A PROPOSED GUIDE FOR STRUCTURED CURRICULUM AT KINDERGARTEN LEVEL

by

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THE PROBLEM AND DEFINITIONS OF TERMS USED

During the American Kindergarten Reform, Caroline Pratt gave impetus to the theory that writing and delimitation of kindergarten curricula was undesirable. She feared this might result in the stultification and petrification of the kindergarten program. As the Progressive Movement gained momentum, socialization permeated the curriculum. The content became more sterile as the social climate improved (63). If the disciples of Dewey had accepted Montessori, intellectual growth would not have been diluted to its present state in the kindergarten curriculum (50).

Within the last ten years over a thousand experiments have taken place to determine how normal and underpriviledged children learn. However, theory has not been implemented into practice, and the unplanned program will no longer suffice.

The Problem

Statement of the problem. The purpose of this study was to implement research data concerning early childhood into guide lines for a structured curriculum at kindergarten level. This purpose was to be accomplished by: (1) postulating a spiral organization represented by a dimensional model to illustrate the synthesis of the curricular base and the curricular process, (2) defining the curricular base as content within the subject matter areas in the elementary school,

(3) defining the curricular process as a psychological paradigm which would provide the mechanism and the techniques for the acquisition and utilization of the curricular base, and (4) proposing some tentative key concepts in the disciplines as a basis for content.

Importance of the study. The Educational Policies Commission recently urged that schooling begin at the age of four. The federal government has provided funds for early childhood education. Ray Maul of the NEA Research Division estimated an additional 50,000 teachers were needed to provide education for just the five year old level in 1966 (48). Colleges have deleted courses in kindergarten, and only a few textbooks in this area have been written recently (31). If a program of early education is to be inaugurated with success, the classroom teacher will need to explore curricular organizational patterns based upon implications of research.

An attempt was made in this study (1) to provide guide lines for pilot studies or action research in structured curriculum (K-12); (2) to present curricular data, both in subject matter and developmental areas, for kindergarten workshops and conferences; (3) to establish a frame of reference for organization of pre-kindergartens and Head Start Classes; and (4) to suggest content and teaching strategies to relate kindergarten education to the goals of elementary education and further develop the learning potential of the young child in his culture, the scientific era.

Limits of the Study

This study proposed only guide lines for kindergarten curriculum and presented only a framework to assist in relating research and theory to practice with emphasis on structuring and defining content. This report was a preliminary study to stimulate and focus the attention of early childhood education in a new direction.

Definition of Terms Used

Kindergarten. In this study kindergarten referred to the year of school experience that immediately precedes the first grade.

Guide. This report accepted Carter Goode's definition of a curriculum guide as a substitute for a formal course of study in which desirable content is suggested rather than prescribed (27).

Structured. Educationists refer to the total school program (K-12) as a structure. Kindergarten was considered in this guide as the first level of this structure. In this usuage the term implied Bruner's spiral organization of knowledge. (e.g., a set of propositions from which a larger body of knowledge can generate.)

The term "structure" was also used more specifically to designate simplifying information and sequence levels within the scope of kindergarten content or key concepts.

REVIEW OF LITERATURE

Historical Perspective

A review of the historical and philosophical background of childhood education assisted in establishing a frame of reference for this study. During the eighteenth century Rousseau and his protagonists, Pestalozzi and Froebel, directed interest toward the education of the young child in the psycho-philosophic movement. Rousseau, a romantic naturalist, insisted the child and nature were the center of the educative process rather than subject matter in books. He advocated isolating the child from society during the early growth period (i.e. let him develop naturally like "lilies in the field".)

Pestalozzi theorized the only way to change society was to change individuals that make up society. Powers were dormant and latent in every child waiting to unfold. The "seed" or "flower unfolding" theory was postulated a century earlier by Comenius. As a realist and a naturalist, Pestalozzi made the following contributions to the education of the young: (1) use of real objects, (2) learning through the senses, and (3) individual expression of ideas. Whereas Rousseau would leave nature take its course, Pestalozzi used a precise method, the Object Lesson, proceeding from the simple to the abstract.

Froebel, the Father of the Kindergarten, was influenced by Pestalozzi's philosophic realism and impressed by Rousseau's

romantic naturalism. From this he developed a three point theory of natural development, play activity and social co-operation. Froebel was also influenced by Comenius and his School of the Mother's Knee. Like Comenius he believed the early years of childhood were most important.

Froebel not only adopted the "flower unfolding" theory but he also developed it to its fullest height of glory. He called his school the garden of children (Kindergarten). The teacher was the gardener and the children the blossoming flowers. Readiness was the budding point, and the inner unfolding was achieved by self activity. In the Froebelian schools didactic materials were used to direct this self activity. These learning aids were called "gifts" and "occupations".

Froebel's complicated metaphysics and his mystic symbolism are extremely difficult to decode. The child was taught to understand the internal meaning of objects rather than their external manifestations. Intellectual understanding was closely linked with the spiritual. One of Froebel's first principles in education was that instruction should by "passive, following, not prescriptive, categorical, or interfering" (23). Although he led one to believe all this occurs through the hand of God or power beyond one's control, he actually did not leave much to chance in his learning process theory. His didactic materials and guide books were formal, dogmatic and explicit in detail. The "flowers" in his garden did not unfold to blossom without considerable nurture if one were to follow the Froebelian Kindergarten Guide (23).

When the Froebelian kindergarten was transplanted from Germany to the United States, Dewey's pragmatic philosophy (that reality is experience) had its impact. Dewey agreed (after deleting the blossoming flowers) with Froebel that the educative process should include both the individual or psychological and the social or sociological. But he added a dynamic--"the child as a problem solving animal and society as a problem presenting environment" (63). This led to a reform movement. Patty Hill Smith (1913) was an influential innovator in this movement. She reduced Froebelian formality and symbolism and implemented Deweyism by stressing concrete experience and socialization.

As Progressive Education gained momentum, socialization permeated the curriculum to such an extent that Froebel's original intent, intellectual growth, became minimized. Lucy Sprague Mitchell with her "Here and Now" concept narrowed still further the child's opportunity for intellectual growth. In this respect even Dewey was deserted because the cliche "learning by doing" was interpreted as an excuse for tossing out more subject matter. As the social climate in the kindergarten improved the content became more sterile.

Child development and mental health (1940-1950) were the next points of view that changed the climate of the kindergarten. Afraid of frustrating the child or inhibiting his creativity, the teachers withheld guidance, and permissiveness grew in this greater freedom of the child-centered school.

Here again was evidence of less Deweyism and more of Rousseau's idealism. With increased enrollment and class size after World War II the prime objective became to keep the children from being troublesome (to teach them to sit quietly, follow directions, and to move about in an orderly manner) and to promote adjustment to first grade. The curriculum was simplified and diluted to a point that intellectual growth was almost forgotten (63).

Chronologically, Dr. Maria Montessori (1870-1952) followed Froebel (1782-1852). However, in America her "Scientific Pedagogy" has had its greatest impact within the last five years. Three factors account for this delay: (1) Montessori manuscripts were in Italian, and the English translations lacked lucidity. (2) Being a medical doctor, she did not establish training courses for teachers within the educational colleges. (3) The disciples of Dewey and Kilpatrick rejected her pedagogy on the basis of "faculty psychology". Her premises could not coexist peacefully with Ultra Progressivism (52).

"Montessori techniques," argued Dewey, "are so anxious to get at intellectual distinctions without waste of time that they tend to reduce the immediate crude handling of the familiar material of experience." (50, p. 112). Dewey was the high priest of the educationists; therefore, Montessori was deleted from educational literature.

With the advent of the curriculum reform in mathematics and science, Montessori could no longer be ignored. Educational evidence poured out and flowed into the Montessori mold--"discovery method," "audio-visual and teaching aids," "sensory, perceptual training," etc. Toy manufacturers stocked kindergartens and nursery schools with "Montessori" toys and learning aids with the blessing of child psychologists such as Dr. Urban Fleege. Seven Montessori Teacher Training Schools opened, and by 1967 many private schools flourished in America.

Protagonists of early reading programs pointed out that children learn to read with the Montessori Method without apparent trauma. "If all the world's children were subjected to Montessori educational techniques," predicted Sigmund Freud, "most of our psychoanalytic couches would be empty" (50, p. 116).

In the slums of Rome and elsewhere in Europe, Montessori met with success. New concern over education for the unlucky children, both genetically and environmentally crippled, prompted educators to re-examine her "castigated" theory. The Method for pre-school education was used in Chicago's Cabrini Slum Clearance Project.

More recently educationists and psychologists have begun to have an increasing respect for Montessori's original insight into the nature of learning and the potential of the school. Some would agree with Martin Mayer, "Nobody who reads Montessori

(or observes the joy of learning in her schools) ever looks at education in quite the same way again, and the change is always for the better" (50, p. 116).

In American education Dr. Maria was cast off as a methodologist, and no one troubled to analyze her philosophy. She insisted education could be approached in a scientific way, "For man who has formed a new world through scientific progress must himself be prepared and developed through a new scientific pedagogy...he must bring the scientists into the school." (52, p. 121). In her writings there appeared no trace of the romantic idealism of the "unfolding flower." She analyzed her observations as a doctor would diagnose an illness. Her metaphysics was neither mystic nor spiritual. One could say she was both logical and empirical.

The profusion of current literature (1960 to 1967) concerning the Montessori controversy has been weighted with more condemnation than praise and more emotion than logical reasoning. Dr. Spock (69) proposed that the solution would be for each group to become less defensive and to borrow a little from each other. He pointed out the similarities in the philosophies and the differences which often were quantitative rather than qualitative.

The contribution of empirical data by Dr. Arnold Gesell to the field of kindergarten education should not be minimized. He began his prodigious studies in 1919 at the Yale Child Development Clinic and recorded his work in several books. As

a medical doctor (like Montessori) he believed "child guidance should be rooted in scientific research" and that "the genetic approach was more important than the rule of thumb." In spite of his exacting methods of research, he returned to the idealist "unfolding" metaphor. He chose a less aesthetic metaphor than Froebel in quoting the scriptural parable of the corn, "Growth of a child's mind is not unlike the growth of a plant--the blade, the ear, and after that the full corn" (25, p. 5).

Throughout this resume of kindergarten philosophy there was a repeated theme--the "flower" or seed analogy. More recently Rogerian psychology utilized "unfolding" in the postulate "self contains within it the momentum for its growth and education." This has produced an abundance of literature concerning the existentialist view of "self".

This "flower" metaphor has served as a means of communication in practice and theory. In the romantic tradition it had a mystic and aesthetic appeal. It also provided a convenient package to encompass all that is not known specifically (as yet scientifically unverifiable) but yet perceived as a Gesalt. In this respect it furnished the teacher with a practical approach in dealing with the "whole" child.

There could be dangers in using this analogy. First, it may tranquillize the gardener (teacher) into the sweet security of passivity (even laziness). Secondly, the ambiguity of such a metaphor may lead to questionable practices and more

license than the original philosophy of Froebel intended (as previously witnessed with the "progressive" interpretation of Dewey's philosophy). Thirdly, this term may appear rather ridiculous to the "hard-nosed" administrator, the politician, and the scientific-minded tax payer who will be the ones to promote the public kindergarten.

Max Black (66) affirmed the writer's conclusions concerning the "flower" analogy. He admitted that Rousseau, Pestalozzi, Froebel, and a multitude of later advocates of "negative" education have been inspired by the partially valid analogy between a child and a "natural" biological organism. He believed that:

> ...while emphasis on noninterference with "natural growth was once a fitting expression of revolt against a repressive authoritarianism, today it is all too often a symptom of abdiction of the teacher's responsibility. It may well be that the overworked analogy of the biological organism has served its purpose and that the time has come to experiment with alternative root metaphors.

The alternative which Black posed for consideration was education as an art and a discipline (66, p. 33).

Before the conclusion of this overview of the historical and philosophic development of the kindergarten, mention should be made of a host of writers who either clung to the "horse and buggy" days of kindergarten or adopted an "ostrich" attitude to the inevitability of change. These loquacious educators defended negative education and the status quo with such ideals as "fiveness" and "five-year-oldness" and with more emotion than common sense. Their favorite quotation was

Rousseau's prediction in Emile:

> Nature would have them be children before they are men. If we try to invert this order, we shall produce a forced fruit, immature and flawless; fruit which will be rotten before it is ripe; we shall have young doctors and old children (59, p. 92).

Three fallacies became apparent in examining such literature which defended the so-called traditional kindergarten. In the first place, the original intent of the traditional Froebolian kindergarten was intellectual growth. Secondly, the Reform Movement led to the misinterpretation and misuse of Dewey's philosophy. Dewey, in 1913, described the kindergarten as:

> ...a union of the nursery and the philosophy of Schelling; a wedding of the plays and games which the mother carried on with her children to Schelling's highly romantic and symbolic philosophy. The elements that came from the actual study of child life have remained a life-bringing force in all education; the Schellingesque factors made an obstruction between it [kindergarten] and the rest of the school system and have brought about isolations. (13, p. 81).

In discussing aims, Dewey pointed out, "The ideal of the kindergarten was the moral development of the children rather than instruction or discipline; an ideal sometimes emphasized to the point of sentimentality." He contrasted this ideal with the utilitarian aims of the primary school (i.e., getting command of the symbols of learning). He implied structured knowledge in his prescription "the two schools should be one from the start." (13, p. 82).

In the third place, Gesell's concept of the child in his culture did not imply that culture was static. The necessity of examining the culture, of which the child was a part, was

inherent in this concept. Interests of young children are global, even universal, in scope; and these interests are not confined to any one period of time or any one locality, according to Wann (62). Therefore the demands and influences on the child in this rapidly changing culture of the scientific era would preclude acceptance of static norms of "fiveness".

Philosophy and General Objectives of Kindergarten

The writer recommended that philosophy for change in the kindergarten incorporate the essence of all contributions of the past, each in proper balance and tempered by the empirical evidence of future research. Adherence to slogans and cliches with superficial understanding, without sufficient language analysis, and with disregard to the mounting data of research would not provide a realistic or logical philosophic base for a curriculum which must adjust to change and increasing knowledge. While the "flower" analogy or "negative" education appeared to be a useful root metaphor in the development of self, a broader view of education as both an art and a discipline might be more constructive.

Kindergarten objectives. The kindergarten shall:

--be an intergral part of the elementary school

--provide child guidance by assessing the child's weaknesses and potentialities

--acquaint the child with school environment and asist him to acquire habits that will promote his progress in that environment

--provide a climate and activities to promote the child's physical growth and mental health

--survey the child's speech maturity and assist him to acquire:

-better articulation

-greater vocabulary

-more adequate expression of thought

-better listening habits

--stimulate the child's mental growth through:

-problem thinking

-expression in art and music

-literature and visual aids

-experiences that involve sensory perception

-background of knowledge in social and natural sciences and quantitative thinking

--introduce the child to the symbols of our language (letters, numbers, words) as a means of conveying thought, and acquaint the child with methods of deciphering these symbols through writing, phonics, contextual clues and visual discrimination

--assist the child to become both a more effective individual and a more helpful member of a democratic society.

Pertinent Research

As Griffiths pointed out, the research that has been done on human characteristics probably has been the most significant line of inquiry in the past ten years (29). Bloom analyzed and summarized this research in Stability and Change in Human Characteristics (5). Bloom's major hypothesis was that the environment in which the individual develops will have its greatest effect on a specific characteristic in its most rapid period of change and will have least effect on the characteristic in its least rapid period of change. He developed a table of growth in terms of half-development:

Height	Age 2½
General Intelligence	Age 4
Agressiveness in males	Age 3
Dependence in females	Age 4
Intellectuality in males and females	Age 4
General school achievement	Grade 3

Bloom's work clearly indicated the tremendous importance of early education. The significance of his work has been reflected in Project Head Start, in the interest in nursery schools and kindergartens which are radically different from the preschool programs traditionally offered to middle-class children and which place primary emphasis on intellectual development.

Griffiths rated next in importance the research of Piaget, Guilford, and Deutsches. Piaget focused on children doing

their own learning; Guilford gave a better understanding of intelligence; and Deutsches showed the effect of cultural deprivation on intellectual performance.

