How Young Children Should Be Taught

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by

Barbara A. Jones

Thesis Director

R. Ann Williams

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How Young Children Should Be Taught

A recurring issue in the field of education is “What is the best way to teach young children?” Throughout the history of education this question has been answered with a variety of theories and teaching practices. The recent “back to basics” approach of the 1980’s created a curriculum shove down. “Teaching methods intended for high school students were imposed on first graders. The lesson of the day was more: more homework, more tests, more discipline.” Children were expected to sit quietly at their desks and listen to the teacher distribute her knowledge. (Wingert & Kantrowitz, 1989, p 6.) But this is beginning to change. More research is being done on how young children learn best, and the results are consistent with many theories of learning. A look at the theories and research supports the assertion that kindergarten children learn best in an environment and curriculum that is developmentally appropriate for them.

The Kindergarten Child

Before the appropriateness of the education of the kindergarten child can be explored, the kindergarten child must be described. This is a difficult task because all children in kindergarten are individuals and unique. They possess a wide variety of background experiences and abilities. They also possess unique developmental ages. Even if two children are the same age chronologically, they may not be the same age developmentally. Therefore, the best description of the kindergarten child is a listing of general characteristics that children at the kindergarten level possess. The Indiana Kindergarten Guide groups these characteristics into four main categories: physical characteristics, emotional characteristics, social characteristics, and cognitive
A kindergarten child has certain physical abilities that he has previously developed. He also needs to further develop his physical abilities. These physical characteristics and needs are as follows: (IN, 1989, p. 5.)

* has good loco-motor control
* has good control of large muscles
* is in the process of developing small muscle control
* tires easily when movement is restricted
* enjoys participating in physical activities
* has established eye, hand, and foot dominance
* tends to play vigorously and fatigue easily, but seldom admits being tired
* needs freedom of movement when pursuing learning activities
* needs opportunities for motor exploration when working
* needs opportunities to develop rhythmic control of body
* needs activities that continue to nurture large muscle development and refine small muscle control
* needs experiences that develop responsibility for care and safety of body
* needs adult guidance in finding acceptable outlets for tension and emotions

A kindergarten student has also reached a level of emotional development. Some characteristics of and needs to further this development are as follows: (IN, 1989, p. 6.)

* gains a sense of security from routine (which should also be flexible)
* responds to praise, affection, encouragement, and consistent expectations
* searches for fairness, trust, and understanding
* needs positive support in resolving peer conflicts
* discovers and uses socially acceptable behavior patterns with adult guidance and assistance
* exhibits regressive behavior patterns when over-stimulated, extremely tired, or not feeling well
* needs opportunities to experience joy and relaxation in order to maintain a positive emotional state
* accepts guidance and authority when the purpose is understood and reasonable
* needs success experiences which build a positive self-image and tend to generate positive interactions
* needs opportunities to interact with peers in a variety of settings-playing games, sharing stories and ideas, constructing projects, engaging in learning center tasks

**Social Characteristics**

Due to a variety of previous experiences, kindergarten children may be at many social developmental levels. However, there are some general characteristics and needs that all kindergarten children have. The Indiana Kindergarten Guide lists these as follows: (IN, 1989, pp 5-6.)

* needs attention, encouragement, and support
* is somewhat self-centered and needs adult assistance in learning to share and take turns
* enjoys talking and responds to sincere listeners
* seeks friendships and responds to group acceptance
* functions most effectively in small groups
* respects rules when involved in their development
* needs opportunities to be engaged in resolving conflicts and establishing
procedures that foster pro-social behavior

* is in the process of developing an awareness that others do not perceive situations from the same perspective

* benefits from engaging in discussions related to classroom interaction that are positive and those that need improvement

**Intellectual Characteristics**

Children do not develop intellectually at the same rate. Also, some children are involved in early learning programs such as Head Start or preschools while others have no experience in the school setting before entering kindergarten. Thus, there is a wide variety of intellectual abilities in a kindergarten classroom. However, there is a list of general intellectual characteristics and needs of the kindergarten child (IN, 1989, p 7.)

