in a small classroom would be structured to the needs of the child. Progress might be slow.[3]

Similar in concept is the junior or pre-first grade room suggested for children who seem to need a continued readiness program at the end of kindergarten. The junior primary class in which much individual help may be given according to pupil growth and needs is another suggested approach.[4]

Referring to a developmental first grade:

Under this plan, children who otherwise might be retained in kindergarten are put into a developmental first grade. Class enrollment is limited to fifteen, and the teacher is trained in many of the techniques used with children who have learning problems. Some of the children in this group will go into a regular first grade, some will go into second grade, some into classes for the retarded, and some into the program for children with learning disabilities. This attempt at early identification in order

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[1]Harris, How to Increase Reading Ability, p. 56.

[2]de Hirsch, Educating Children with Learning Disabilities, p. 86.

[3]Hron, "The Development of an Informal Initial Readiness Inventory," p. 86.

[4]Durbin, Teaching Techniques, p. 229.

to overcome, minimize, and/or prevent further
learning problems is exemplary and, we hope,
will appear in more school programs.[1]

Size seems a significant factor in classes organized for children lacking readiness. Slow pupils learn best when placed together in class groups with others of similar ability because a slower-moving program can be provided for them which emphasizes direct experiencing which they must have if they are to learn at school. They become less discouraged. "Transition groups with a kindergarten-type curriculum are organized for these pupils. The size of the classes is kept to 20 or less and the room is fully equipped for an activity-type curriculum."[2]

Careth reports that clinical techniques or methods can now be used successfully with groups in the classroom, with ten to twenty-two children in a class. By using a few relatively simple techniques in our present first and second grade classrooms, it would be possible to prevent one-third of future reading problems.[3]

"A good Montessori school is organized around the principle that learning succeeds best when the instruction is kept as nearly as possible to a one-to-one basis."[4] Classes for beginners must be kept small enough so that "every child can benefit from the teacher's close personal supervision."[5] The developmental needs of children with

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[1]McCarthy and McCarthy, Learning Disabilities, p. 85.

[2]Hildreth, Readiness for School Beginners, p. 214.

[3]Ellingsen, The Shadow Children, p. 82.

[4]Aukerman, Approaches to Beginning Reading, p. 403.

[5]Hildreth, Readiness for School Beginners, p. 222.

special problems can be met only by an individualized education.[1]

The following aims are listed for a transition class:

1. Stabilize a child's perceptual-motor world and take him in slow motion through a program in which each step is carefully planned to a point where he would be able to benefit from formal education.

2. Teaching methods would be tailored to the pupil's individual needs.

3. Considerably more structure than kindergarten groups to help the child function on a relatively simple and later a more complex plane.

4. Small classes to enable teacher to give massive support to anxious and dependent youngsters.

5. Children would require a greater than usual degree of tolerance and empathy.

6. Teaching for orientation in time and space.

7. Foster large motor patterning.

8. Dealing with the hyperactive youngster.

9. Auditory discrimination practice.

10. Learning to express feeling and experience (precedes more formal features of communication). Helps the child to use words as the preferred form of communication.

11. Conceptual training.

12. Figure-ground discrimination.

13. Visual perception.

14. Instruction geared differentially to specific difficulties; i.e., auditory-perceptual difficulties, gaps in visual perception; receptive and expressive language deficiencies; visual discrimination and configurational techniques; directional and grapho-motor patterning.[2]

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[1]Clements and Peters, "Minimal Brain Dysfunctions," p. 77.

[2]de Hirsch, "Tests Designed to Discover Potential Reading Difficulties," pp. 86-91.

CHAPTER III

Conclusion

Summary

The purpose of this paper was to identify the basic learning

needs of those children who were not ready for a first-grade

curriculum, particularly reading, because of deficiencies in readiness

skills, and to find out how these needs could be provided for in a

special program designed for a transitional class. As indicated in

Chapter I, interest in this area developed from planning and writing

a proposal for the establishment of such a class. The "backbone" of

this proposal was thought to be a readiness inventory which was

developed in committee with the joint cooperation of primary school

teachers, the reading consultant and the writer, with heavy reliance

upon Durbin's book, Teaching Techniques, as a supplementary source

to teacher experience. Decisions for testing, staffing and

organizational plans were made. The committee felt the success of

the program was assured since a real effort was being made to provide

optimum conditions. Teaching would be directed to the readiness test.

The only problem that remained was securing a teacher who would know

how to teach these children so they would arrive at the prescribed

goals. Also, the selection of kinds of materials needed would depend

on the teaching methods and their aims.

As a result of this investigation, the writer has lost some

confidence that the solution of learning problems rests in the

proposed design. What seems evident is that a readiness test is only a small beginning to the problem.

Perhaps the most significant aspect resulting from this investigation of pertinent literature is the complexity of learning problems arising from the human quality of uniqueness. Research thus far is unable to single out any one method or program which achieves significantly better results than another. Labels for learning problems have little relevance for their treatment. Despite the similarity in symptomology, it seems every behavior aggregate is unique in terms of cluster and degree and requires an obsolute individual approach. And, regardless of the approach used, it must be subjected to continual adjustment or change since learning itself will produce change. Teaching then is not only an art but a science and its demand on time will be extreme.

Class size or pupil-teacher ratio then is a critical factor in the success of any program, as confirmed by Montessori, Cohen and others. The implication here seems to be a change in the role of the teacher to that of a diagnostician and programmer.

Investigations into learning problems and knowledge gained thus far seems to indicate how little we really know about the learning process in human development and the physiological programming between sensation, perception and concept-formation. The skill of the teacher then rests on intuition and conclusions drawn from experience supplementing currently available knowledge. The teacher has the responsibility to experiment also.

What knowledge we do have about learning seems to indicate a
human need to interact with the environment for maximum development
and a "right time" for maximum response. There is a positive
correlation between capacity to learn and freedom to explore in a
responsive environment. Early education needs to place greater
emphasis on exploring for learning and learning materials should
require sensory involvement. The quality of early learnings sets the
pattern of all subsequent learning.

Where does one draw the line between the "disabled learner"
and the so-called "normal" child with learning problems? Learning
problems can represent subtleties which are difficult to detect.
Educators need to develop a greater awareness of the role of the
importance of sensory-motor-perceptual learning and its relationship
to all learning, including language development and incorporate this
awareness into teaching practice. Knowledge of levels of development
is also essential.

There can be no curriculum for a class of children who have
learning problems, only a list of suggested learning activities which
may accomplish a specific objective but not necessarily for a specific
child. The teacher must have available to her a repertoire of alter-
natives from which she makes a choice. There must be as many
curriculums for a class of children with learning problems as there
are children in the classroom.

There seems to be little doubt that early intervention to
ameliorate learning problems is of value, and, perhaps, it is the
only real solution we have so far to reduce educational failure.

Therefore, early intervention is needed. It places, however, a tremendous responsibility on the skill of the teacher. She needs to be trained in the skills needed to develop the basic learning skills in children. The real challenge is in making the right match between learning need and learning experience. To aid her in making the right choice, she will need the help of a psychologist.

It is the opinion of the writer that further progress in the understanding and educational treatment of learning problems or disabilities will depend on significant discoveries made by other interested professional fields in their investigations of related problems. More and better questions are being asked by a more-widely diversified professional populace putting to use technologically sophisticated tools to find the answers.

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