Other studies dealing with the psychology of learning, and the effect of environmental factors also had a strong impact upon the new direction of kindergarten education. In describing kindergarten methodology and philosophy many terms had lost their meaning value due to a lack of definiteness. Writers have attempted through language analysis to clear away the dead wood of vagary and sentiment in order to discover, as Dewey proposed, "the steps that intervene between the child's present experience and his richer maturity". Bruner (6) and Phenix (58) offered a curricular pattern of the spiral organization based upon the key concepts within the structure of the disciplines. Connors and Talbot (11) and Fowler (21) demonstrated the specifics of structuring for the young child. In short, the number of studies concerning the young child precluded only superficial treatment and space permitted only broad implications.

The first step was to clarify some terminology concerning growth, maturation, and development. Willard C. Olsen agreed with others that the use of "growth" for development of certain types of learning served no useful purpose in scientific discourse. On the contrary, the use of this term led to vagueness or abiguity (30). However he did attempt to give more meaning to several useful terms.

"Child development" has been used to describe a field of research covering the (entire) period of physical and mental immaturity. "Maturation" was confined frequently to sequences and patterns which were innate. Users of this term recognized the fact that the nervous system anticipated a new function. Environment did not create the function. Progression was assured by internal factors. Environment supported changes but did not generate them. "Nurture" described the total impact of environment requisites as food, inevitable natural experience, intricacies of planned experience, and the subtleties of social and emotional relationships. "Development" was the end product of maturation. "Maturation" was the distance or progress toward the mature state of the total individual. Olson summed up "growth" as referring to "changes that occur with time, sequence, and order of developmental events" (30, p. 373). Rate of growth implied that the individual became progressively modified as the result of stimulation. This property of the living organism was called "learning".

Gesell used the term "growth gradient" which he defined as, "series of stages or degrees of maturity by which a child progresses toward a higher level of behavior." He more specifically analyzed both maturity traits and growth gradients in ten behavioral fields: (1) motor characteristics, (2) personal hygiene, (3) emotional expression, (4) fears and dreams, (5) self and sex, (6) interpersonal relations, (7) play and pastime, (8) school life, (9) ethical sense, and (10) philosophic outlook (26).

At the Gesell Institute, Francis Ilg and Louise Bates Amee analyzed growth in terms of behavioral levels which gave cluee to school readiness and grade placement (35). Normand Adair and George Blesch developed the ABC Inventory for kindergarten readiness in much the same faehion.

This brought one to the term "readiness" (the budding). Goode clarified the meaning of this word by definition. First, it was an age at which the average group of individuals have a specified capacity, e.g. reading readiness, school readiness, etc. Secondly, it was a willingness or desire to engage in a given activity. This attitude depended upon the ability of the learner, hie level of maturity, his previous experience, and his mental and emotional set (27, p. 443).

If Oleen'e postulates of development and growth were accepted, learning became identified with intellectual growth. This was the original purpose of Froebel'e kindergarten. In analyzing "learning," educators turned to Piaget. Although hie studies were done thirty years ago, psychologists today recognized their empirical validity. Piaget postulated intelligence developed from the cradle to the grave. Child's thought was not a formless hodgepodge of facts and fallacies, but in itself manifested succession of ways of thinking about the world. Piaget euggested four etages: (1) seneori-motor (birth to eighteen months), (2) preoperational (eighteen monthe to seven years), (3) concrete operational (seven to twelve years), and (4) propoeitional thinking (twelve years and beyond) (34).

In kindergarten attention was focused on the second stage in which the child did not use logical thinking but made judgments in learning of how things looked to him. In this stage, however, he will begin two logical operations: (1) additive composition--the process of putting together the elements that make up a set of facts, and (2) identification--the process of comparing sets. Later on he will add two more properties of logical thinking, associativity and reversibility (34).

For Piaget intelligence was not fixed at birth. Rather it was a form of adaptation that was characterized by equilirium. The struggle for equilibrium involves assimilation and accommodation. In assimilating information, a child sets the existing equilibrium. He must accommodate the old structure to the new so that equilibrium is restored (33).

Once logical thought processes were analyzed into stages, the question arose: Can the growth of logical thought be speeded up? One educator commented that kindergartens do a good job in helping children adjust to group life and in providing creative activity. But they have not quite known what to do to stimulate intellectual growth.

Joseph Hunt believed that the child's intelligent quotient could be raised if the right environment were provided. He pointed out that the child's natural environment is too haphazard or not sufficiently prolonged for efficient development of those strategies (systems for information processing) of which the child is actually capable (40). Jerome Bruner

suggested, as do the Montessorians, one can teach anything to children of any age if you have the right mode of presentation. With the young child he advocated the use of concrete materials (34).

Learning sets suggested the possibility of teaching the young "how" to learn. Beginning learning involved: (1) cognitive units including perceptual schema and language units, (2) cognitive processes, (3) determinants of attention, and (4) motivation (mostly curiosity but also self identification and a drive to competence) (32).

The acquisition of language was a central feature of the child's intellectual development. In this area studies pointed out ways of elaborating telegraphic speech. In the evaluation of language, speech first served a social function. Later it became internalized as the instrument of thought. The modes of thought preceding the use of language were sensorimotor acts and images. The symbolic mode (language) offered the greatest possibilities for manipulation. Adult models appeared to influence a child's language (61).

Educators also spoke of keys to learning. Of these kindergarten was concerned with: (1) sensory training, which has been stressed since Froebel's time, (2) attentional factors, which might be the most important of all and deserved more scrutiny, (3) spotting similarities in a sea of differences, which merited more attention, (4) labeling, which involved vocabulary, (5) categorizing, which could be put to

use more effectively in early science teaching, and (6) having things make "sense" to the learner, which involved readiness (33).

In this analysis of intellectual growth the following factors related to the young child: (1) Intelligence is the ability to solve problems--not a unitary faculty. It may be defined as the techniques that a child acquires for processing information furnished by his senses (40). (2) The child is not born with a ready-made intelligence but only with an intellectual potential. (3) He literally learns how to learn. How well he succeeds depends on the information-processing abilities he acquires through early experience (40). (4) Mental development is most rapid and most subject to modification during the first five years. (5) Tho child becomes stunted intellectually if he does not acquire strategies and perceptual schema within the first five years or at least by seven. (6) The young child uses the same strategies as the adult qualitatively but not quantitatively. (7) The child goes through a series of stages in his progression toward intellectual maturity (34). (8) At each stage the child's structure of thinking assumes a stable form, and the organizations are pervasive. (9) The rapidity with which a child proceeds through the Piaget stages depends upon the richness of his environment. (10) The young child is limited by ignorance of adult modes of approach (learning sets) rather than his own anatomical or physiological development (34). (11) The child

of four and five years has the intrinsic motivation of curiosity and the capacity to instruct himself (33). (12) Early acquisition of language, as a symbolic mode, will speed up learning.

Research has added the concept of psychological ecology to the methodology of naturalistic observations (2). This effort showed promise in the building a science of behavior of children (the Montessorian dream implemented further by Gesell). The role of teacher has been explored but needs more study. Bruner's method of observing first and working toward a learning theory through the theory of instruction presented possibilities and was certainly attuned with Montessorian thinking. Bruner's suggestions for auto-education and manipulation also echoed Montessori.

Studies concerning the disadvantaged child pointed to the parallel between the deficient and the normal child (another Montessorian concept (52). There was agreement on the success of pre-school education. This led to organizing of pre-kindergartens in a few areas. Wise educational policy would call for further exploration. Deficiencies in current research were likely to encourage premature action or abandonment of certain programs. Neither of these actions was warranted (14).

Definition of Pertinent Terminology

Play. The reporter found writers were attempting to

clarify the term "play", and to define it in more precise terms. There have been several theories of play (46). The rehearsal theory of Karl Groos, derived from the study of animals, postulated play as a growth mechanism. The recapitulation theory of G. Stanley Hall explained play as a repetition of man's cultural progress. The superfluous energy theory viewed play as a means of "letting off steam". More recently the theory that considered play as an educational research activity has been supported by several educators. They described play as a spontaneous, creative, and desired research activity carried out for its own sake. Although the previous theories had descriptive merit, the writer of this study would recommend the last theory because this postulate described the first step in the creative process, and was applicable to both adults and children. Another confusion arose when child's play was not distinguished from the common conception of adult's play. Childhood educators (28, p. 20) made this distinction:

> An adult plays specific games at specific times with specific people and does not always derive enjoyment from his participation governed by highly specific motives or constrained by surrounding mores ....Specific games at specific times is not child's play.

These writers (28, p. 21) further expanded the meaning of child's play by describing such play as extensive manipulation and self-initiated examination; thus play becomes the child's method of differentiating within himself and among

the objects of his world. Increasing knowledge of the outside world is isomorphic with increasing knowledge of self. Therefore, play would become the child's way of relating himself to his world and in so doing he is provided the means of developing his self concept. Such elaboration of the research theory added the dimension of internalization and its contribution toward growth of self.

"Play is the child's work" was found to be a common cliche' in literature. Max Lerner (43) recommended that redefinition of work and play is imperative in the development of identity within personality. He defined work as part of the American ethos and referred to the belief in earlier times that work was worthy, ennobling, and something that gave meaning and fulfillment to the person. This has been replaced by the job concept which he defined as "something you give as little of yourself as you can, that you try to get as much for as you can, and that you try to get away from as soon as you can." Lerner defined play as more than fun. Play involved "the total expressiveness of the mind, body, and spirit; a sense of joy in the exercise of the mind, body, and spirit; and a recapturing of man's relationship toward the natural universe of sight, sound, and color."

The writer noted that when the words "work" and "play", as defined by Lerner, were used in the classroom, the children appeared not only to conceive Lerner's concepts but also to

be happier and more satisfied with their own effort and worth.*

Margolin (46) questioned viewing work and play as opposites. She proposed that play may become work along a continuum with two polarities, play and work, and involves a change from the process to the product. She analyzed work and play in six dimensions, each representing a quality and developed six continua as a guide for studying children's experiences. These dimensional qualities were: (1) energy, (2) clarity of goals, (3) external symbols of evaluation, (4) types of skills used, (5) satisfactions acquired, and (6) suspension of judgment.**

The term, "dramatic play", was found pervasive in literature of early childhood. Ward (76) defined this type of play as an aspect of play making in which the child "tried on life" by putting himself in the place of any grownup who catches his interest; to say nothing of all the animals and inanimate objects he was quite likely to become. His make-believe was his interpretation of the adult world around him

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*Little children come to school with a "bag full of ideas" which they have been busily collecting prior to kindergarten entrance. Some of these ideas are misconceptions and some are hazy and vague. One idea they bring is that school involves work, and the necessary tools are pencils, crayons, paper, and books. When the teacher talks only of games, toys, fun, and play, they become disappointed, frustrated and their sense of self-esteem is lowered.

**See Appendix A.

and his means of setting the boundaries between reality and unreality. Ward further emphasized that "dramatic" play was the first step in creative dramatics because role-playing was prominent and no plot was involved. Wann (62) further distinguished "dramatic" play from manipulative play which is neuromuscular kinesthetic activity and is less symbolic than "dramatic" play. Both are learning mechanisms, but neither has all the elements for conceptual learning.

In summary, play at kindergarten level may be defined as: (1) primarily a research activity either dramatic or manipulative, (2) involving a sense of freedom and joy in mind, body, and spirit, and (3) operating on a continuum between two polarities from play to work.

Curricular Concepts

The three curriculum theories that have governed the choice of content at kindergarten level in the past have been: (1) the emerging curriculum, (2) the broad curriculum, and (3) the developmental curriculum. The emerging curriculum idea insisted that only those experiences which "emerge" from day to day living will have meaning to children (62). This approach led to the incidental, haphazard, and accidental basis for content selection. The broad curriculum supposition proposed all content was significant and stressed quantity rather than quality of content. The developmental approach considered the social, physical, and emotional growth as the ultimate goal,

and content was largely removed in early childhood education by the protagonists.

The "core" curriculum, which centers on problems and blocks of combined subjects, has not been considered to any great extent in the past as a kindergarten curricular design. However, recently some evidence appeared that various areas such as science, social studies, language, speech improvement, etc. were being labeled as the "core". Arrangement of content around large problems seemed to be lacking.

Studies (11) (62) at the Teachers College at Columbia University demonstrated the effectiveness of a new design, structured curriculum. One technique used in organizing learning experiences was "discrete episodes" (62, p. 16). The episodes were periodic and extended over a long period of time with no regularity of timing but with provision for revisiting ideas in different contexts. Connors (11) employed a more formal structuring of a sequential and continuous series of encounters paced to the individual's ability to progress.

All these curricular designs made definite and worthy contributions to early childhood education. Furthermore, these contributions can be incorporated into the structured proposal (made by the writer) in such a manner that the values and advantages of each can be expanded and actualized more effectively.

The proposed spiral plan provided breadth of content (broad curriculum). Longitudinal growth was paced by gradients

and the curricular process theory incorporated the goals of the developmental curriculum and at the same time acted as a catalyst to synthesize the key concepts of the disciplines. Learning by "discrete episodes" utilized the immediate world about the child and his daily experiences (emerging curriculum). The already existent patterns of content organization, the teaching unit and the resource units, could be of valuable assistance in developing "core" emphasis and in providing materials, objectives and ideas for the development of key concepts.

Structured Curriculum. Further elaboration of the definition of the terms "structured" and "structure" was deemed relevant to the purpose of this study.* Goode (27, p. 528) defined "structure" as a framework of expectancies and limits in a situation, and "structured" to a device set up or handled so that the variety of responses which a subject can make is limited. Therefore, this study proposed that subject matter be simplified into key concepts or the root learning of knowledge and be presented in planned sequence levels proceeding from the simple to the complex thus providing a "structure" of knowledge within the curriculum. In opposition "unstructured" implied a lack of logical order or organizational pattern and chance selection of subject matter with little or no evaluative criteria. The purpose of "structuring" was to expedite the understanding of key concepts and the acquisition of basic skills unique to the various disciplines involved.

*For specific example see Appendix B.

Bruner (7) characterized the structure of any domain of knowledge by: (1) mode of presentation, (2) economy, and (3) effective power.

Several researchers in early childhood presented an elaboration of how to structure at kindergarten level. Fowler (21) described structuring as: (1) patterning of the external world, and (2) organization of the child's mental processes in schemata. Meaning has its basis in terms of the close and ordered relations of mental structures to reality structures. Classificatory structures are constructions of the mind based on similarities and regularities among objects. He reaffirms Bruner's contention that any domain of reality can be defined and presented. Fowler added that the closeness to the child's interest is secondary because teacher technique may arouse interest. He used four sequential levels: (1) gross perception of object and function, (2) relation of parts to the whole, (3) ecological relation to other aspects of environment, and (4) classificatory activities. The techniques employed included discovery, play orientated activities, manipulation of pictures and miniature objects with emphasis on reinforcement at each level, pacing to each child's rate and style, and balancing through wider inquiry.

In reviewing research on how children learn, structuring appeared to be the best solution for introducing the key concepts of the disciplines and to promote intellectual growth. But, as Fowler, pointed out, <u>over-simplication</u> is likely to

stultify teaching style and inhibit curiosity and exploration of the structure, and thus defeat the major educational goal, i.e., the active manipulative research role of the child. He also stressed that sequencing should not minimize the importance of emotionally supportive teaching attitudes and flexible teacher styles or the value of dramatic play activities and games. He did raise this question, "Can systematic programming re-orient non-cognitive learning styles and sets so ingrained at three years?" (21, p. 91).

MODEL FOR STRUCTURED CURRICULUM AT KINDERGARTEN LEVEL

Description of the Model

The base of the model indicated the child before birth; the solid areas suggested what was empirically known and the spaces what was still unknown. The content of knowledge was formed by threads preceding upward in spiral formation. The spiral was held together by horizontal structures of ever-increasing length. These structures indicated the processes involved in the acquisition of the content of knowledge. Two threads represented the disciplines concerned with communication through language and aesthetics. The other two threads signified science and its tool mathematics. The horizontal blank sheet (Locke's favorite analogy) was the sum total of the school's knowledge concerning the child at kindergarten entrance. By assessment through inventories, screening tests,

and case histories, the school fills this blank sheet with a picture history of what lies below or preceded school entrance. The vertical stakes represented the first level within the school sequence (K-12). The model was designed to suggest a normative sequential schema for kindergarten as a whole, but the individual child's progress could be described by a similar construct. However, the dimensional pattern would become irregular and lack the symmetry of this normative construct. For example, if the child were advanced in science this thread could either widen horizontally or extend singly into the next graded level of spiral coils. The strength of the structure relied upon the horizontal bars or the process. If these bars were shortened or parts absent, the breadth of the spiral turns would be narrowed or the solidarity of the structure would be impaired.