* is curious, eager, and active
* learns through firsthand experiences - exploring, manipulating materials, asking questions, making discoveries
* constructs personal knowledge about things and people
* is capable of “losing self” in an activity that is of high interest
* is eager to learn when provided with concrete experiences rather than abstract ideas
* assimilates information more readily when learnings are presented in familiar context
* needs many firsthand experiences to build the information base necessary for later meaningful reading experiences
* needs experiences that develop questioning, observing, exploring, investigating, and anticipating behaviors
* gains understanding of relationships through dramatic play, dramatization of stories, planning and constructing small group projects, and interacting in small groups in learning centers
* needs many opportunities to share ideas with peers and adults in order to
develop oral speaking and listening skills

* needs opportunities to interact with people and materials in order to develop perceptual discrimination, reasoning, and memory

* learns to follow instructions, solve problems, set goals, and develop skills when encouraged to initiate projects

Although these lists of characteristics can paint a picture of a typical kindergarten child, it is not a picture of every kindergarten child. It is important to stress that these are general characteristics. One student may need experiences to further develop a particular skill while another child may have fully developed a skill. One should not assume that a child is not ready for kindergarten because a child does not fit the picture of the “typical kindergartner”. A developmentally appropriate kindergarten curriculum will provide each student the opportunity to increase their development and meet their individual needs.

How the Kindergarten Child Learns

There is more to understanding the kindergarten child than simply knowing what his developmental levels and needs are. When planning a curriculum that is suited to a kindergarten child, the ways in which the child learns best must be considered. Extensive research has been performed to try to ascertain how young children learn. One of the most influential researchers in this field is Jean Piaget. Piaget’s theory of how children learn evolved from his work in observing the cognitive development of children.

In researching the cognitive development of children, Piaget found four developmental periods: the sensorimotor period, the preoperational period, the concrete operations period, and the formal operations period. All children pass through these four stages, in order, though each individual child progresses through
each stage at her own rate. Piaget gives age guidelines for each stage. These ages are just guidelines, some children may develop through a stage faster, some slower. The age guidelines for the preoperational stage is 2 - 7 years. In general, the kindergarten child will be at some stage of development in the preoperational stage.

During the preoperational stage of development, children begin to use symbols to represent objects. This ability to use symbols allows for the development of language. The preoperational child is also capable of thought. This thought however, is ruled by the child's perceptions, making it only partly logical. This is most clearly exemplified in Piaget's conservation assessment tasks. In one of these tasks the child is shown two rows of eight pennies. The child is asked if there is the same number of pennies in each row. After the child asserts that each row has the same number of pennies, one of the rows is spread out (lengthened). The child is again asked if there are the same number of pennies in each row. Because the child perceives the one row as longer, he answers that the longer row has more pennies. The child is using his perceptions, rather than using the logic that no pennies have been added or taken away, therefore the number of pennies has to be the same, to formulate his answer. A third characteristic of the preoperational child is the concept of "egocentrism". The child's thinking, along with being ruled by his perceptions, is also influenced by himself. A preoperational child thinks that everyone else is just like him, thinks just like him, and quite logically decides that everything he thinks and does is "right". (Wadsworth, 1978)

Knowing about the developmental stage of the kindergarten child may be at is not enough to understand how the kindergarten child learns. One must also understand the difference that Piaget sees between development and learning. According to the theory of Piaget, "cognitive development is the reorganization of
mental structures, which occurs when a person spontaneously acts on the environment (transforms it), experiences disequilibrium, and assimilates and accommodates events." (Wadsworth, 1978, p 29.) Learning affects the intellect differently. "Functionally, learning is the application of an intellectual structure to a wide variety of objects and events. That is, one learns rules about how to apply the structure, and, consequently, the structure becomes increasingly elaborate."(Strauss, 1972, p 331.) “Learning is the acquisition of a skill or of specific information based on current intellectual structures or development.” (Wadsworth, 1978, p 30.) Thus, followers of Piaget would believe that learning is dependent on the structures which are formed through interaction with the environment. These structures are formed during development. Therefore, learning is influenced by a child's development.