Ten people were interviewed to test the usefulness of the model and ability of the model to communicate the designer's purpose. These persons were chosen from all levels, kindergarten through college. In all cases the model was found to communicate, but as a stimulus to further thought, the responses exceeded the designer's expectations. The nearer the observer was to kindergarten level in school years sequence the more meaningful the model became. The persons at high school and college level tended to concentrate on specifics rather than the model as a whole. The reporter concluded such a model could serve a useful purpose as a visual aid in curriculum building.

Figure 1 A Curricular Model for Kindergarten

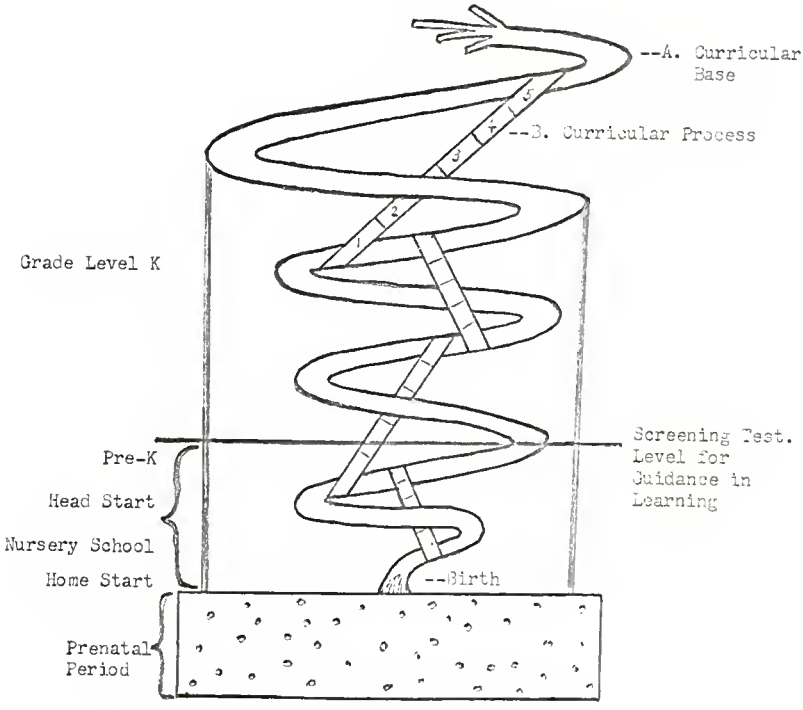

FIGURE 18

CURRICULUM MODEL FOR KINDERGARTEN

A. Curriculum Base
   1. Communication through Language and Aesthetics (music and visual arts)
   2. Science (Social Studies, physical biological science, mathematics)

B. Curricular Process
   1. Creativity
   2. Thinking Skills
   3. Social and Emotional Maturity
   4. Motor and Manipulative Skills
   5. Self-Help Tasks in Daily Living

It seemed appropiate to present a curricular model to the kindergarten teacher who, from kindergarten's earliest conception, has dealt with concrete object lessons and who has drawn analogies from realistic manipulative constructs to give meaning and order to the child's world. The classroom teacher, who has been beset on all sides by a deluge of media, materials, research, and academic workbooks needed direction to give her pedagogical world meaning and order.

Theoretical Base for the Model

The assumptions upon which this model was based were:

1. Intellectual growth (Froebel's original intent) is the primary goal of kindergarten education.
2. The child learns by doing and the closer to real life experience the more effective is the learning (Dewey). However, all doing is not progressive learning; it may be static or regressive. Doing should be oriented toward progressive learning for economy's sake.
3. Structured learning provides self-motivation and reinforcement (Montessori). Planned environment and the teacher as the programmer are essentials of structured learning.
4. Child in his culture concept (Gesell) is a worthy one provided culture is not viewed as static norms.
5. Development of self, social, emotional and physical,

is desired but should be a secondary goal and should be based on realistic assessments of potentials and deficits.

6. Language and research analysis is pertinent to reconstruction of the curriculum.
7. The process does not take precedent over content because this implies the process could be operant in a vacuum.
8. The description of philosophic base should be broadened from "seed" analogy to education as an art and a discipline.

Rationale for the Organizational Schema of the Model

The writer began the development of the theoretical basis for this conceptual design by observing children in their growth in learning within the traditional broad, emerging and developmental curricular patterns over a period of many years. Bruner and others have proceded in this manner toward a theory of education. On the other hand, Rousseau, Froebel, and Dewey developed a theory logically from a metaphysical philosophy. At the same time a numerous gourp, Gesell, Bloom, and Deutsche, by tedious and careful research empirically tested data concerning early childhood. To this knowledge was added the work of psychologists like Piaget and a host of others in the behavioral field. All these approaches had merit and reinforced each other.

As these observations were made by the writer within the ecology of the classroom, each was analyzed in terms of philosophy, empirically tested data, and psychology. On the basis of this analysis teaching strategies, media, materials, and types of content were incorporated in teaching procedures in specific subject matter areas such as, science, mathematics, music, etc. More precise data was gathered by anecdotal notes, experimental and pilot studies on many small problems. Ilg and Bates (35) found the kindergarten teacher's judgment and evaluations agreed with those of research to an acceptable degree of reliability. The reporter found many conclusions intuitively made confirmed by reliable research.*

Passow (71, p. 369) pointed to the abyss between theoretical research and applications to classroom practice in a period of massive social change. With the increase of mass media of communication, changes in growth patterns of children, and explosion of knowledge this "abyss" was even more apparent to the writer who was daily involved with children in the classroom. Tyler (71, p. 369) recommended that many of the decisions concerning curriculum content be integrated as operational hypotheses; otherwise there would be danger that such decisions were not in harmony with the best thought of

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*One example was the man test, as an indicator of intellectual growth. Some 330 studies were found in this area to justify its use.

our culture. According to the National Committee of the NEA Project on Instruction in 1963;

> The problem of curriculum organization had been confused by an unreal dichotomy between the so-called "logical" ordering of knowledge and the psychological effects on the learner. The objective should be to secure a logical scheme of organizing knowledge so that learning outcomes would be psychologically most desirable (71).

The next step in this study was to visualize "a logical scheme of organizing knowledge so that learning outcomes would be psychologically most desirable." By re-analyzing all research and classroom teaching experience, the pattern for a conceptual schema became clearer. Not only must the base by synthesized with the process but also must incorporate continuity and provision for change. At this point Froebel's "flower" analogy seemed an inadequate ideational vehicle for expressing the direction and the expansion of modern kindergarten theory.

Research has been most critical of efforts to present models for curriculum. Sherif and Nebergall (1965) regarded such attempts as having little or no concern for their correspondence with the world of actualities they claim to theorize about (71, p. 366). Reitman (1964) raised a question as to the point at which a theory becomes so complex as to render it useless as a scientific tool. He also pointed to the failure of models to fit the ground rules of experimentation (71, p. 366). However, Maccia and Jewett (1963) observed that models have been employed successfully in

theory development in the physical, biological, and behavioral sciences; and, that they formulated a variety of constructs for education from graph theory, general systems theory and quantum theory (71, p. 366).

Therefore this study proposed a tentative construct to assist both the curriculum worker and the classroom teacher to clarify and expand organizational schema. No conclusive research evidence was found concerning the failure of such a model to accomplish this stated purpose. An effort was made to overcome the criticism of previous models by justifying each step in its construction by research, by statements of authorative educators and by testing within the ecology of the learning environment.

SUBJECT MATTER AREAS IN THE CURRICULAR BASE

The curricular base has been defined as content within the subject matter areas in the elementary school. The broad categorical areas were labeled communication and science. Communication included language and aesthetics. Communication through language was divided into language arts and speech. The divisions of communication through aesthetics were music and visual arts. Science included social studies, physical and biological science and the essential tool of science, quantitative thinking or mathematics.

These categories were selected because of similarities of basic ideas and processes within the disciplines concerned and

to promote a focus of attention to broader synthesis of knowledge as opposed to many separate entities for the purpose of facilitation of learning and economy in the acquisition of knowledge operant as a whole within the daily living of the individual.

Language Arts

Language arts included preparatory reading, literature, and manuscript writing.

Preparatory reading. In language arts the chief controversy concerned the teaching of reading in the kindergarten. Smith (51) has compiled 48 studies against organized teaching of reading. Fuller (24) in an extensive survey stated that omission of reading experience or a laissez-faire attitude toward reading in the kindergarten is no longer defendable. She proposed individualized instruction adjusted to the child's general maturation level and attitude toward reading.

McKee (49) demonstrated that the average youngster can profit from reading instruction in kindergarten, but the permanence of these gains depend upon the adjustment of instruction at subsequent levels. This six-year study (1960-66) included four thousand kindergarten children in the Denver Public Schools. The instruction was structured in sequential activities based upon the commonly used 22 speech consonants. Through letter-sound associations and oral context, the child acquired skill in identifying words. In conclusion McKee

commented: (1) that reappraisal by school administrators of what constitutes appropiate kindergarten education is necessary, (2) that teachers would do well to inaugurate informal research within their classrooms in order to determine what is possible with the children they teach, and (3) that through such efforts and through carefully planned research the emerging role of kindergarten may be defined.

Durkin (51) found that intelligence was insufficient for predicting reading achievement and that the lower the IQ of the early reader, the greater the advantage was his early start in reading. She also found children do learn to read without formal instruction. Durkin recommended an exposure curriculum based on the words the child would meet most frequently in beginning reading.

In a research summary Prater and Mason (47, p. 487) reported:

> Obviously children can and do learn to read before entering school. The majority of these early readers were taught either intentionally or unintentionally by some family member or friend. Most of them were bright children, but apparently the environmental stimulation of interest and provision of aid can enable a child of less than average ability to learn to read before reaching school age.

Prater and Mason (47) concluded that: (1) young children make slower progress, (2) reading readiness is better described as early reading progress, (3) the best beginning age depends upon the instructional materials, class size, pacing of program, and teacher expectancies, (4) control of attention

is apt to be difficult, and (5) instruction should be geared to the child's ability to learn and to the amount of previous learning.

The reasons the classroom teachers did not wish to inaugurate formal reading programs were several. In the first place, a formal reading program was a sedentary process. Kindergarteners had an active manipulative and exploratory and quasi style of learning. Their attention span was short. In other words, they would not sit still and attend long enough to learn to read. Secondly, the teacher did not know how to present this discipline in a mode suitable to this style and level of learning. Thirdly, the teacher would have to delete other subject matter (e.g., conceptual learning, social and emotional development, daily living skills, etc.) in order to add reading to the short schedule of two to three hours. In the fourth place, kindergarten classes have been far too large to make a reading program possible or effective. In experiments the children were taught individually or in small groups.

The next problem in early reading appeared to be the definition of "reading readiness" and operational definitions of "reading instruction". In 1936 Lucille Harrison, a consultant and writer for the Denver Project (1960-1966), was the innovator of the term "reading readiness"which referred to the stage preceding the formal basal reading book program. In her book she outlined a seven point program which, in essence,

varied little from current objectives. The term "reading readiness" was a useful one in this early period because it alerted teachers to many neglected developmental needs. Since "readiness" has been defined as an age and a desire and is operant at all stages of reading, the term "reading readiness" as applied to kindergarten will need a more descriptive substitute.

The writer, in an earlier study, substituted "preparatory" for readiness because "preparatory" was more definitive and functional in the scope and sequence of a K-12 school program. This proposed structured approach to preparatory reading differed from the traditional reading readiness program in that the scope was wider and the sequential levels extended two steps higher and one step lower. The materials and activities were structured from the simple and concrete to the complex and were sequenced. The emphasis shifted from the incidental to a definite program with time allotted in the daily schedule. Ernest Horn* has made this apt observation, "If you wish to emphasize a subject in the curriculum, teach it directly. If you wish to under-emphasize it, teach it incidently."

Four sequential levels were posed for consideration: (1) developmental stage, (2) symbolic stage, (3) decoding stage, and (4) reading stage. This concept model** provided

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*Comment was made to the reporter during a private interview in 1940.

**See Appendix C for more complete detail.

both depth and width to the preparatory reading program as well as sequence. Stage one, developmental, provided the framework for Head Start and for pre-kindergarten and defined deficits. These deficits may demand attention even through the higher levels. For example, a speech defective may continue to work on the developmental level even though he knew a number of sight words. A child may read a primer fluently yet lack adequate science or quantitative concepts. Another child on the decoding level may lack a desirable self image. Thus a child at a high level in one aspect may also be at a low level in deficit areas. The broad areas of the developmental stage were: (1) socialization and self image, (2) growth of language, and (3) acquisition of concepts of the physical and social world. This beginning stage emphasized many goals of the traditional reading readiness program with two differences, a focus on testing, an attempt to analyze more accurately the developmental needs of the individual child, and a more specific approach to assist the child to grow.

In the symbolic stage, the child began to connect the relation between the written symbol and the spoken word; and the auditory and visual discriminations moved out of the picture stage. The reporter noted that the use of symbols other than letters appeared to reinforce learning to read during this stage. In mathematics the recognition of numerals and the concept of sets were reinforcements as well as music notation

in learning to play the piano.

When the child reached to decoding stage, he began to acquire ways of decoding (i.e., context and picture clues, phonics, word analysis, spelling, configuration, etc.). A screen or wall Pictionary proved an excellent learning aid in developing an exposure vocabulary at this period. The fourth stage gave recognition and enrichment materials for the few who had learned to read at home or during the school year or who could learn to read a pre-primer with a little help.

This concept model of preparatory reading was found not only compatible to the broad curriculum concept, but also was made possible by the flexibility, the learning climate, and the experiental base of the broad curriculum approach. At the same time vertical growth on the spiral organization was encouraged and facilitated.

Literature. Current trends in 1967 stressed literature in the kindergarten program for these reasons: (1) to promote growth of language power (ideas), (2) to stimulate imagination, (3) to enrich and increase vocabulary, (4) to create a desire to read, and (5) to develop a taste for and an appreciation of worthwhile literature. The following statements summarized the general attitudes toward literature:

> There is a field of literature for kindergarten children....It should include the best of the old, tried and tested materials and a wise sampling of the more recent publications (20).

> Through literature a child comes to know that books are one of the great inventions of man through which he shows his ideas and feelings, his aspirations and dreams, his doings and his knowledge (55).

New impetus in poetry was noted. Not only was more poetry published but also, in form and style, this contemporary poetry was more appealing to the child because it was shorter and more economical in words and because it came closer to the young child's thought and speech. Criteria have been suggested from children's own verses: (1) imagery, (2) action, (3) rhythm, (4) musicality, (5) independent sentences, (6) more verbs than adjectives, (7) word play, (8) good poetic style, and (9) nonsense verse.

The level of literary interest has advanced. Kindergarten children demanded more mature literature. The "Here and Now" stories of Lucy Sprague Mitchell and the simple daily experience stories of Dorothy Baruch contained little flavor or interest to them. Fairy tales, witches, real-life stories and adventure were more to their liking. Many children became familiar with advanced classics through television.

The crucial problem was the selection of worthy contemporary literature.* About 2,000 new children's books flooded the market in 1966 as compared with 1,200 in 1961. Many books were trivia; with a limited budget and increased cost of books a real problem of choice arose. Several authors have tried to analyze "classichood". Maurice Sendak said that "classic"

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*See Appendix D for criteria.

was a much abused word and had practically lost all meaning. Crackett Johnson believed a children's classic needed to delight both children and the discriminating adult. Don Freeman suggested the ingredients of a classic might be clarity, simplicity, and believeability.

The writer would suggest that the secret of appeal lies in the characteristics of the folk tale which has stood the test of time. These magic keys would be: (1) interest is caught in the first few sentences, (2) little or no description, (3) action is continuous, (4) simple plot leading to a climax, and (5) ending is satisfying and abrupt.

Any worthy classic could be rendered tasteless and dull by poor teacher presentation. Perhaps this was the reason research found the only significant factor positively related to the success of the kindergarten teacher was ability in speech (31, p. 46). Records of stories by qualified artists and telelessons have become available and could be used to compensate the teacher's inadequacies in presentation.

In 1961 the writer compiled a list of one hundred books suitable for kindergarten. Only books of literary quality were chosen, and the 1961 list was selected on the basis of appeal to the child during a five year trial period. This list was then compared to six other lists in 1966. Three testbook lists (Rudolph and Cohen, Harrison and McKee, and Headley) and three lists from curriculum guides (Iowa, South Dakota, and Colorado) were used.

In TABLE I there appeared to be little agreement on kindergarten classics. Only one book, The Tale of Peter Rabbit was selected by all. The Headley List agreed with the Roebke List with only one exception. There was over 50 per cent agreement between the Colorado Guide and Harrison-McKee List with the Roebke List. However, these two lists agreed with each other on only four books. Headley agreed with Harrison and McKee on the choice of ten books. Marjorie Flack was the most popular author with Margaret Wise Brown as second choice. All sources agreed on Mother Goose but only Headley and Roebke on the same edition (Piper); therefore this book was not placed in TABLE I.

This study was made because no research concerning children's literature could be found. The writer concluded (1) Little agreement appeared among educators and teachers as to the best books for kindergarten. (2) Analysis of The Tale of Peter Rabbit might offer clues for evaluation. (3) Educators and teachers appeared to agree with the criteria used for the Roebke List. (4) The twenty books in TABLE I could be accepted as the choice of educators and teachers until further research was completed.

Manuscript writing. Marjorie Wise in England published one of the first studies of manuscript writing in 1930. In 1933 the writer made a study at first grade level concerning the ease and speed of learning manuscript and again, in 1938, pertaining to methods at the same level. When manuscript

TABLE I

TWENTY BOOKS FOR KINDERGARTEN SELECTED FROM THE ROBBKE LIST (1961) ON THE BASIS OF APPEARING TWO OR MORE TIMES ON TEXTBOOK AND CURRICULUM LISTS (1966)

BOOKS	TEXTBOOKS			CURRICULUMS			TOTAL
	Cohen Rudolph	Harrison McKee	Headley	Iowa	S.D.	Colo.	
Adelson, Blowaway Hat			X			X	2
Bailey, Rabbit Who Wanted Red Wings		X	X				2
Bannerman, Little Black Sambo	X		X				2
Brown, M. W., Golden Egg Book		X	X	X	X	X	5
_____, Country Noisy Book		X	X				2
_____, Indoor Noisy Book	X	X					2
Fatio, Happy Lion in Africa		X	X				2
Flack, Angus and the Ducks	X	X	X		X	X	5
_____, Angus and the Cat		X	X			X	3
_____, Tim Tadpole & the Great Bullfrog		X	X				2
_____, Ask Mr. Bear			X	X		X	3
Gag, Millions of Cats	X		X	X		X	4
Heyward, Country Bunny & the Golden Shoes		X	X		X		3
Leaf, Story of Ferdinand	X		X				2
Lenski, Cowboy Small			X			X	2
_____, Papa Small			X			X	2
Lindman, Snipp, Snapp, Snurr, & Red Shoes		X	X				2
Petersham, Circus Baby			X		X	X	3
Piper, Little Engine that Could			X	X			2
Potter, B., Tale of Peter Rabbit	X	X	X	X	X	X	6
Totals	6	11	19	5	4	12	

writing was introduced in America, the blackboard was used for beginning instruction. Since that time blackboards (a popular learning aid with the children) have been deleted from classrooms and children of kindergarten age are required to use crayons or pencils daily in some places. Many reversal tendencies were noted among these children as soon as they passed the copying stage and could print from memory. The cause of these tendencies, blackboard printing, methodology, and several other phases of writing bear more scrutiny in research.

Speech

Recommendations that oral language be taught by integration was pervasive in literature. Loban stated, "Instruction can do more than it has with oral language. Many children who lack skill in using speech will have difficulty in mastering writing" (44). He called attention to pertinent points concerning English: (1) Language is speech. (2) The vital means of communication between people is speech. (3) Speech consists of sounds organized into a system for human communication. Speech conveys meaning by voice, stress, and pause. (4) Writing is a record of speech through visible marks. (5) Children lay the foundations of learning their native language in preschool years. (6) Children learn the sound system and grammar of their language by oral experiences only. (7) By the time children go to school, they know how to use

and understand their language*, within a limited vocabulary. (8) In school (beyond kindergarten), children learn essentially to read and write and expand their language patterns.

The writer contended that if speech is of such prime importance, it should be segregated as a discipline in its own right and not be treated as a step-child in the language arts program. Therefore, the speech program should have specific objectives and should focus instruction toward the attainment of: (1) meaning skills, (2) sound skills, and (3) social skills, as a solution to better instruction. The writer would suggest the inauguration of a speech improvement program which would emphasize: (1) improvement of articulation and language perception, (2) introduction to phonetics, (3) increased vocabulary and fluency output, (4) oral composition, (5) uses of speech as a means of communication in varied social situations, (6) creative dramatics, and (7) effective interpretation of literature (stories and poems) by children and teacher.** The importance of effectiveness of interpretation of literature was discussed in the previous section of this study.

Several studies have proved the structured program in speech was superior to the incidental, unplanned program. Bryne in 1962 reported significant gains in speech improvement

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*This has not always proved true. Many children are handicapped in speech and language perception.

**For guides to interpretation see Appendix D.

when a syllabus was used to guide the classroom teacher (8). The Bryne Project was both comprehensive and carefully executed. It included 53 kindergartens and first grades in Kansas and covered a three-year period.

Stoia and Reeling in 1967 reported significant gains in speech improvement in a disadvantaged Head Start Class of 45 children when a six weeks structured program was used. The gain was considered even more significant due to the brevity of instructional time. In this study much emphasis was placed on the curricular process (70).

In 1967 the writer, in an Action Research Project in Unified District 379, Clay Center, Kansas, found even greater gains in improvement of articulation than those of the Bryne research. The Roebke study included three kindergartens with two control groups and one experimental group. In one control group a weekly telelesson was used. The experimental kindergarten had the same telelesson and four structured speech lessons each week. In this way partial structuring of the curriculum could be compared to total structuring; also the media of television could be evaluated. The control group with one weekly telelesson showed more articulatory improvement than did the control group without television. In addition to articulatory skills, the Clay Center study attempted to measure fluency in speech output in words and sentences.

Although this action research included only 65 cases, the descriptive and quantitative data appeared sufficient to

merit and support the following conclusions: (1) A structured speech improvement program can produce a greater gain in articulatory skills and in fluency in speech output, in terms of words and sentences, than the unplanned incidental program. (2) The media of instruction did not appear as closely related to gains in articulation and fluency as did the time allotted to the structured program. (3) Telelessons, as a media, appeared to be more effective in improving articulation than they were in increasing fluency in speech output in words and sentences.

Visual Arts and Music

Visual arts and music, in this study, have been classified as forms of aesthetic discipline, each being a form of communication. Dewey explained:

> Every art communicates because it expresses. Communication is not announcing things but the process of creating, participation, making common what has been isolated and singular; and part of the miracle it achieves is, in being communicated, the conveyance of meaning gives body and definiteness to the one who utters as well as to that of those who listen (12, p. 244).

Rowen (64, p. 47) in a study devoted to developing aesthetic concepts pointed out:

> The communication of feeling in the arts takes place through the creation of expressive forms. Basic structural elements exist in all of the arts....These structural elements play different roles in the various arts, but they appear, in one way or another, in every work of art which achieves organic unity and has expressiveness.

Rowen's premise was that if common elements of basic structure exist in all of the arts and if there is a way of working and a set of attitudes common to all of them, then aesthetics can be considered as a "discipline".

The next problem appeared to be the defining of "aesthetic". The principles of aesthetics have been described by Van Cleve Morris (73) as: (1) integrity, (2) proportion, (3) consonance, and (4) radiance and clarity. Rowen used key concepts and structural components. She discussed art as: (1) expression of essential quality, (2) relation of content and form, (3) immediate experience, (4) symbolization, and (5) comprised of basic elements (components). These structural components were further analyzed as: (1) theme, (2) pattern, (3) rhythm, (4) quality of sensory perception, and (5) dominance. These elaborations provided a more meaningful understanding of aesthetics.

Research that has been done in music and art was produced by scholars outside the disciplines in most cases. By virtue of the psychological and personality traits of those employed within the disciplines there appeared a tendency to scorn or ignore a scientific approach to analysis. As the result, research has lagged in these fields and precise agreement was obscure. The flagrant use of the term "creativity" impeded the analysis especially in visual arts, and therefore was further analyzed in the curricular process.

Music. The paucity of specific research studies left no alternative than to state a few generalized findings and to describe the several approaches that were found to be effective and endorsed by authorative and skilled musicians. Several misconceptions (9) were apparent. The young child does not have a high-pitched voice; his singing range is most comfortable between middle C and G. Also his sense of rhythm develops slowly and often is not sufficiently mature to coordinate with precision in activities such as marching and skipping. Another misconception is that the young child prefers the major keys. They can sing folk songs with great ease in the Dorian and Mixolydian modes. This shows that the child "desires instinctively not the trivialities of melodies built on scale-wise progressions, but the more angular vitality of primitive music and for that matter of Bach's fugue subjects" (9, p. 13).

As in visual arts a norm can not be established because the media of television, radio and records has bombarded the child with music, accelerated his capabilities, and has increased his interest in music. As in visual arts, music has a function in personality development through emotional release, feeling of self-worth and competence. As in the other disciplines, the process is gaining more attention and tends to govern content. Suzuki, the Japanese violinist, as well as many Americans have demonstrated the ordinary young child is capable of learning difficult music if the instruction is

structured and suited to his mode of learning and if such instruction is preceded by a listening program and by bodily movements employed to indicate tone distance and rhythm (rhythmics).

Seashore, as early as 1930, found pitch discrimination and acuity to be the best indicators of musical aptitude. Mursell based musical aptitude on the molar theory of several factors of musicality. Gordon following this pattern included three basic factors: (1) tonal imagery, (2) rhythm imagery, and (3) musical sensitivity (phrasing, balance and style). Noble and others found rhythm had little to do with musical ability nor was IQ found to be related (67). However other studies (67) contended that musicality (as measured by music aptitude tests), by itself did not appear to be a satisfactory predictor of achievement in music. This returned one to Seashore's specifics which, in kindergarten, appeared to the writer the best indices of music potential.

Another emphasis was teaching form through rhythm band and keyboard instruction. Koch (39) stressed the use of the rhythm instruments to teach basic appreciation skills, listening, identifying beats, and finding form. "It is just too easy to sing and learn nothing about music itself," she stated. She recommended the uncovering of the form of music repetition (AB-ABA) and especially Rondo form.

Proponents of keyboard instruction were many: Robert Pace, Gladys Tipton, Beatrice Landeck, and others. Egbert

(15) described this trend as classroom piano or functional piano and not to be confused with learning to play the piano. Keyboard instruction used the piano as a visual aid in teaching music fundamentals, as a teaching machine as well as a beautiful instrument. She stated, "The piano is more and more a part of the teaching tools that the teacher is using with the aid and guidance of the music specialist."

Robert Pace (57) and James Lyke (67) agreed that keyboard instruction clarified musical concepts, was an excellent learning tool in working with the substance of music, opened new doors to musical understanding, and created interest in further study of the piano. Lawrence and Dachinger (41) found self-taught music (by auto-education) and learning the piano produced the greatest carryover of music training in adult life.

The writer* set up an informal keyboard study to ascertain the effectiveness of piano as a means of developing a better understanding of the structure of music. This continuing study has been in progress for four years and has involved 60 to 70 cases yearly. Each year a specific variable was explored. The methodology and strategies were based upon clues from observation or direct suggestions from the children with the guidance of authorative music specialists (Kansas

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*The writer has been a teacher of private piano instruction for about 30 years.

State University and Gladys Tipton of Columbia University) and research. Thus far the reporter has observed: (1) The kindergarten child had an avid interest in playing the piano and found playing a satisfying means of self expression. (2) Children at five years did learn to play simple tunes or phrases from tunes with the right hand and some could add harmony in chords with the left hand. (3) Piano playing assisted in eliminating the monotone singer if singing was not minimized or neglected for music appreciation (listening) or piano playing. (4) The child learned to play the piano by auto-education with little individual instruction from the teacher. (5) The child learned by music notation (staff, notes, etc.) if numbers and some letters were used. (6) Such instruction did not impede progress in methods of private instruction in piano, the greatest carry-over appeared when the methodolcgy of private lessons articulated closely to those in kindergarten. (7) Some evidence as to carry-over in violin appeared. (8) In teaching form the use of colored notes for phrases appeared meaningful to the child. (9) The use of gross sounds and gross rhythms; the use of toy instruments, bells, and drums; listening to records; the understanding of the science of sound; the use of piano accompaniment by the teacher; and the manipulation of piano keys (doodling) appeared to be the best introduction to keyboard instruction.

The children asked assistance more often from other children than from the teacher. Motivational devices were not

needed--the piano itself appeared self-motivating, so great was the child's curiosity to explore its possibilities. The writer concluded from these observations that keyboard instruction at kindergarten level merited more controlled research as a music media.

Visual arts. Reserach in art did not give much objective direction to the curriculum builder. For many years Gaitskell's study of the five-year-old child influenced objectives. The subjects of this study were children of two decades ago and in another environment--not the children of a technological age under the influence of the mass media of communication.

Lewis summarized the present status of research:

> Because research in art education has lagged, many instructional practices have been incorporated into the art program with little or no prior evaluation through research. Studies are needed to assess the effectiveness of teaching procedures and to measure the contribution of various art experiences to the artisitc and general development of the child (42, p. 30).

In addition, Lewis stated that intelligence, social background and manual dexterity did not appear to be related to success in art. Evidence of homogenity in children's work has led to the establishing of normative stages: (1) the scribble stage, ages two to four, (2) the representational stage, four to six years, and (3) the schematic stage, six to nine years. "The child draws what he knows not what he sees, but these drawings do not always represent his factual knowledge," was another point she emphasized.

Lowenfeld (45) initiated a series of studies based on the man drawing as an IQ indicator and has offered much constructive advice to both the curriculum builder and the classroom teacher. He explained that initial learning is imitation, but the problem in art was to extend the child's frame of reference beyond stereotypes. He suggested the use of basic forms and patterns such as a child encounters in mathematics. To draw from a live model was nonsense because eye-hand coordination was not fully developed in the early years. He described the child's first painting as drawing with a brush and filling in with color. He also stressed not all children need to make large motions; some work better on small areas. The choice of material was of primary importance, and the lower the development of the child the more guidance was needed in the use and selection of materials. Concerning the popular finger painting in nursery schools and kindergarten these observations were made:

> There are real reasons for doubting the advantages of using this medium...the child becomes involved in the paste-like consistency and the process becomes pure activity rather than development or expression...we also have evidence from experiments and direct observations that the young child may regress into an earlier stage of behavior (45, p. 107).

Many kindergarten teachers have been disturbed with the chattering during art period. Lowenfeld gave this conciliation:

> It may be a tremendous amount of time is wasted in trying to maintain order and quiet since true learning is taking place when a child is expressing himself

> whether others are listening or not. It is very important to converee with one's eelf (45, p. 147).

Obviously, the child who has been expoeed to better art objects; more artistic architecture, interior decorating, clothes design, and landecaping; art exhibits, and book illustrations; and toye with interesting color and form will be ready for greater levels of growth. Yet phyeically, this child would lack the skill to achieve an art product that satisfiee his knowledge and seneitivity to the aesthetic. Therefore, art education ehould encompass a structured program which would: (1) convince the child he can make an art product, (2) increase hie manipulative ekills in varied forms of art media, (3) increase his knowledge and perception of the world about him, and (4) to acquaint him with the basic concepts governing the aesthetic.

Science

In science there has been a shift from teaching science as a body of knowledge to teaching science as a mode of inquiry. In thie etudy, science was conceived ae a set of facts, a way of looking at phyeical phenomena and the relationships among them, and a way of describing or explaining these phenomena.