If learning is dependent on a child's development, and that development occurs when a child interacts with his environment, then a child will learn best in a situation where interaction with the environment is allowed and encouraged.

" The educational moral here is simple. Children acquire knowledge about the physical properties of objects by manipulating the objects. Implicit in Piaget’s work is that all other ways of coming to know objects are qualitatively inferior. Reading about, or listening to someone talk about, an object cannot provide the quality of knowing that can be acquired by actively manipulating the object." (Wadsworth, 1978, p 50.)

If one is to use Piaget’s theory in the classroom, the traditional role of the teacher cannot be followed. According to Wadsworth (1978), there are six principles of teaching using the theories of Piaget. These principles are based on the premise that “teaching at all levels of education must be founded on the activity of the learner.” The first of these principles is “Create an environment and atmosphere in which children will be active and initiate and complete their own activities. Provide time to spare and materials to complete self-initiated activities.” (Wadsworth, 1978, p 103.) This
environment is not simply the aspects of materials, space, structures, etc., but also includes the relationships that exist between the adults and children and between the children themselves.

The second principle is “With regard to social-arbitrary knowledge, tell the child the right answer (give him feedback about his answers) and reinforce social-arbitrary knowledge. In physical knowledge, encourage the child to find the answer directly from activity on objects. In logical-mathematical knowledge, refrain from telling the right answer and reinforcing it.” (Wadsworth, 1978, p 104.) One should not reinforce or correct verbally action that uses logical-mathematical or physical knowledge because this knowledge is constructed by the child on his own. To make corrections to this knowledge, the child must reconstruct or construct further the structures he has developed. This is accomplished by interaction, not by passive listening. Social-arbitrary knowledge can be verbally given, corrected, and reinforced because the source of social-arbitrary knowledge is society, or other people.

“Let the preoperational child go through stages of being wrong” (Wadsworth, 1978, p 106.) is the third principle. Children need to construct their own preoperational knowledge rather than memorize adult knowledge. If the child is not able to progress through stages of being wrong, he may simply memorize the adult knowledge responses and rely on them rather than thinking on his own.

The fourth principle for teaching with the theory of Piaget, “Some types of knowledge are best learned (and motivated) from interaction with other children,” (Wadsworth, 1978, p 107.) deals with the preoperational characteristic of egocentrism. Egocentrism is broken down through interactions with other peers. These interactions can also develop logical-mathematical and social-arbitrary knowledge by “disequilibrating or shaking up the egocentric conceptualizations of the child and
providing information or feedback to the child about the validity of his social and logical constructions.”

Principle number five is “View all aspects of knowledge as inseparable.” (Wadsworth, 1978, p. 110.) Theorists can separate the aspects of knowledge conceptually to better discuss them, but in the child’s mind and behavior, the aspects cannot be separated.

The last principle is “If you want a child to acquire a specific fact or piece of content that is not available to him, teach it directly and reinforce the learning.” (Wadsworth, 1978, p. 110.) There are some things that a child must learn which cannot be effectively learned through construction of knowledge. For example, children need to learn that crossing the road without looking is dangerous. Allowing the child to interact with his environment to construct this knowledge could be fatal. Things children should not do for justifiable reasons may be taught through direct instruction.

In a classroom that allows for and encourages interaction with the environment, the teacher can not be a disseminator of knowledge and facts, but must be a questioner and facilitator of learning. The teacher manages the environment. She establishes the environment, employing the above principles, to allow the children to have the interactions that are necessary for their individual developmental growth.