Three conceptual schemae have been preeented by echolare. Karplus believed the "eystems" approach. He started in kindergarten and worked upward on the structure spiral. The "systems"

approach has been worked out so specifically in the mode of learning suitable to the young child with games and work sheets that the teacher will find it most teachable and interesting to the child. Classification of objects and description was the first step. Interaction was the next step which was more complicated. Properties, similarities and differences were emphasized (62).

The National Science Teachers Association (NSTA) presented another approach called conceptual schemes, which was widely accepted by textbook companies, but no specific material was usually developed at kindergarten level. Briefly, the conceptual schemes were: (1) All matter is composed of fundamental particles which can be transformed into energy. (2) Matter exists in the form of units which can be classified. (3) The behavior of matter can be described on a statistical basis. (4) Units of matter interact. (5) All units of matter tend toward equilibrium but the sum of matter and energy remains constant. (6) Motion of matter is responsible for energy such as heat and states of matter, solid, liquid, and gaseous. (7) Matter is subject to change in various rates and patterns. The process was defined as: (1) science is orderly, (2) scientific knowledge is based on observation, (3) science proceeds piecemeal but aims at systematic understanding, (4) science is not a finished enterprise, and (5) measurement is important. This plan started at the top and worked downward in concept constructs which was opposite to the Karplus idea (72).

The third approach was the process method by the American Association for the Advancement of Science (AAAS). This group ignored content; all emphasis was placed on method. For kindergarten the following processes were recommended: (1) recognizing space-time relations, (2) recognizing number relations, (3) observing, (4) classifying, (5) measuring, (6) communication, (7) inferring, and (8) predicting (62).

The writer found, by trying each approach in isolation and then a combination of approaches, that the combination was the most fruitful when a "science game" strategy was employed. A single approach appeared too narrow, and limited the use of the wealth of science materials and available realia.

Modern mathematics which has been introduced at kindergarten level has generally been conceded the most effective tool of science since measurement was part of the process of the discipline.

Mathematics

Only one study was found dealing with arithmetic in the kindergarten. The gains were in reasoning and willingness to attempt the unfamiliar problems rather than basic skills. The adoption of the modern mathematics program has not been based on research evidence but rather on the assumption that key concepts and logical and structured materials would facilitate learning.

The writer made a five year informal study in this area for the purpose of improving instruction. The first year one kindergarten used Science Research programmed frames, and one group did not. The second year both groups used structured materials designed by the researcher. The third year both groups used the SRA frames supplemented by the teacher-constructed lessons. The fourth year the researcher designed learning aids involving manipulation of objects and games to provide enrichment and to assist the slower children. In the fifth year the Houghton Mifflin "K" book was substituted for the SRA frames. This last book had more geometry concepts.

The writer was unable to offer data to support any valid conclusions in this study because of insufficient controls, lack of systematic data, and lack of adequate testing devices. The traditional arithmetic tests did not measure the root learnings of mathematics. A few observations may be of some value to the reader. The children's interest and success was beyond the writer's anticipation. The first grade teachers endorsed such instruction at kindergarten level. The slow children, although they appeared not to comprehend the concepts, wanted to do the same lessons as the others. When a few concepts became meaningful to these slower children, they appeared pleased and excited with their discovery and achievement. A wide variation was noted. The slow children needed more object manipulation, and the advanced pupils needed more abstraction than was found in the commercial work sheets.

Social Studies

At the date of this report the changes of thinking concerning social studies has been more rapid than in any other area due to more than forty social studies curriculum projects which were currently underway. According to Fraser (22) three changes were apparent. First there was a breaking away from the traditional dominance of history, geography, and civics to include more disciplines--economics, anthropology, sociology, social psychology, and political science. The second change was the expansion to a global or international treatment. The third emphasis was on the "workways" of the social sciences, the study of how the various disciplines acquire data.

The rationale for this new emphasis on the behaviorial sciences was based on the assumption that the child should have the most realistic picture possible of his social world. The best preparation for dealing with the unknown future would be a realistic understanding of contemporary society and of the dynamics of change that are constantly reshaping it.

The rationale behind the innovation "workways" was that such preparation will assist the student to accept new information, new interpretations and the need to revise his own concepts in future years. For example, children in kindergarten could learn the process of making a graph to show family size by using blocks. The inductive or discovery

method was recommended especially for young children as well as multi-media made possible by technology.

Allen, in assessing the recent developments in social studies, stated, "if current curriculum efforts in social studies are to make anything close to a maximum impact on the schools, much more attention will have to be directed to the education of the young child" (1).

Both Wann (62) and Allen stressed that the conceptual framework is becoming increasingly global and that the global view should be brought into the social process of the kindergarten child. This interpretation of the "here and now" was a reversal of the traditional idea which confined social studies to the immediate family and neighborhood. A child's realistic environment would be the world. The family would be the basic consuming unit and the parents, the producers of goods and services.

DEVELOPMENTAL AREAS IN THE CURRICULAR PROCESS

In analyzing the curricular base some scholars insisted the process takes precedent over the facts in the structure of the discipline. Some of the elements of these processes did not appear unique to one particular discipline but rather pervasive to several disciplines. Therefore, the rationale of this model was based upon the assumption that segregating the process would expedite curricular organization to promote root learnings at kindergarten level.

The writer observed that the young child comes to school with a haphazard collection of knowledge all of which is most pertinent to his future learning. He needs assistance to clarify and enlarge concepts, new vocabulary to express his ideas in language, ways to catalog and classify knowledge for future reference; his sensory perceptions need development in acuity and discrimination; he needs to know how to organize his time and efforts and how to discipline his emotions and to develop a sense of his own worth. In short, he needs to: (1) know how to learn, (2) want to learn, and (3) have enough confidence in his potentialities to try to learn.

Definition of the Curricular Process

The curricular process has been defined in this study as a psychological paradigm which provides: (1) the social and emotional climate and (2) the mechanism and techniques for the acquisition and utilization of the curricular base. The developmental areas in the curricular process were classified as: (1) creativity, (2) thinking skills, (3) social and emotional maturity, (4) motor and manipulative skills, and (5) self-help tasks in daily living.

Both language analysis and research were found necessary to develop a rationale for the paradigm of the curricular process. Many writers impeded constructive, precise thinking by employing vague terminology or by citing a single isolated research conclusion to justify an "ostrich" attitude or

sentimental reasoning. In the preceding parts of this study, and in the following sections an effort was made to dissolve this problem by presenting summaries of authorative opinions and qualified research.

Creativity

Due to the present confusion in terminology and recent research, creativity was considered separately in this study. However, creativity, as a form of intelligence, properly belonged within the scope of thinking skills. If the emerging definition of intelligence based upon over 120 potential intellectual functions were accepted, creativity would become an intellectual function of intelligence. Concerning creativity as a part of the total intellect, Elliot W. Eisner (16) wrote:

> If our conception of intelligence were more adequate, and if we conceived intelligence not merely as what intelligence tests test but as the efficient and effective utilization of means to achieve desired ends, then the need for a separate concept of cretivity disappears. In short, I am suggesting that the reason creativity and intelligence seem to be unrelated is that we have been using in our research a restricted conception and measure of intelligence. It is now becoming more evident that man does not have just intelligence but he has creative intelligence.

Implications of research. In 1898 Dearborn reported the poorest imaginative responses were made by the intellectual type. Jackson and Getzel supported this fifty years later. Guilford, Torrance, Lowenfeld, and Kincaid (75) analyzed

the qualities or factors involved in creativity as: (1) flexibility, (2) fluency, (3) elaboration, (4) redefinition, (5) originality, (6) curiosity, (7) willingness to try difficulties, and (8) preferences for complexity. Guilford placed most stress on ideational fluency (i.e., many ideas as opposed to one or two) and originality (i.e., dealing with the usual in unusual ways).

In describing creativeness further these writers maintained that creative output was unique but not necessarily aesthetic. Fitzgerald (18) confirmed this assumption further in music:

> Teachers should keep in mind that creative experiences are no more likely to produce musical masterpieces than English composition assignments are to result in great sonnets or essays...and recognize that it [creative teaching] will not provide a solution to all educational problems....Creating is only one phase of the total musical experience which also includes performing, listening and evaluating.

In art (75) the implications were much the same:

> Few are creative...free expression is not necessarily creative...the creative act never operates in isolation or in a vacuum...masterpieces are the end products and require previous acquisition of skills... a basic error is the implication that any art is completely original...if all is creative and there is no consideration for improvement, the product falls short of satisfaction.

Eisner (16) classified creativity as "aesthetic organizing", ability to order elements into an aesthetically satisfying whole; "boundary pushing", the ability to redefine and extend the uses of ordinary objects or ideas; "inventing", the ability to use what already exists to create an essentially

new object or idea; and "boundary breaking", the ability to reject or make problematic major organizing ideas that are accepted as fact.

The characteristics common to most talented individuals were: (1) imagination, (2) spontaneous action, (3) originality, (4) dedication--long periods of concentration and the unwillingness to stop, and (5) contrary or problem personalities. The latter condition probably arose from the fact that school routine and teacher attitudes have not been conducive to or tolerant of the creative act.

Creative levels have been discussed because, obviously, few children were among the gifted and talented. "Uniqueness of the product" was considered lowest on the scale; "ingenuity" followed; and at the top was "discovery" and "masterpieces".

Summary. This study viewed creativity as a necessary ingredient for all disciplines, not merely confining this facet of the thinking process to aesthetics alone. In science and mathematics, "discovery", "inquiry", "experimentation" were used to delineate this process of thought within the scope of learning activities. There seemed to be four attitudes concerning creativity about which educators were agreed.

The first point of agreement concerned the definition of creativity as: (1) a unique characteristic possessed in different degrees by everyone, (2) the ability to produce something new, unique, original, non-existent before in the experience of the individual and when compared to the products of others,

and (3) an act which involves finding a new unity or seeing a new relationship not seen before among items. The second attitude was that creativity is an eminently desirable trait which is contributory to the individual self-fulfillment and essential to the progress of society. The third belief pertained to the fact pupils often learn more efficiently and are able to use what they learn more productively when they are permitted to learn creatively. The fourth assumption was that the ability to create cannot be "caught", it must be "taught". The basic elements were analyzed as: (1) stimulus input, ideas, experiences, etc., (2) favorable environment, (3) knowledge and skill, (4) enriched conceptual vocabulary, (5) creative output, (6) constructive reaction--expect, accept, and respect, and (7) motivation.

The writer observed that while the kindergarten child has a vivid imagination and an impelling curiosity, he often lacks: (1) sufficient skill to execute his ideas into products or solutions to problems, (2) the courage to begin, and (3) an adequate appreciative, creative, enthusiastic teacher. Wide choice of materials and unstructured toys with flexible timing could promote creativity provided the child had adequate skills and perceptual training.

Thinking Skills

The National Committee of the Project of Instruction in a recent report, "Deciding What to Teach", emphasized that

constantly changing society requires that its members acquire the capacity of self-teaching. The report set forth priorities in educational objectives: (1) learning how to learn, (2) understanding concepts, (3) using the various processes of thinking, and (4) developing the basic skills of how to study. The Glaser study (36) at Columbia University showed kindergarten children engage in drawing inferences and other types of critical thinking skills. The difference between a child's and adult's ability to reason was quantitative, not qualitative. Children lacked the experiences adults have accumulated as a background for thinking. Studies showed that reasoning developed gradually throughout childhood in proportion to training and experience.

The Substrata-Factor Theory (36) placed experience and language skills as the materials of thinking. Experiences were considered the "programmers" of the in-put in the child's brain. Experiences were based on percepts of the various senses. Concepts were defined as an accumulation of experience resulting in some kind of generalization. Language* served as a means of expressing ideas and concepts. Several other authorities (34) insisted that thinking does not begin until concepts are abstracted into language labels. Therefore the child's ability to reason would depend upon how well he can relate new ideas to previously held ideas and he would

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*See Appendix E.

draw on different sets of these substrata factors and organize them into a working system according to the Substrata-Factor Theory.

In reviewing the many ideas proposed by educators, the multi-approach to learning proposal appeared most feasible at kindergarten level and as one most soundly based on research findings. The multi-approach involved perception, language, and four levels of learning which proceeded from concrete sensory to abstract. These levels were identified as: (1) sensory, (2) perceptual, (3) conceptual, and (4) language-thought. The sensory-motor skills included discrimination (visual, auditory, taste, tactile and olfactory, gross motor skills and eye-hand coordination. The perceptual skills would consist of categories such as similarities and differences, sensory perception, space and location, form and size, and number and groups. Conceptual skills would encompass time, shape, position, usage, people, money, change, living and non-living things, etc. The highest level would be the intellectual one involving speech and problem solving.*

Although thinking levels overlap, three levels may serve as guides to questions. How effectively children think may well be determined by the types of questions asked them. These levels proceed from the concrete to the abstract which

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*See Appendix F.

involved interpretation and critical thinking, the highest level being elaboration and creative thinking.*

Social and Emotional Maturity

Actually the school would be concerned with guidance rather than maturity. Maturity would not be a finality but a relative condition--one is always in the process of maturing to a higher level. Guidance was generally conceded to be based upon the child's needs for security, success, knowing, belonging, change, and aesthetic satisfaction. To have a "happy" day in kindergarten was considered to be of extreme importance by kindergarten teachers.

Senn, the director of child study at Yale, pointed out many general problems in this area. Because children were bigger than in the previous decade people expect a higher level of maturity which places them at a disadvantage. More children were now physically handicapped and congenitally impaired than previously. There were more tensions, more problems, more time pressures, and more adjustments required of children today. The transition from the small family group to large kindergartens causes problems. He contended that in a kindergarten of 35, the child had no chance of proper development. School phobia was usually caused by the disinclination of the parent rather than the child. The baby-sitter,

*See Appendix G.

and the substitute parents were also factors in maladjustments. While the enconomically disadvantaged child had many problems, he had better motor skills and was more independent than those of the middle class (68).

Senn emphasized that permissiveness in the home caused the child to rebel against rules. All children needed direction and boundaries. Organization and rules in environment were necessary to establish limits. No limits were frightening like the feeling of an adult suddenly dumped in a wide open space without limits.

Several topics related to this area made contributions to the "know-how" of guidance and development of the young child. Social maladjustment was usually described in negatime terms.* Screening was advocated by research as the best possible prevention of physical, emotional, and behaviorial difficulties.**

Love. Prescott (60) evaluated the role of love for preprimary children from three lines of evidence in scientific research. The absence of nurturance patterns such as breastfeeding were found not only to cause nutritional illness but also to cause mental health problems. Studies of institutional children showed an impairment of physical, mental, and emotional growth. Anthropologists studied child-rearing customs in many

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*See Appendix H.

**See Appendix I for screening tests.

cultures and discovered the absence of love nearly always built up a disturbing number of frustrations which led to non-cooperative adult personality. Prescott defined the elements of productive love as, care, responsibility, respect, and knowledge. The role of love had value in human development because it provided the needed basic security, facilitated belonging in groups, assisted to establish desirable ego-identity, and facilitated emotional adjustments.

Emotional stability. The rate of the learning process appeared so dependent and inter-related to level of emotional maturity and stability that a crucial question arose: How does the teacher differentiate between lack of an adequate maturity level and emotional disturbance? Menninger Foundation and other reliable sources cautioned the teacher not to label a child as emotionally disturbed at an early age and to consider mental hygiene operating on a continuum for all persons.

On the other hand as Bauguess (4) pointed out, postponement of identification of the emotionally disturbed not only complicated therapy but also increased rejection rather than the understanding he so badly needed because he was unable to conform to expectations. In a California study Bower (4) defined an emotionally disturbed child as one:

> ...who demonstrated one or more of the following characteristics to a marked extent over a period of time: (1) inability to learn which cannot be explained by intellectual sensory or health factors, (2) inability

to build or maintain satisfactory interpersonal relations with peers or teachers, (3) inappropriate types of behavior or feelings under normal conditions, (4) a general pervasive mood of unhappiness or depression, and (5) a tendency to develop physical symptoms, pains, or fears associated with personal or school factors.