**Forming A Developmentally Appropriate Curriculum**

With the knowledge of what kindergarten children are like and how they learn best, consideration can be given to developing a curriculum that is developmentally appropriate for the kindergarten child. To do this, the term “developmentally appropriate” must be defined. A simple definition was given by Wingert and
Kantrowitz - “a curriculum based on what scientists know about how young children
learn.” (Wingert & Kantrowitz, 1989, p 45.) The NAEYC asserts that the term
“developmentally appropriate” has two aspects: age appropriateness and individual
appropriateness. (Bredekamp, 1987) For a curriculum to be age appropriate it must
coincide with the children’s age and developmental levels. For this to occur, the
curriculum developers and the teachers must have knowledge of child development.
A child’s rate of development, his background experiences, his personality, and his
learning style differentiate him from other children, therefore, the curriculum must be
appropriate for each individual child. (Bredekamp, 1987)

Current Kindergarten Practices

Curriculum Goals

To plan a developmentally appropriate curriculum, developers must have a
knowledge of how a kindergarten child develops, and how a kindergarten child learns
best. The first step in developing this curriculum is to set appropriate goals.
Administrators need to be careful to not set goals that are too specific. “When the
goals are so specific, the tendency is for teachers to instruct everyone with the same
material, usually by rote, with worksheets and through lots of practice.” (McCaug, 1988,
p 35.) This may seem to be the traditional method, but in reality, this method does not
take into consideration the fact that children learn actively, through hands on
experiences. There are other downfalls curriculum developers often fall into. They
focus goals on the intellectual development of kindergartners, ignoring the other areas
of development (physical, emotional, and social) and the interrelatedness of these
areas. Another downfall concerns student evaluations. Many times kindergartners are
expected to perform at adult standards or at a standardized norm. This practice is
based on the false assumption that all students are alike and can be expected to do
the same tasks at the same level, and achieve mastery of skills at the same rate. It is
inappropriate when the child's worth is determined by performance in these skills. (Bredekamp, 1987) If the standards of performance are inappropriate and unattainable by most kindergarten children, then evaluating their worth by these standards will only lead to a poor self-image and a poor attitude towards learning.

There are ways to form curriculum goals that coincide with children's development and learning styles. The NAEYC lists three appropriate practices in Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8. These are as follows:

* Experiences are provided that meet children's needs and stimulate learning in all developmental areas-- physical, social, emotional, and intellectual.

* Each child is viewed as a unique person with an individual pattern and timing of growth and development. The curriculum and adults' interaction are responsive to individual differences in ability and interests. Different levels of ability, development, and learning styles are expected, accepted, and used to design appropriate activities.

* Interactions and activities are designed to develop children's self-esteem and positive feelings toward learning. (Bredekamp, 1987, p 54.)

Following these guidelines in formulating curriculum goals provides for growth in all aspects of development, individual learning in a manner that is consistent with each child's development and needs, and promotion of a positive self-image and attitude towards learning.

Once the curriculum goals are determined, then work begins to achieve these goals. If developmentally appropriate goals are to be reached, then developmentally appropriate teaching practices must be used in all areas of the curriculum.

**Math**

Mathematics is one of two curriculum areas society called to be increased in the
1960's. The assertion that American children were behind the Russians in Mathematics led to an increase of math in the elementary school curriculum. In order to assure that graduating high school seniors had more math experiences, math education started earlier. This meant formal Mathematics began in the kindergarten. This brought about rote learning of the numerals and shapes. These skills were taught by math workbooks and worksheets. Students opened their books to page 10 in unison. The teacher drew the numeral “1” on the board and said “This is the number one. Can you find a number one on your page? Circle the number one.” This activity seemed to meet new curriculum goals (more mathematics were introduced earlier) but was it effective? Were the students really learning the concepts? Were they comprehending the concepts well enough to master the next concepts that are built on these? The answer to these questions is “No” when Piaget's theory of how children learn is considered. Piaget's theory asserts that children learn by interacting with their environment, through manipulation of objects and materials, through creating disequilibrium and constructing new structures of knowledge. (Wadsworth, 1978) The Indiana Curriculum Guide emphasizes this in their statement, “Kindergarten children develop the ability to understand mathematical relationships through concrete experiences.” (IN, 1989, p 44.) These concrete experiences may be integrated as part of a thematic unit, be taught formally, or be taught informally.

What are some appropriate goals for the math portion of a kindergarten curriculum. The Indiana Kindergarten Guide lists the following goals:

- Seeing many different relationships between objects
- Quantifying objects logically and comparing sets
- Seeing relationships associated with balance and weight
- Seeing relationships associated with length and area
- Seeing relationships associated with volume and capacity
- Seeing relationships associated with time
* Seeing relationships associated with size and shape
* Acquiring a mathematical vocabulary
* Recording mathematical concepts symbolically
  (IN, 1989, p 44.)

These goals do not call for evaluation of children by performance, they call for the provision of experiences that will facilitate the formation of cognitive structures for math learning. Therefore, they are consistent with the means by which children learn.

There are several ways to meet developmentally appropriate goals. One way is to provide active exploration and interaction with the environment involving mathematics. This can be accomplished by having a math learning center or learning area in the classroom. This area should encourage “counting, sorting, classifying, sequencing, recording, and measuring.” (IN, 1989, p 15.) There should be materials such as objects for counting and sorting, blocks, cups, muffin tins, spoons, tape measures, measuring cups, meter sticks, scales, calendars, clocks, sandpaper and felt numerals, and wood cut-out numerals present in this area to perform these activities.

**Science**

Science is the second curriculum area that society demanded an increase in. This increase led to greater competition at science fairs and a greater emphasis on the scientific method. Introducing science at the kindergarten level was a means of better preparing students for the more advanced science classes yet to come in their education.

Science as a curriculum component in the kindergarten is not inappropriate, but the methods used to teach it may be. Many times science is taught from a textbook and related worksheets. Experiments are performed as a demonstration by the teacher, not as student hands-on activities. A science area may be in the classroom, but often the materials have been there so long, the children show little or no interest.
Science is a curriculum area that can easily be taught by developmentally appropriate means to develop skills such as observing, recording, predicting, classifying, and experimenting. A simple method to bring science into the kindergarten curriculum is to provide classroom pets and plants for the children to observe and care for. Rather than strictly following a science text, teachable moments should be used to their full advantage. (Bredekamp, 1987) For example, the San Francisco Earthquake of 1989 was a great lead in for discussing earthquakes. Students heard about the quake on the radio and television, and had many questions and concerns about earthquakes. A class of first grade students in Indiana were overheard discussing the earthquake. One said, “Yeah, the earthquake will get here by Thursday. It's moving across the country and it's in Colorado now.” This brought about a growing fear in the students. A small unit on earthquakes, even though it was not in the science text or planned for that time, helped to dispel these fears.

An important part of the classroom environment for science learning is the science center. This area should include a variety of things to investigate. Some things that might be included are listed in the Indiana Kindergarten Guide: “magnets, prisms, magnifying glasses, churn, insect cage, small animal cage, eye droppers, air pump, water pump, plastic containers, pans, trays, funnels, pulleys and wheels, rocks, fossils, and sea shells.” (IN, 1989, p 15.) This is not an inclusive list. Other materials that foster investigation skills can also be used.

Social Studies

Social Studies, like science, is another curriculum area that should not come from a textbook during the kindergarten year. This assertion is supported by the NAEYC's summary statement of inappropriate practice in teaching social studies. “Social Studies instruction is included occasionally after the
reading and math programs are completed. Social Studies projects, usually related to holidays, consist of completing brief activities from the social studies textbook or reading a commercially developed weekly newspaper and doing the accompanying seatwork.” (Bredekamp, 1987, p 71.)

There are several other methods of teaching Social Studies that are consistent with kindergartners' development and needs. For example, a dramatic play center can encourage social interaction skills. This center can also increase familiarity of community services such as: doctors, policemen, firefighters, druggists, etc., by placing articles and manipulatives in the drama center so children can role play these community services. These manipulatives may be placed in the center to correspond to extended thematic social studies units. (IN, 1989) These units may also be expanded on by a variety of other instructional activities such as field trips and games. (Bredekamp, 1987)

Music

In the kindergartens of today, music is usually taught as a special class by a specialized music teacher. The instruction usually comes from a formalized music textbook. This practice is not consistent with the NAEYC guideline which states “. . . music . . . is integrated throughout each day as relevant to the curriculum and as needed for children to express themselves aesthetically and physically and to express ideas and feelings.” (Bredekamp, 1987, p 72.) One way to integrate music in the kindergarten curriculum is to set up a music center. This center should be placed so there is room for children to move with music. There should also be rhythm instruments easily accessible for creating music and playing along with recordings. A tape recorder, record player, tapes and records should also be available. (IN, 1989)