Developmental quotient. A developmental quotient (DQ) has been used by educators to describe structural physical growth of the child and has been used as an index of the potential for intellectual growth. Bates and Ilg (35) demonstrated the relationship of the eruption of teeth to school readiness in the Weston study. Olson suggested an organismic age as an index to individual differences (56). This age was derived from the mean of the height, dental, carpal, and grip ages. The number of permanent teeth yielded the dental age, hand dynamometer yielded the measure of strength, and x-ray of child's hand and wrist was assessed for appearance of ossification of bones.

The writer checked over 200 children for the number of permanent teeth and the order of eruption and found a high correlation with her own judgment of immaturity. About 100 cases were then re-checked with the first grade teacher's judgment of immaturity and again the relationship was impressive. The expectations for achievement for motor and manipulative skills should also take in account the level of development for each child structurally.

Self-concept. A shift from the child's social development within a peer group to personality and the development of a worthy concept of self was evident in literature. This change of emphasis was earlier affirmed by Piaget and Montessori who demonstrated the child (at kindergarten level) was egocentric and not mature enough to handle many social situations without frustration. Kindergarten and first grade teachers have long worked for legal authority to delay the age of school entrance to allow the child sufficient time to mature socially and emotionally for the complexities of the school situation. Head Start has yielded overwhelming evidence that the delay of school entrance not only will not solve this problem of development but may also retard the child's intellectual growth. These studies consistently reported that improvement of the self-concept was accompanied by accelerated intellectual growth. Therefore, the writer concluded a summary of current thought concerning the self-concept was pertinent to the analysis of the curricular process.

Carl Rogers (mentioned earlier in this study) was the chief exponent of the philosophic basis for the self-concept.* Although Rogerian advocates did not use Froebel's "seed" or "flower" metaphor, the "unfolding" of latent powers within the individual was implied and emphasized. Historically, William James was the first to consider the self-concept.

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*Several writers agreed the self-concept was only one part of the self-process of self-actualization.

When Watson and Thorndike shifted emphasis to observable acts in the analysis of human behavior, the self-concept fell into disrepute. As the Gestalt theory gained popularity the self again came to be considered crucial in understanding behavior. Under the leadership of Rogers, Snygg, Combs, and Maslow the Gestalt-field theory movement culminated into a body of theory known as phenonemology which placed self as the central variable in behavior, as well as in education and learning (31).

The total process of self-actualization (53, p. 44) has been categorized as: (1) belonging, (2) being, (3) becoming, and (4) befitting (or more briefly, perceiving, behaving, and becoming). The self-concept was defined as a unity of entities and described in several ways:

> ...self-concept forms a core around which all other facets of personality are organized...self is a dynamic unity of the activities of sensing, remembering, imagining, perceiving, wanting, feeling and thinking (31, p. 196).

> The pattern of life of every individual is living out his self-image. It is his road map for living (3, p. 400)....The self-image includes: (1) the me I see, (2) the me others see, (3) the me I think that others see, (4) the me I think that others think I see, and (5) the me I would like to be (3, p. 380).

Educators agreed generally upon: (1) growth of self, (2) change of self involving an ever changing process, not a fixed entity, (3) self as emerging from earlier learning experiences which modify and shape through cultural agents, and (4) positive self as teachable.

According to Anderson (31) the first year of life was the most important in the development of the self-image; each

succeeding year became less important; and the self-concept was structured by adolescence. Change in self was difficult and when change did occur, it was gradual. The effective cultural agents included the peers in the neighborhood about the same age, the peers in age-mates societies, and remote adult figures such as teachers. The socially disadvantaged child was described as any child who has an unfavorable picture of himself regardless of external appearances and characteristics; and as any child either low or middle class who suffers from negative labels, rejection, and unwholesome relationships with his parents.

Understanding and acceptance facilitated the growth of self. Deutsch (31) found success experience as the key to the positive self. Competence can help the child to see himself as: (1) a participating and valued member of the group, (2) a worker and producer, and (3) a problem solver.

The implications from the preceding summary would be in terms of the catalytic role of the teacher as a skillful arranger of experience. The catalytic components would be respect for the individual, acceptance of the child's behavior, warmth and sensitivity to feeling, positive remarks and encouragement, a classroom climate that is high in challenge and low in threat, and structuring to provide for discovery and success experience.

Teacher self concept. The review of literature intimated the kindergarten teacher would need to construct a new

self-image in order to play a productive role in future childhood education. In the past, she has been the charming "Victorian Lady", and the mother substitute (sometimes gushing endearments and at other times in dulcet tones, fettered with steel, controlling the children as puppets). Writers of today described the kindergarten teacher as an "arranger of experiences", a "planner of environment", a "programmer of curriculum", and warm friend and fellow partner to the child's research activities, and a researcher and director of learning. Educators added other requirements such as assurance, flexibility, good humor, and sensitivity to feelings. She would be supportive but not dictatorial. She would inaugurate self-discipline as opposed to permissiveness and freedom without limits. In addition she should possess almost unlimited mental and physical resources, the ability to view learning with laboratory objectivity, and above all be a dedicated scholar of the whole breadth of the disciplines. Since the reporter could envision few such paragons, the need for an operational directive framework appeared imperative to the consummation of this role (which returns the reader to the purpose of this study).

Motor and Manipulative Skills

No place in the curricular process showed as dire need of study and research, or evidenced such a lack of concern on the part of kindergarten educators as physical development of

motor and manipulative skills. Yet in the curricular process the lack of coordination could induce a host of learning problems. Curriculum guides, interviews with physical education instructors, and physical education demonstrations provided the most forward thinking. The categories covered were basic gross motor skills, developmental exercises and stunts, interpretive rhythms, relaxation story plays, group games, finger plays, and free play and manipulative toys.

There was agreement the whole body or big muscles activities should be presented first, and that gradually movements should be introduced to improve coordination of muscles, eye-hand coordination and those movements which involved small muscle development. During the Patty Hill period, large play materials were introduced and primary stress was placed upon the large muscle coordinations. As the result, play equipment so large and clumsy that even an adult would find it tiresome to handle, became standard requirements. There appeared a strong question as to the advisability of over-sized equipment as a means to produce improvement of coordinations. Children tend to select small play materials (even very small items).

Demonstrations by skilled physical education specialists showed children capable of much more muscular skill, if proper training was provided, than previously demonstrated in the traditional kindergarten activities. Because of large classes with only one adult, the teacher, in attendance, children have

been forced to stand, or sit quietly in a chair or on the floor for considerable long periods in order to get their turn and to perform kindergarten routine. If this tiresome immobile waiting could be converted into structured activity, the child might benefit considerably in physical development.

Other needs and characteristics of motor development have been pointed out. The child is easily fatigued and has a short attention span; therefore, activities should be changed frequently and the children be given relaxing activities and a variety of activities in the daily routine. Group consciousness has not been developed; teamwork and rule games must gradually be taught but not too highly emphasized. Little difference exists between the interests of boys and girls at kindergarten age. Certain factors must be considered in good performance of fundamental skills* and common faults eliminated. Technological development in the toy industry has provided a multiplicity of means to develop eye-hand coordination in addition to the traditional cutting, pasting, crayon, pencil and clay manipulation. Children who had access to these early developmental toys usually were more advanced in such coordinations as printing, crayon drawing, cutting, etc.

Self-help Tasks in Daily Living

The development tasks have been defined as the tasks

*See Appendix J.

which arise at or about a certain period in the life of an individual (infancy, early childhood, etc.) and the successful achievement of which leads to his happiness and to the success of later tasks, while failure leads to unhappiness in the individual, disapproval by society and difficulty with later tasks (11).

Connors (11) listed the following categories for the young child: (1) dressing, (2) handwashing, (3) setting and clearing the table and washing dishes, (4) using silverware, (5) drinking and eating, (6) grooming--hair, teeth, and nose, (7) care of clothing, (8) housekeeping--toys, books, clean-up, open and shut doors, (9) safety--sharp instruments, hot water, playground, and (10) independent travel.

The complexity of social living in the future could make new demands in these categories and even additional categories. Safety procedures for emergency alerts (fire, tornado, and bombs) and self-identification (full name, parents and baby-sitter's name, telephone number, and street address) were requirements in several curriculum guides. Riding safety and the use of seat belts and social safety (avoidance of strangers) was also emphasized. Housekeeping could be extended to use and manipulation of household appliances and the telephone. Some teachers considered social courtesy or basic etiquette as a part of daily living, and others devoted time to cooking in the kindergarten. Commercially prepared foods made it possible for a child to prepare simple dishes or even a simple meal.

In the past even the young child served as a producer of goods and services within the family unit, and he took pride in his contribution, however small, to the daily living of the family. Now that the child has become largely the consumer and automation has replaced home chores, his development in self-help skills has been retarded. To fill this developmental need, projects in handcraft and auto-learning have been substituted for the errands of the earlier period.

TENTATIVE KEY CONCEPTS FOR SUBJECT MATTER AREAS

Some observers have stated that human knowledge doubles every nine years. To meet this crisis in learning Phenix (58) pointed out the necessity of minimizing the disparity between available knowledge and ability to know. In order to utilize most efficiently the limited capacity to learn he would build the curriculum upon the structure of the disciplines and stress the key concepts or big ideas. In this way general understanding of the essential characteristics of a whole field could be grasped with relatively limited knowledge of specific details. Foshay (19) added that there is a discipline behind every subject we teach and it is the discipline that contains whatever life there is.

The major roadblock in achieving such a curriculum was the difficulty in securing systematic, authoritative delineation of major ideas. In mathematics and economics these key concepts were well-defined, but in other domains of knowledge

these ideas were most obscure. Therefore only a few tentative suggestions were included in this study.

Definition

Key concepts in this study were defined as the conceptual fundamentals basic to the understanding of a discipline. Although academicians did not generally agree on what a discipline was, the operational definition in this report considered a discipline as a domain or field of knowledge characterized by: (1) symbolization, the mode of representation, (2) conceptualization, (3) structural relationships within subject matter content, and (4) specific modes of inquiry unique and essential to the particular body of knowledge.

Reading

The failure to recognize that reading symbols were abstractions, as numerals were in mathematics, appeared to the writer to be the primary cause of dissention in the early reading controversy. The key concepts, therefore, in reading would begin with the abstract use of language in the thought processes.

The following concepts were posed for consideration:

1. Language, spoken and written, is the abstraction for thinking and a means of communication.
2. The acquisition of spoken symbols precedes written symbols.
3. Spoken symbols may be learned by imitation but are not internalized for effective use as language until preceded by sensory and motor perceptions and generalized through conceptualization.

4. The value of the language abstraction as a thinking tool is related to the validity and breadth of the conceptualization.

5. Reading is decoding the printed symbol.

6. Decoding the printed symbol may proceed in several ways and depends upon the quality of perception and learning sets.

7. Reading, spoken or silent, to be a worthwhile endeavor involves interpretation.

8. Reading, a total process, involves more than alphabet symbols. (maps, signs, pictures, manual signals, etc.)

9. Picture reading is the primary step in decoding symbolization.

Speech

Speech is one of the several modalities through which language is utilized.

1. Speech as a means of oral communication involves both the speaker and the listener.

2. Speech involves not only vocalization of language but also gestures.

3. Speech involves sound, meaning, and social skills.

4. Speech depends upon growth in language.

5. Articulation, loudness, stress, pausing, and inflection are pertinent to effective speech and part of the speech process.

Aesthetics

Since music and visual arts was classified as aesthetics, the key concepts incorporated similar structural elements.

1. Theme (idea, substance, content, mood, message, quality).

2. Pattern (shape, design, outline, organization, form, cohesion, setting or boundaries).

3. Rhythm (balance, harmony, symmetry, or the relating of inner shapes).

4. Dominance (centrality, compression, emphasis, accent, hierarchy, evolution, concentration, dynamic sequence).

5. Quality of sensory perception (tone, color, texture, pitch).

Social studies

Pending the reports of many research projects in progress at the time of this study, not much could be offered in this area.

Economics. The National Task Force on Economic Education and Lawrence Senesh outlined the key concepts of economics.

1. Marketing--supply and demand
2. Scarcity
3. Production
4. Interdependence and trade
5. Division of labor
6. Profit and competition
7. Social economic goals (growth, security, freedom, justice and stability)

People work to obtain food, clothing, shelter, education, comforts, and luxuries. Most of these things are purchased with money. The family is the basic consuming unit. The child can help by making wise choices about what is needed and

whether it is possible. The parents work as producers of goods or services.

History. Current world problems have roots in the past as well as implications for underetanding the future. From this viewpoint it becomes a path to the present and involves chronology, periodization, interpretation, and multanimity. In the kindergarten artifacts, physical time-lines, maps, literary books, child's newepaper and television, family albums, holidays, and creative dramatics can offer suggestions for history etudy.

Political science involved governing and organizing to meet eociety's needs. Ideas basic to the small group were the same as those for the welfare of larger government. Rulee change when conditions change. People, ideally, abide by decisions they have helped to make but eometimes rules have to be enforced. Rules, at kindergarten level, are the baeis for understanding law. Obedience is essential to the welfare of the individual. Rules may not serve all equally well but are made on the basis of most good for the most people. Good citizenship has been the traditional emphasis in political science.

Sociology was defined as a etudy of society group interaction, and the effect of this eocial interaction on the behavior of individuale. The eocialization in kindergarten involved social processes such as conflict, accommodation, and

communication. The integrated group concept could be developed as the children (a mass in September) get acquainted and work in unity toward common goals.

Geography examined the relations not only between man and his habitat, but also between man and the various cultural features resulting from economic, social, or political processes. Warman (62, p. 73) listed: globalism, the round earth on flat paper, the life layer, areal distinctions--differences and likeness, the region, resources culturally defined, man the chooser, spatial interaction, and perpetual transformation. The young child can develop map concepts.

Anthropology. One believes and acts the way he does because of the family and community patterns. It is hard to change these even though he may see they should be changed. This discipline was concerned with structure and function of the behavior systems comprising human societies. It supplied prehistoric and cross-cultural data and compared different kinds of societies. The study of children in other cultures would provide kindergarten children an introduction to the concept of culture. Emphasis should be placed on the fact that though people are different in dress, homes, food, etc., they are more alike than they are different--they have families, they play music, they protect each other, they work, etc.

Psychology was defined as the study of processes of growth, learning, understanding behavior, and predicting. Social

psychology was emphasized because it explains why and how other people feel and act as they do. Each child comes to school as part of a family with special behavior and interrelationships. At school he must learn what is acceptable behavior in that group. Traditionally this discipline has been taught through the "good citizenship" approach. The self-concept has played a part in shifting emphasis to personality development.

Mathematics

In mathematics the concepts which contain root learnings were found to be:

1. Numerals as the names for cardinal numbers abstracted from equivalent sets.
2. Zero as the cardinal number of the empty set
3. Ordinal numerals as order in numeration
4. Nominal numerals as means of identification
5. Place value of the digit in the decimal system
6. Sets as the basis for meaning of number (one to one correspondence, equivalence, union of sets, subsets, elements of the set)
7. Measurement as a means of comparative quantitative description
8. Patterning as a means of logical thinking
9. Geometry as a study of a set of points (curve, line segment, closed curves, properties of geometric shapes)
10. Number sentences as equations

11. Number line as a model for representing number
12. Commutativity as a property of mathematical operations

Science

The specific key concepts would depend on which approach (system, conceptual schemes, or process theory) was used. For kindergarten three general categories, life, matter, and energy and some emphasis on the process and system would provide adequate scope for content selection. The key concepts would be:

1. When matter or energy changes from one form to another, the total amount of matter or energy remains unchanged.
2. The universe and living things are in constant change.
3. Living things are interdependent with one another and with their environment (ecology).
4. Living things are products of their heredity and environment.
5. Certain processes and systems are involved in science.

SUMMARY

The research in the field of early childhood definitely pointed to new directions for kindergarten curriculum. This study proposed guide lines for a structured curriculum to implement this research. A dimensional model was postulated to illustrate a spiral organization and the synthesis of the curricular base and the curricular process. A historical perspective of the development of kindergarten and a summary of

research provided the philosophic base and the assumptions upon which the rationale was developed in constructing the model. The curricular base was defined as content in the subject matter areas in the elementary school. These areas were grouped for classification into two broad areas, communication through language and aesthetics (music and visual arts) and science (social studies, mathematics and biological and physical sciences).