Another choice that can be utilized in conjunction with the music center is practiced in the kindergarten curriculum at the Burris Laboratory School in Muncie, IN. Each day fifteen minutes is devoted to music and rhythmic activities and fingerplays.
The daily songs and fingerplays relate to concepts and themes of the week. For example, if the class is working on the color red, they may sing “I’m a tomato” and recite fingerplays such as “The Red Fire Engine” and “A Red Apple”. (McDougal, unpublished)

**Art**

Art instruction in the kindergarten has traditionally consisted of “coloring predrawn forms, copying an adult-made model of a product, or following other adult-prescribed directions.” (Bredekamp, 1987, p 56.) In contrast, developmentally appropriate art instruction encourages creative expression through a variety of media. An art center is an excellent way to provide art experiences. There should be easy to clean floor coverings, a nearby water supply, tables, easels, paint aprons, paper, finger paints, construction paper, glue, markers, crayons, scissors, clay, etc. available at the art center. (IN, 1989)

The Burris kindergarten curriculum allows a variety of art experiences such as “cutting, tearing, pasting, coloring, painting, working with clay, finger painting, paper folding, stitchery, weaving, using colored chalk, making “dough”, making collages from large variety of materials, making puppets, monoprinting, vegetable printing, splatter painting, sewing, using plaster of paris, making sand candles.” (McDougal, unpublished)

**Physical Activity**

The discrepancy between appropriate and inappropriate teaching practices of physical activities is best shown in Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8. The NAEYC states the traditional practice of teaching physical activity is inappropriate in the following statement.

“Opportunity for large muscle activity is limited. Outdoor time
is limited because it is viewed as interfering with instructional
time or, if provided, is viewed as recess (a way to get children
to use up excess energy), rather than an integral part of
children’s learning environment.” (Bredekamp, 1987, p 56.)

This is not consistent with the developmental needs of kindergarten children. As
stated earlier, the Indiana Curriculum Guide lists the following as the needs of
kindergarten children in the area of physical development.

* enjoys participating in physical activities
* needs freedom of movement when pursuing learning activities
* needs opportunities for motor exploration when working
* needs opportunities to develop rhythmic control of body
* needs activities that continue to nurture large muscle development and refine
  small muscle control (IN, 1989, p 5.)

The NAEYC states that the developmentally appropriate instruction of physical
activity is as follows:

“Children have daily opportunities to use large muscles,
including running, jumping, and balancing. Outdoor
activity is planned daily so children can develop large
muscle skills, learn about outdoor environments, and
express themselves freely and loudly.” (Bredekamp, 1987, p 56.)

Learning centers developed for each of the curriculum area may cause
teachers to think each curriculum area should be treated as a separate subject. This
would be inappropriate. (Bredekamp, 1987) In addition to the centers, the curriculum
areas should also be addressed through integrated lesson plans. An example of such
a plan is the cooking of stew. Math is involved in measuring, language is involved in
writing and reading the recipe, science is involved in predicting and observing what
happens to the ingredients during cooking, and social studies is involved in the group
interaction and cooperation necessary for completing the project. Each area
contributes to make one meaningful learning activity.
Reading and Language Development

How Children Acquire Language

The last area to discuss in curriculum development is the most important, the development of reading and language skills in the kindergarten.

The characteristics of the kindergarten child and the means by which kindergarten children learn best were discussed earlier. But there is an additional area in which curriculum developers must be knowledgeable to effectively plan a reading and language program that is consistent with a kindergartner’s development and needs. This is the area of language development. One must know how children acquire language to be able to help them develop language skills.

As was the case with cognitive development, there are many theories of language development. One well-known theory is Piaget’s theory of language development. According to Piaget’s theory, children must have developed representational knowledge before they can develop the use of language. “Language refers to the child’s use of a symbol (a word) to represent an object.” (Wadsworth, 1978) Earlier it was stated that “During the preoperational stage of development, children begin to use symbols to represent objects.” Thus, kindergartners in the preoperational stage of cognitive development are in the process of developing language. Another preoperational characteristic is exhibited in language development. A preoperational child is egocentric. “Children’s first words are egocentric, or centered in their own actions. Children talk about themselves and what they do.” (Morrow, 1989, p 42.) Children’s language relates to things they have actively experienced, therefore, fostering children’s language development following the theory of Piaget would require providing a variety of interactive experiences and of opportunities to use language to describe and discuss experiences.
How Children Acquire Reading Skills

Like any area of education, there are a variety of theories of how children begin to read. Some theories stress social interaction, some stress modeling a purpose for reading, and some stress being read to. Each theory possesses strengths which should be utilized in an early reading instruction program.

Teale and Holdaway view reading as a result of social interaction and emulative behavior. "Teale views literacy as the result of children's involvement in reading activities mediated by literate others." (Morrow, 1989, p 72.) These interactions help children learn reading functions and conventions. They also illustrate the enjoyment and satisfaction of reading, developing a desire to learn to read in the child. There are four processes that children use to acquire the ability to read through these interactions. They are: (1) observation of reading behaviors, (2) collaboration with the interacting individual, (3) practice, and (4) performance. Reading instruction based on this theory should provide experiences where children see adults model reading behavior and interact socially with other readers. Students should be provided the opportunities to practice the skills they are developing. (Morrow, 1989)

Another theory of reading acquisition centers around studies that show "that young children acquire their first information about reading and writing through their functional uses." (Morrow, 1989, p 76.) The language forms that children encounter daily (directions on toys, telephone messages, menus, mail, magazines, storybooks, letters, road signs, etc.) show children there is a purpose for writing and reading. Children interact with these forms of literacy, may role-play at them, and gain an understanding of them. Reading instruction should be based on experiences that are similar to these experiences that children have already encountered. (Morrow, 1989)

A third theory of reading development stresses the role of reading to children.
Studies show reading to children "aids development of literacy skills, increases interest in books and in learning to read, enhances background information and sense of story structure, and familiarizes children with the language of books as opposed to oral language." (Morrow, 1989, p 77.) Reading instruction based on this theory would emphasize reading to children daily.

Each of these theories calls for a different emphasis in the instructional reading program. Many traditional curriculum approaches focus on only one of these theories, while the new concept of "emergent literacy" endorses a combination of these theories.

**Traditional Practices of Reading Instruction**

Traditionally reading instruction has been extremely formalized. When the "back to basics" curriculum reform occurred in the 1980's, this formalized reading instruction became a part of the kindergarten curriculum. (Hiebert, 1988) The commercial reading programs used in many kindergarten classrooms seldom offer developmentally appropriate reading lessons. Critics may argue that teachers can add to the lessons in the teacher's manuals, but all too often teachers follow the manual too closely. They either do not have the knowledge necessary, or do not have the extra time that is required to adapt the given lessons.

**Traditional Practices of Writing Instruction**

The traditional kindergarten curriculum has little to offer in a developmentally appropriate writing program. The traditional kindergarten offers a handwriting program, a writing program based on the correct formation of the letters of the alphabet. (Bredekamp, 1987) Often performance is assessed by the neatness or perfectness of the letters written. Physical development characteristics of a kindergartner were given earlier. The list included the following characteristic: "is in
the process of developing small muscle control" and the following need: "needs activities that continue to nurture large muscle development and refine small muscle control." (IN, 1989, p 5.) Consideration of these statements leads to the conclusion that traditional handwriting instruction and assessment methods are inappropriate for kindergartners. A child can not be expected to write a perfect "A" or "a" when he is still in the process of developing the small muscle control necessary for such a task. Group instruction of writing in this manner is devastatingly inappropriate given the knowledge that all children develop individually.