The curricular process was described as a psychological paradigm which would provide the mechanism and techniques for the acquisition and utilization of the curricular base. The process was further analyzed in terms of creativity, thinking skills, social and emotional maturity, motor and manipulative skills and self-help tasks in daily living.

Key concepts based on the fundamental ideas of the disciplines were suggested as a structure of content. Some tentative root learnings were suggested.

BIBLIOGRAPHY

1. Allen, Jack. "Assessing Recent Developments in the Social Studies," Social Education, 31:99-107, February, 1967.

2. Baldwin, Clara P. "Naturalistic Studies of Classroom Learning," Review of Education Research, 35:107-13, April, 1965.

3. Ballard, Warren B. and Don C. Charles. Psychology of Human Growth and Development. New York: Holt Rhinehart and Winston Inc., 1961.

4. Bauguess, Pauline F. "How to Deal with the Emotionally Disturbed Child," Grade Teacher, 85:154-7, November, 1967.

5. Bloom, Benjamin S. Stability and Change in Human Characteristics. New York: John Wiley, 1964.

6. Bruner, Jerome S. The Process of Education. Cambridge, Massachusetts: Harvard University Press, 1960.

7. _____. Toward a Theory of Instruction. Cambridge, Massachusetts: Harvard University Press, 1966.

8. Bryne, Margaret C. The Development and Evaluation of a Speech Improvement Program for Kindergarten and First Grade Child. Cooperative Research Project No. 620 (8255), August, 1962. Speech and Hearing Clinic, University of Kansas, Lawrence, Kansas.

9. Carr, Constance, and others. Music for Children's Living. Bulletin 96. Washington, D.C.: Association for Childhood Education International, 1955.

10. Colwell, Richard. "Music Education and Experimental Research," Journal of Research in Music Education, 40:73-84, Spring, 1967.

11. Connors, Frances P. and Mabel F. Talbot. An Experimental Curriculum for Young Mentally Retarded Children. New York: Bureau of Publications, Columbia University, 1964.

12. Dewey, John. Art as Experience. New York: Minton-Balch and Company, 1934.

13. _____. The School and Society. Chicago: University of Chicago Press, 1913.

14. Dowey, A. Wilkerson. "Programs and Practices in Compensatory Education for Disadvantaged Children," Review of Educational Research, 85:401-12, December, 1965.

15. Egbert, Marion. "Teach More Music," Grade Teacher, 83: 141, April, 1966.

16. Eisner, Elliot W. "Creativity," The Instructor, 73:5-99, April, 1963.

17. Ennis, J. E. "How to Avoid First Grade Dropouts," Grade Teacher, 85:115-6, November, 1967.

18. Fitzgerald, R. Bernard. "Creative Music Teaching in the Elementary School," NEA Journal, 503:42-3, December, 1964.

19. Foshay, Arthur W. "A Modest Proposal," Educational Leadership, 18:506-16, May, 1961.

20. Foster, Josephine and Neith Headley. Education in the Kindergarten, Chicago: American Book Company, 1966.

21. Fowler, William. "Concept Learning in Early Childhood," NEA Journal, 22:81-91, November, 1965.

22. Fraser, Dorothy M. "The New Social Studies," NEA Journal, 56:24-6, November, 1967.

23. Froebel, Friedrich. Education by Development. Trans. W. N. Hailman. New York: D. Appleton, 1887.

24. Fuller, Elizabeth Mecham. "What Research Says to the Teacher," About the Kindergarten. Washington, D.C.: American Educational Research Association of the NEA, 1961.

25. Gesell, Arnold, and Frances L. Ilg. Infant and the Child in the Culture of Today. New York: Harpers and Brother, 1943.

26. _____. The Child from One to Ten. New York: Harper and Row Publishers, 1964.

27. Goode, Carter V. Dictionary of Education. New York: McGraw Hill Book Company, 1959.

28. Graham, Winona, and others. Toward Better Kindergartens. Bulletin 18-A. Washington, D. C.: Association for Childhood International, 1966.

29. Griffiths, Daniel F. "Research Clues," NEA Journal, 56:60, September, 1967.

30. Harris, Chester W. Enclyclopedia of Educational Research. New York: Macmillan Company, 1960.

31. Hawk, Travis L. "Self-Concepts of the Socially Disadvantaged," The Elementary School Journal, 67:196-206, January, 1967.

32. Headley, Neith. The Kindergarten: Its Place in the Program of Education. New York: The Center of Applied Research, Inc., 1965.

33. Holte, John and others. "How Children Learn," Grade Teacher, 83:69-135, March, 1966.

34. Huttenlocher, Janellen. "Children's Intellectual Development," Review of Educational Research, 35:114-120, April, 1965.

35. Ilg, Frances L., and Louise Bates Ames. School Readiness. New York: Harper and Row Publishers, 1964.

36. Johnson, Eleanor. "Developing Thinking Skills," Curriculum Letter 58, Wesleyan University, Middletown, Connecticut; Department of School Services and Publications, 1964.

37. Karp, Joan M. and Irving Sigel. "Psycho-Educational Appraisal of Disadvantaged Children," Review of Educational Research, 85:401-12, December, 1965.

38. Klausmeier, Herbert J. and William Goodwin. Learning and Human Abilities. New York: Harper and Row Publishers, 1966.

39. Koch, Helen S. "Crash, Bang, Ting," Grade Teacher, 85: 90-100, September, 1967.

40. Lagemann, John Korel. "Can We Make Human Beings More Intelligent?" Reader's Digest, 88:77-81, May, 1966.

41. Lawrence, Sidney and Nadia Dachnger. "Factors Relating to Carryover of Music Training into Adult Life," Journal of Research in Music, 40:23-31, Spring, 1967.

42. Lewis, Hilda P. Art Education in the Elementary School. "What Research Says to the Teacher." Washington, D. C.: American Educational Research Association of the NEA, 1966.

43. Lerner, Max. "Five Revolutions in American Life," Bulletin 19-A. Children and Today's World. Washington, D. C.: Association for Childhood International, 1967, pp. 7-12.

44. Loban, Walter D. The Language of Elementary School Children. NCTE Committee on Research, National Council of Teachers of English: Champaign, Illinois, 1964.

45. Lowenfeld, Victor. Creative and Mental Growth. New York: The Macmillan Company, 1964.

46. Margolin, Edythe. "Work or Play?" Elementary School Journal, 67:343-53, April, 1967.

47. Mason, George E. and Norma Jean Prater. "Early Reading and Reading Instruction," Elementary English, 43: 483-7, May, 1966.

48. Maul, Ray C. "New Problems in Teacher Supply and Demand," Kansas Teacher, 74:16, March, 1966.

49. McKee, Paul and others. "The Effectiveness of Teaching Reading in Kindergarten," Summary Report, Research Project No. 5-0371, Denver Public Schools, Denver, Colorado, 1967.

50. Millar, Bruce. "Montessori: The Model for Pre-School Education," Grade Teacher, 82:112-16, March, 1965.

51. Mindess, Mary, and Alice V. Keliher. "Review of Research Related to Advantages of Kindergarten," Childhood Education, 43:505-12, May, 1967.

52. Montessori, Maria. The Montessori Method. Cambridge: Bentley Inc., 1964.

53. Moustaka, Clark. "Essential Conditions in the Development of the Self," Bulletin 19-A. Children in Today's World. Washington, D. C.: Association for Childhood Education International, 1967, pp. 39-49.

54. Myer, Kent E. "Creativity and Intelligence," Childhood Education, 43:502-4, May 1967.

55. My Weekly Reader. Teacher Edition, Eleanor Johnson, Editor, Columbus, Ohio. April, 1962.

56. Olson, Willard C. "Child Growth and Development," Reading. Washington, D. C.: Association for Childhood Education International, 1956, pp. 2-5.

57. Pace, Robert. "Keyboard Experience in the Classroom," NEA Journal, 49:61-3.

58. Phenix, Philip H. "Key Concepts and the Crisis in Learning," Teachers College Record, 58:137-43, April, 1958.

59. Pitchner, Evelyn G. "An Evaluation of the Montessori Method in School for Young Children," Childhood Education, 42:489-92, April, 1966.

60. Prescott, Daniel A. "The Role of Love in Preschool Education," Bulletin 17-A. Early Childhood. Washington, D. C.: Association for Childhood Education International, 1967, pp. 6-14.

61. Raph, Jane Beasley. "Language Development in the Socially Disadvantaged Children," Review of Education Research. 85:400, December, 1965.

62. Robinson, Helen F. and Bernard Spodek. New Directions in the Kindergarten. New York: Teachers College Press, Columbia University, 1965.

63. _____. "Are Kindergartens Obsolete?" The Elementary School Journal, 65:300-305, March, 1965.

64. Rowen, Betty J. "Developing Aesthetic Concepts through Movement," Council for the Research in Music Education, Bulletin No. 9, Spring, 1967, p. 45-59.

65. Scarfe, N. V. "Play Is Education," Association for Childhood Education International, Bulletin 17-A, pp. 71-5.

66. Scheffler, Israel. Philosophy and Education. Boston: Allyn and Bacon, Inc., 1958. pp. 32-3.

67. Schneider, Erwin and Henry L. Cady. "Evaluation and Synthesis of Research Studies Relating to Music Education," Council for Research in Music Education, Spring, 1967, pp. 3-16.

68. Senn, Milton J. "The Young Child Today," The Instructor, 76:48-52, October, 1966.

69. Spock, Benjamin, and Mildren L. Hathway. "Montessori and the Traditional American Nursery Schools," Redbook Magazine, 130:20-5, March, 1967.

70. Stoia L. and G. Reeling. "Better Speech for Head-Start Children," Elementary School Journal, 67:213-17, January, 1967.

71. Tanner, Daniel. "Curriculum Theory: Knowledge and Content," Review of Educational Research, 36:362,72, June, 1966.

72. Theory Into Action, National Science Teachers Association, NEA, Washington, D. C., 1964.

73. Van Cleve, Morris, Philosophy and the American School. Boston: Houghton Mifflin, 1961.

74. Ward, Winifred. Playmaking with Children. New York: Appleton-Century Crafts, 1957.

75. Williams, Frank E. "Teach for Creative Thinking," The Instructor, 76:89, May, 1963.

APPENDIX A

GUIDE FOR STUDYING CHILDREN'S EXPERIENCES

GUIDE FOR STUDYING CHILDREN'S EXPERIENCES
--by Edythe Margolin, 1967.

Typically Play _____ Typically Work

Energy
Low _____ High

Clarity of Goals
Unspecified _____ Specified

External Symbols of Evaluation
Non-Essential _____ Essential

Types of Skills Used
Varied _____ Less varied, designated

Satisfactions Accrued
Many, frequent _____ Periodic and infrequent

Suspension of Judgment
Frequent _____ Infrequent

APPENDIX B

EXAMPLES OF STRUCTURING

EXAMPLES OF STRUCTURING

Social Participation

Level 1. Unoccupied behavior

Level 2. Solitary play

Level 3. Onlooker behavior

Level 4. Parallel play

Level 5. Associative play

Level 6. Cooperative or organized play

Coloring

Level 1. Holding crayon for use

Level 2. Scribbling

Level 3. Awareness of space

Level 4. Ability to stay within a design

Level 5. Conformity to design

Level 6. Making a creative design or picture

Skipping

Level 1. Hops in place on one foot

Level 2. Stands on one foot, shifts foward

Level 3. Maintains balance while repeating several skipping steps

Level 4. Repeats smoothly, brushing sole of shoe along floor

Level 5. Subordinated skipping to activity,such as a game

APPENDIX C

SEQUENTIAL LEVELS IN PREPARATORY READING IN KINDERGARTEN

SEQUENTIAL LEVELS IN PREPARATORY READING IN KINDERGARTEN

Testing: Roebke First Grade Entrance Inventory
or Other Selected Readiness Tests

Reading

The child has learned to read at home or during the school year with a little help. Reading paced to individual ability.

Decoding

The child begins to acquire ways of decoding using context and picture clues, phonics, word analysis, spelling, configuration and by use of a Pictionary.

Symbolic

The child connects the relationship between the written symbol and the spoken word. Auditory and visual discriminations move out of the picture stage.

Developmental

Socialization	Growth of language	Acquisition of concepts
Self-Image	Speech	of the physical and
Attention span	Vocabulary	social world through
	Listening skills	senses.
	Literature	

Testing: Roebke Maturity Inventory and ABC Inventory or other selected Tests.

APPENDIX D

CRITERIA AND GUIDES FOR LITERATURE

CRITERIA FOR LITERARY BOOKS (ROEBKE)

1. Is the book sturdy and attractive? (Some paper bound books, though not sturdy, are very useful and often much cheaper. They will last if care in handling is stressed. A classic will need to have a better binding.)
2. Is the size easy to handle?
3. Does the content measure up to the standards of good literature rather than trivial?
4. Do the illustrations have merit and artistry?
5. Is the author or illustrator well-known in the literary field?
6. Has some kindergarten teacher recommended it and used it?
7. Is the text simple and not too long or involved?
8. Do you as a teacher find charm, interest or amusement in it?
9. Does it have style?
10. Does it have some of the characteristic appeal of a folk tale?

GUIDES FOR THE STORY TELLER OR READER (ROEBKE)

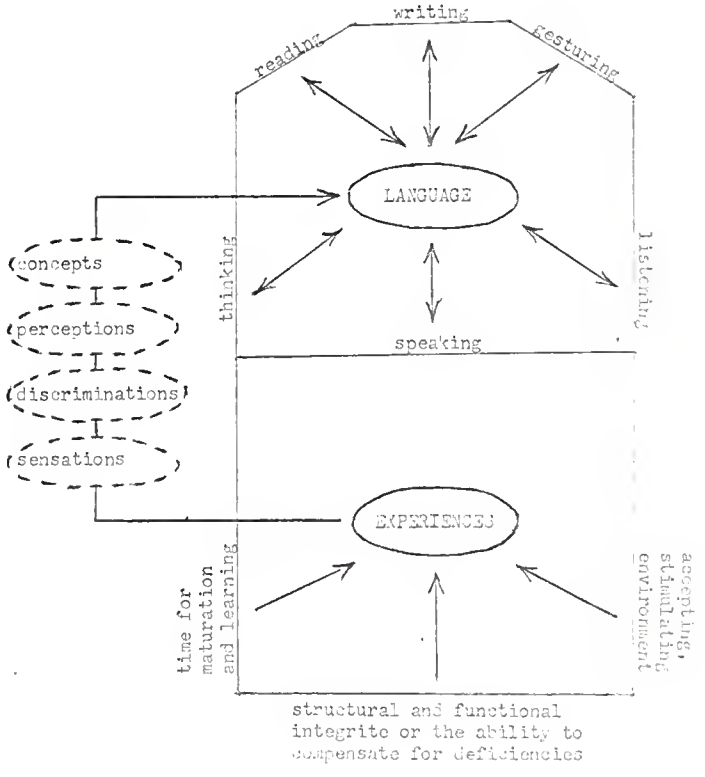
1. Teller or reader must have genuine appreciation.
2. She must note the style.
3. She must analyze the theme, the various episodes, and the climax.
4. She must not change the words unless they are beyond the comprehension of the child.
5. She must present the story with simplicity and sincerity.
6. She must face the children.
7. She must keep going and not stop to explain or moralize; the children will lose the thread of the plot.
8. She must use a clear quiet, restful persuasive voice--
   a) Relax throat muscles
   b) Use abdominal breathing for tone quality
   c) Use rich full vowels and clear distinct consonants
   d) Change pitch and pace to add variety and heighten emotion
   e) Pause to heighten interest.

APPENDIX E

LANGUAGE DEVELOPMENT

FOUNDATION OF LANGUAGE DEVELOPMENT

-Eugene T. McDonald



APPENDIX F

LANGUAGE AND THINKING SKILLS

LANGUAGE AND THINKING SKILLS

Language Skills

Pronouncing words correctly, enunciating clearly.

Speaking in complete sentences.

Relating events in sequence.

Learning to listen with understanding.

Expressing ideas clearly.

Telling original stories from pictures.

Learning and using new words correctly.

Learning to follow directions.

Thinking Skills

Holding objects in mind for observing and discussing.

Making observations and acting on new information.

Interpreting and organizing information.

Understanding relationships.

Learning to follow directions with understanding.

Responding verbally to ideas and suggestions.

Asking questions for information

Learning to solve problems.

Generalizing about information and ideas.

APPENDIX G

GUIDES FOR QUESTIONS

GUIDES FOR QUESTIONS

Level I Literal: Concrete Thinking

"What are the literal facts?"

The what, where, who, and when of the problem or story.

Level II Abstract: Interpretative and Critical Thinking

"What did it mean by what it said?"

"How does this fit with what I already know?"

Finding facts that answer a question

Weighing evidence

Reasoning from cause to effect

Applying facts to a specific situation

Proving an answer with an illustration

Making references

Differentiating reality from "pretend" situations

Note: Since kindergarten children do not read opportunities for training at this level would probably come from children's questions and statements and the statements children hear.

Level III Elaborative: Creative Thinking

"What can I do with this information?"

"How can I apply part of this information in another situation?"

APPENDIX H

SOCIAL MALADJUSTMENT

SOCIAL MALADJUSTMENT

Withdrawing Behavior	Attacking Behavior
Shyness, timidity, cowardliness	Temper outburst
Unsocial, solitariness inability to make friends	Agressiveness defiant attitude, resistance to authority, disobedience
Dreaminess	Quarrelsomeness fighting, boasting
Extreme docility, overdependence on adults or on routine	Rejection of school routine wanting always to be the leader in school activities or to pursue own methods of work
Sensitiveness to criticism feeling easily hurt	
Fearfulness, suspiciousness	Contentiousness, poor sportsmanship
Pedantry, overindulgence in school work	Overactivity
	Delinquency, truancy

APPENDIX I

SCREENING TESTS

AMBLYOPIA SCREENING TEST

Amblyopia refers to the failure of the development of one eye and is the leading cause of partial blindness in children. About one in 20 American youngsters are afflicted with this condition and as many as 100,000 each year. Experts say the child with amblyopia must be found by the time he is three or four. Times is a factor because vision development ends by the age of six or seven. Correction may require one to two years and must be completed before visional development ends.

For these reasons Head Start Project, P.T.A., Optometrist Auxiliary, Society For the Prevention of Blindness and other groups strongly urge a screening test at kindergarten entrance. The writer initiated a pilot project in this area to ascertain if: (1) the incident of amblyopia cases in the local school were comparable to the national estimate, (2) a suitable test could be devised to elicit satisfactory response from the child, (3) local P.T.A. members could be trained to administer the test efficiently, and (4) the test could be given in a short time using school facilities. It was found three out of thirty cases showed signs of amblyopia on the Motilities Test. The children responded readily except in one case. One child refused to go into the testing room. The consultant found the trained volunteers were most efficient. The testing required about three minutes per child. An adequate testing room was easily located in the school building.

On the basis of this pilot study, the writer would strongly advise an amblyopia screening test as a part of the reading readiness program.

AMBLYOPIA SCREENING TEST

Consultant, Dr. Morlong

The following are the four items we checked during the screening session.

I. External Appearance of the eyes.
   A. Inflammation
   B. Swelling
   C. Styes etc.

2. Identification (Acuity)
   A. Leg E's (which way does the leg point?)
   B. Imbalance (is one eye better)

3. Motilities (ability to move the eyes together)
   A. Horizontal
   B. Vertical
   C. Diagonal
   D. Push up to at least 3" of the eyes

4. Eye Alignment
   A. Movement of eye when covered?
   B. Covered eye adjusts when cover is removed?
   C. Covered eye does not adjust but stays "crooked"

THIS IS NOT A VISUAL EXAM. IT IS A SCREENING TO DETERMINE IF A MORE THOROUGH STUDY OF THE VISUAL ABILITIES OF THE CHILD SEEMS URGENT.

ROEBKE INVENTORY

To Determine Kindergarten & School Readiness

Name_____ Sex ____

Date_____

Born_____
yr. mo. day

Age _____
yr. mo. day

I ___ Total

II ___

III ___ Readiness Age

IV ___

V ___

VI ___ YRS MOS

Note: Write in any extra comments you have.

SECTION I

Development in Daily Living Skills (self-help tasks)
Score one point each except Item 6. 10 possible points

_____ 1. Can he wash his face and hands unassisted? (1 point)

_____ 2. Does he care for himself at toilet? (1 point)

_____ 3. Does he dress himself unaided, fastening accessible buttons and beginning to learn to work zipper and tie a bow knot? (1 point)

_____ 4. Can he help at little household tasks? (1 point)

_____ 5. Will he give heed and understand simple safety rules concerning street traffic? (1 point)

_____ 6. Can he stick to a task? (5 points)
Almost never (1 point) Sometimes (3 points) Always (5 points) Not Often (2 points) Most of the time (4 points)

SECTION II

Motor and Manipulative Skills (Co-ordination)
Score one point each except Item 4. 5 poins possible.

_____ 1. Is his hand dominance established? Right or left? (1 point)

_____ 2. Can he skip? (1 point)

_____ 3. Can he walk 3 yards on toes without touching his heels to the floor? (1 point)

_____ 4. Can he handle scissors well enough to cut newspaper strips?
Very well (2 points) Fairly well (1 point)

SECTION III

Eye Development. 3 possible points.

_____ 1. When copying his name in capital letters does he reverse the order as (MOT)? Sometimes (1 point) Never (2 points)

_____ 2. Does he look at books upside down? No (1 point)

SECTION IV

Intellectual Growth
Score 1 point each except the last 4 items. 34 possible points.

_____ 1. Does he enjoy books and stories? (1 point)

_____ 2. Do his questions reveal he is thinking? (1 point)

_____ 3. Does he try to sing songs heard on record player, TV, radio, or at Sunday School? (1 point)

_____ 4. Can he work simple puzzled--6 to 10 pieces? (1 point)

_____ 5. Can he perform for others, recite a short nursery rhyme, or sing a short song or phrase of a song? (1 point)

_____ 6. Can he tell his full name, and is he trying to learn his telephone number and home address? (1 point)

_____ 7. Can he tell the meaning of familiar words in terms of use? For example:

Ask "What is a bed?"	Answer:	To sleep on (1 point)
What is a chair?		To sit on
What is a car?		To ride in
What is a book?		To read
What is a cookie?		To eat

_____ 8. Does he listen most of the time when others speak, and can he follow simple directions? (1 point)

_____ 9. When he looks at a magazine can he identify and appear to have a concept (idea) of the things that surround him such as: cars, food, animals, household and clothing items, etc.? (1 point)

_____ 10. Can he recognize colors? (4 points)
3 colors (1 point) 5 colors (3 points)
4 colors (2 points) more than 5 (4 points)

_____ 11. Can he count to 5 or more? (5 points)
Count to 5 (1 point) Count to 50 (4 points)
Count to 10 (2 points) Count to 100 (5 points)
Count to 25 (3 points)

_____ 12. Can he handle drayons or pencil well enough to use a color book, make a freehand picture, and make a recognizable picture of a man (head, body, arms, legs without a copy)? (4 points)
Color book (1 point) Poor man (3 points)
Picture (2 points) Good man (4 points)

_____ 13. Is he able to copy a few letters or print his name if it is short and simple? (4 points)
Make 2 or 3 letters (1 point) Print name fairly
Make many letters (2 points) well (3 points)
Print name well (4 points)

_____ 14. Can he copy or a fairly successful attempt at copying the following forms: 1 point each form (4 points)

_____ 15. Can he name 6 animals in a minute? (4 points)
6 animals (1 point) 10 animals (3 points)
8 animals (2 points) 12 animals (4 points)

SECTION V

Speech and Language Growth. 12 possible points.

_____ 1. Is his vocabulary limited? No answer (1 Point)

_____ 2. Is his sentence structure poor? "Me do it." "He --- here." (Omit verb) No answer (1 point)

_____ 3. Has he overcome most of his "baby talk" habits? (10 points) Here are some common errors to check. Each error made deducts 1 point from total score of 10 for perfect speech.
Sound substitutions:
w for r --- wod for rod
s for th --- sank for thank
sh for s or ch --- shix for six, shair for chair
l for y --- lellow for yellow
t for c --- tat for cat, tome for come
d for th or g --- dish for this, do for go, modder for mother
Sound omissions:
t for st --- top for stop
s for sh --- see for she, dis for dish
omission of initial sounds --- es for yes

SECTION VI

Part A

Security and Maturity Indicators.
Score 1 point each except the last 2 items. 11 possible points.

_____ 1. Can he walk down stairs one step per tread? (1 point)

_____ 2. Can he play with others without extreme aggressiveness or selfishness or without withdrawal and refusal to participate at all? (1 point)

_____ 3. Can he initiate play activities or does he always say, "What can I do now?" (1 point)

_____ 4. Did his baby teeth erupt (cut) on time and in the right order? (Some eruption before the end of the first year. Lower incisors first and then upper incisors.) (1 point)

_____ 5. Will he be able to remain at school without his mother without constant emotional upset? (2 points) All the time (2 points) Most of the time (1 point)

_____ 6. Is he mature enough to sit still and give attention for a reasonable amount of time? (5 points)
Very short attention span (1 point)
Will sit still a little while (2 points)
Attends when he wants to but otherwise not too well (3 points)
Attends well most of the time (4 points)
Can give attention a long time (5 points)

Part B

Evidence of Immaturity and Insecurity. 48 possible points.
Score 3 points for hardly ever no problem at all
2 points for sometimes but not a serious problem
1 point for most of the time (a real problem)

_____ 1. Tense muscles

_____ 2. Talking constantly or very little

_____ 3. High-pitched voice and screaming

_____ 4. Frequent crying, whining or fussing

_____ 5. Hostile and unfriendly

_____ 6. Defensive attitude and behavior

_____ 7. Inability to accept suggestions

_____ 8. Abnormally aggressive or withdrawn or retreats

_____ 9. Exhibits nervous habits such as thumbsucking

_____ 10. Demands attention. Asks needless or repeated questions, seeking reassurance

_____ 11. Abnormally short attention span

_____ 12. Discontented with activities

_____ 13. Is easily frustrated

_____ 14. Acts silly

_____ 15. Stutters

_____ 16. Has abnormal fears concerning animals, people, dark, etc.

APPENDIX J

PHYSICAL SKILLS

PHYSICAL EDUCATION SKILLS FOR KINDERGARTEN

Balancing

5 year old: Walk across board placing heel of one foot against toes of the other foot at each step. Extend arms sideward for balance, and look straight ahead rather than at feet. Walk across, turn around, and walk back to original place. Walk backward across board.

6 year old: Walk to center of beam, turn around and walk to starting point.

Bouncing Balls

5 year old: Bounce and catch ball. Bounce ball to partner. Tap (bounce ball several times in succession) while standing. Tap while walking. Combine bouncing, catching, and tapping in a pattern.

6 year old: Bouncing to rhythm--bounce, tap more distance from partner. New patterns--bounce, clap; turn around and counce, etc.

Catching

5 year old: Catch with two hands a ball or beanbag thrown into air. Catch ball after a bounce. Catch beanbag or ball thrown by another child.

6 year old: More distance

Jumping

5 year old: Jump in place, landing lightly on two feet. Jump to music. Jump individual rope.

6 year old: 12" to 15"

Kicking

5 year old: Manipulate ball with feet.

6 year old: Either foot manipulated ball.

Throwing

5 year old: Throw beanbag into air and catch it. Throw underhand to partner, with vigorous swing.

6 year old: Underhand swing--foot forward through target opening.

Leaping

5 year old: Leap over 12" hurdle while running, taking off from one foot at a time and landing on one foot at a time.

6 year old: Higher hurdles.

MOTOR SKILLS IN KINDERGARTEN

Running

Good performance in normal running.
Body is inclined slightly forward with head up, toes are straight ahead, push is from toes as well as ball of foot on take-off, arms and legs swing directly forward and backward in opposition (left arm swings forward as right leg swings backward), ankle, knee and hip are flexed with each step to avoid hard landing.

Common faults.
Body is not inclined in line of direction. Toes are not used. There is too much knee action to relation to hip action. The step is not long enough to allow for free hip action. There is loss of energy when shoulders are twisted as arms swing laterally instead of directly forward.

Skipping

Good performance.
The skip is made up of a step and a hop alternating in uneven rhythm. The more upright the body the greater the lift upward on the hop, therefore the body is more upright when elevation is desired. Leg is swung free from the hip, knee relaxed. Ankle and knee are flexed in landing onforward part of foot. Arms swing freely and upward with elevation.

Common faults.
Landing flat footed. Hopping without sufficient give in knee of supporting leg. Body weight carried over back of foot instead of center-forward. Arms swing rigidly instead of freely and naturally.

Hopping

Good performance.
Knee and ankle are flexed in landing on forward part of foot, body in upright, arms are lifted to aid in elevation.

Common faults.
Landing on heels. Failure to carry push through the toes. Landing hard when there is lack of ankle, knees, and hip flexion. Body weight too far forward or too far backward for good landing.

Climbing

Good performance.
The trunk is bent slightly forward from hips, body balanced over legs to get maximum lift of the legs, head and upper back in line with lower back.

Walking

Posture: Feet pointed straight ahead or only slightly outward. Body weight should be carried slightly more on the outer borders than on the inner borders of the feet. With each step there should be a transfer of weight from heel along the outer border of the foot to all five toes, followed by vigorous push off. Legs swing straight forward and backward from hips not in a slightly circular movement around the supporting leg. Foot prints should fall in two parallel lines.

A PROPOSED GUIDE FOR STRUCTURED CURRICULUM AT KINDERGARTEN LEVEL

by

Dorothy Marie Roebke

B. S., Kansas State Teachers College, 1937

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1968

The purpose of this study was to propose a model for structured curriculum which would serve as a guide, at kindergarten level, for the implementation of research data concerning early childhood. This purpose was to be accomplished by: (1) postulating a spiral organization represented by a dimensional model to illustrate the synthesis of the curricular base and the curricular process, (2) defining the curricular base as content within the subject matter areas in the elementary school, (3) defining the curricular process as a psychological paradigm which would provide the mechanism and the techniques for the acquisition and utilization of the curricular base, and (4) proposing some tentative key concepts in the disciplines as a basis for content.

A historical perspective of the development of the kindergarten, a review of pertinent research, and language analysis of pertinent terminology provided the philosophic base, curriculum objectives and the rationale for the theoretical curriculum construct. The model was presented and described; the parts of the model were analyzed, elaborated, and oriented toward implementation within the kindergarten.

Content of the curricular base was categorized as communication and science. Communication through language and aesthetics included language arts, speech, music and visual arts. Science included social studies, science (physical and biological) and mathematics. The curricular process was analyzed in terms of creativity, thinking skills, social and

emotional maturity, motor and manipulative skills and self-help tasks in daily living. The purpose of segregating the process from the base was to demonstrate how the process gave strength and promoted synthesis in the total structure of learning and prevented the unreal dichotomy of between logical ordering of knowledge and the psychological effects on the learner.

The necessity for new directions in kindergarten were based upon the empirical evidence of research. The need for an alternate root metaphor to replace the "flower" analogy of Froebel was suggested as was the need for language analysis to clarify vague terminology.

The writer proceeded as Bruner and others by developing theory within the ecology of the learning environment. Informal studies, action research, and observations of an anectodal nature were used to supplement research data to develop a rationale for the various assumptions which were proposed. A model was used to reduce the abstraction of the rationale to concreta, which kindergarten teachers utilize daily and comprehend its contribution to understanding. Key concepts were proposed as the basis for content to promote economy in learning and to provide structure. These key concepts were defined as the basic ideas or root learnings of the disciplines. Only the most tentative key concepts were suggested in some areas because the scholars of the disciplines concerned either did not agree or did not feel the need to

present in simple terminology the basic ideas of their particular domains of knowledge.

The pertinence of this study to education of early childhood would be: (1) to focus attention to the merits of structuring kindergarten curriculum in the K-12 sequence with emphasis on key concepts, (2) to provide a frame of reference through historical perspective for curriculum building, (3) to provide a summary of current research with suggested implications, and (4) to demonstrate how the classroom teacher may contribute and participate in the improvement of instruction.