Developmentally Appropriate Reading Instruction Practices

The theories of reading acquisition emphasized the role of interaction with reading and writing in developing an awareness of their function and purpose. One method to promote interaction with literacy in the kindergarten curriculum is to provide a variety of daily writing activities. This can be easily accomplished by developing a classroom writing center. The writing center should provide a variety of writing materials (pencils, pens, crayons, markers, chalk, etc.) and a variety of papers (construction, different sizes and shapes, newsprint, typing, manila). (Strickland & Morrow, 1988; Martinez & Teale, 1987; IN, 1989) It is important that the paper be unlined so that the paper does not tell the child there is a "right" and a "wrong" way to use it like lined or story paper might. (Martinez & Teale, 1987) There should also be materials available for bookmaking such as: holepunch, stapler, yarn, etc.. (Strickland & Morrow, 1988) Children should be able to write down their own stories at the center, but dictation may make use of the writing center more appealing to students early in the year. For dictation either a tape recorder, or classroom aide, or parent volunteer may be utilized to record a child's story. The use of invented spellings should be encouraged. The focus of the writing center is to involve students in the creative process of writing. It is not to have students write stories without spelling or
Another method to promote writing in the kindergarten curriculum is to dictate whole class stories. This can be done daily or weekly, but should be done on a routine basis. After a learning experience or field trip the class may write a story as a group. The dictated stories can then be made into class books, which can be placed in the classroom library.

A third method of having children interact with print is to have a classroom library. Elementary schools contain a school library, but often kindergarten classes are allowed only limited time in the library. To encourage daily interaction with books, a library should be available in the classroom. The library should be in an area that is comfortable and inviting, yet offers quiet and privacy for reading. A variety of books with a variety of reading levels should be provided. Rotation or replacement of the books is recommended to maintain interest. Class favorites may be left for longer periods of time and should be present in multiple copies. (Strickland & Morrow, 1988)

A fourth, and important, method for encouraging interaction with literacy is a daily storytime. Story time is a time of the day where comprehension skills can be introduced. For example, after reading a story to the class, the teacher can ask students what happened in the story. The students can develop recall and sequencing skills in this manner. Predicting skills can easily be practiced during the daily storytime. During the reading of a story, the teacher can periodically stop and ask the children what they think will happen next and why they think that will happen.

The books chosen for the storytime have an impact on the students. The use of predictable books, rhyming books, big books, and favorite stories can encourage a greater involvement from kindergarten students. Predictable books allow students to chime in on repeated phrases. This active involvement in the story helps children keep their attention focused on the story and teaches them that reading is enjoyable.

Using these methods requires a combination of reading acquisition theories.
Children are able to interact with literate adults, adults are seen modeling literate behaviors, children see the purpose of writing and reading, and children are read to. Consistent with Piaget's theory of learning and language development, these methods require children to play an active role in the reading and writing curriculum, helping them construct knowledge about language.

**Conclusion**

There are many aspects to consider when planning a developmentally appropriate kindergarten curriculum. The most important aspects concern the children involved. The development, learning styles, and needs of the kindergarten child greatly influence the formation of a kindergarten curriculum. A curriculum that is consistent with the development, needs and modes of learning of kindergartners will advocate an individualized, active, hands-on approach to education and learning. Often school systems expect kindergartners to sit quietly at their seats or desks and complete worksheets or workbooks. This is inconsistent with the mode by which kindergarten children learn. These children learn through interacting with their environment, from participating in active, concrete learning experiences. Sitting quietly at a desk does not require interaction or action and does not promote emotional, social, physical, or cognitive development. Since Piaget's theory emphasizes the dependence of learning on development (Wadsworth, 1978), such expectations do not promote learning. However, if kindergarten students are provided concrete experiences which are based on their individual developmental level, needs, and learning style, they will be learning in the best educational environment. Although within this paper a variety of teaching methods were discussed, there are other teaching methods which may be utilized in a developmentally appropriate kindergarten curriculum. Any teaching method is
developmentally appropriate if it is consistent with an individual child’s development, needs, and learning style. A kindergarten curriculum that is based on goals and teaching methods that are consistent with the characteristics of the children involved, will provide the students the educational environment that will help them learn best.


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