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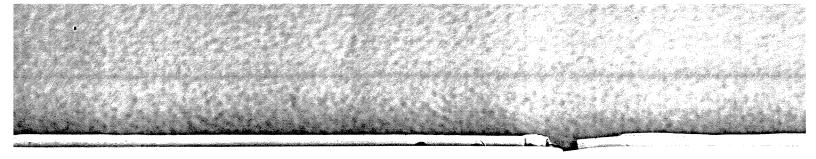irowth of the Emotions." In *Psychol-*
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II THE PRESCHOOL CURRICULUM: INTEGRATING PROCESS AND CONTENT

Susan Stengel

Dr. Susan Stengel is assistant professor of education at State University College at Fredonia, New York. Dr. Stengel has had extensive experience in both the creation and the implementation of early childhood and elementary-level curricula in both private and public schools. As a staff associate with the Center for the Study of Human Potential, University of Massachusetts at Amherst, she directed the implementation of a comprehensive developmentally based early childhood education model in the Earl C. McGraw School, Hampden, Maine, for kindergarten through grade 3 under the auspices of Title III E.S.E.A. funding.

INTRODUCTION

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INTRODUCTION

The administrator of a day care program functions as the instructional leader and, as such, must be thoroughly familiar with the nature of curriculum, curriculum planning, and curriculum implementation. While the administrator may not be directly responsible for planning and implementing the curriculum, knowledge of curriculum is imperative if he or she is going to train teachers, guide them, and answer their questions; consult with parents and with other professionals; and provide the space, equipment and materials needed by the teachers to implement the curriculum. The administrator is responsible for developing with the teachers a general curriculum plan that serves the entire program to provide coherence and consistency in the system.

To be effective, the curriculum must be based on sound theoretical principles and current research in child development, thus guaranteeing its relevance to the needs of children. It must be both comprehensive and specific if teachers are to be adequately guided by it in planning experiences for children. This chapter offers a definition of curriculum and its component parts based on developmental principles, outlines the major curriculum areas and provides sample experiences within each area, and suggests teaching approaches consistent with the curriculum.

The comprehensive framework provided here can be used by administrators and, in particular, to set the stage for curriculum planning for the entire center. From this general outline, specific curricula can be designed to meet the needs and abilities of any particular group of children in a given facility. Administrators and teachers will be able to evaluate existing or new curricula on the basis of the guidelines presented here. Administrators will know what questions to ask in order to help teachers continually improve the curriculum and the process of curriculum planning.

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WHAT IS A CURRICULUM?

A curriculum is composed of three basic components: goals, objectives, and activities. Goals are general statements of what the children are expected to accomplish (e.g., "to become physically fit," or "to learn table manners"). Objectives are more specific statements describing exactly what behaviors will be accepted as evidence that the goal has been achieved (e.g., "to hop on one foot for a distance of at least six feet," or "to say 'thank you' when the teacher gives you some milk"). Activities are the means by which the goals and objectives are achieved; they also can be used to determine whether or not an objective has been achieved. They are the specific interactions the child has with the environment, whether planned by the teacher or initiated by the child.

It is important for teachers to have a plan for what will happen in the classroom before they get there, but it is also important for the plan to be flexible. At the beginning of the year, administrators and staff should sit down together and determine the general program goals (if not already explicit).[1] For example, "The program will facilitate the physical, mental and emotional growth of children ages 3 to 5"; or "The program will provide a place for working mothers to leave their children during the day." Secondly, goals for the children that will span the entire year should be discussed. For example, "The children will improve their language skills"; or "The children will have opportunities to exercise the large muscles and to gain control over them." From these goals the environment can be organized (see Chapter III), and basic materials can be acquired. Such goals probably will remain consistent throughout the year.

With the general goals in mind, the teachers can begin to establish shorter-term goals, objectives, and activities individually, or in small groups. Shorter-term goals depend on the particular children with whom a teacher works and can be changed from day to day and week to week depending on their needs. The goals, objectives, and activities for children may be categorized as follows.

The specific goals and objectives of the curriculum for children fall into two categories: process and content. *Process* refers to the "hows" of learning; *content* refers to the "whats." For example, "knowing how to distinguish red from blue" is a process goal; "knowing that colors have names" and "knowing the name *red*" are content goals. Process and content goals and objectives are always interrelated. While they may be separated for purposes of explanation and study, they can never be separated in actual experience. Thus, every interaction between a child and his or her environment involves both process and content aspects that must be considered by the teacher, although emphasis may be placed on one aspect over the other for a given experience. Part of this chapter will focus on the kinds of process and content goals appropriate for preschool children.

[1] You may want to consider the goals and objectives developed by the Child Development Associates (CDA) consortium.

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Other types of goals and objectives cannot easily be classified as either process or content; they require a combination of the two. The symbol systems—math, language, and art—are integrated systems of this type. Symbol systems are the means by which we learn about our environment and communicate to others. It is important for children to receive early experiences that help them express themselves accurately and gain information from others and from the environment.

Another set of goals has to do with the ways in which one interacts with the various environments—physical, human, and unknown.[2] They may be called higher-order competencies: technological competence, moral competence, and philosophical/religious competence, respectively. Certain kinds of information and skills are necessary for people to function effectively in the world and young children can begin acquiring them. The goals in these areas will be summarized briefly.
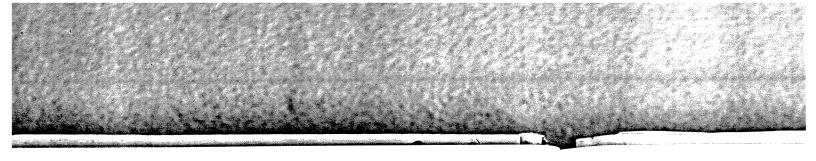
The organization of the curriculum just outlined may seem rather elaborate and complex. However, it is important to include in a curriculum all the competencies a child needs to acquire, and this organization provides a way for teachers and administrators to examine a curriculum and identify the gaps. The curriculum may not necessarily include separate experiences for children in every single category. It is expected that each experience helps children achieve several goals at once.

PROCESS CURRICULUM

The process goals are those that underlie the development of learning competence—defined here as the conscious ability to *differentiate*, or take apart, aspects of experience; *integrate* them, or put them together into new wholes; and *generalize*, or apply, the newly integrated wholes to future experience (Jordan and Streets, 1973). Every interaction with the environment requires some form of differentiation, integration, and generalization. A child who is having difficulty doing or understanding something is probably having difficulty with one or more of these three aspects of learning competence. The teacher should be able to recognize in which of the three areas the child's problem lies and to help the child overcome the barriers to learning. Each of the competencies listed below will be defined in terms of the kind of differentiations, integrations, and generalizations it requires.

Process refers to a patterned use of energy that presupposes a structure in the brain enabling the child to produce the pattern. The number of possible patterns is infinite, but the processes can be classified into five basic categories: psychomotor, perceptual, cognitive, affective, and volitional. Of course, actual experience cannot be classified exclusively as such, but the categories will be treated separately here for purposes of clarity in explanation. The discussion for each category will include:

[2] A more detailed description of these three environments appears later in this chapter.

1. a definition of the category;
2. the primary processes within the category;
3. sample goals, objectives, and activities for selected processes;
4. suggestions for ways to arrange the environment and for the kinds of materials to provide the children so that they achieve objectives in the category;
5. suggestions for individualizing instruction and guiding the child's interactions with the environment to help the child attain competence;
6. a list of questions that administrators can ask themselves to help improve the curriculum in the given area.

Psychomotor Development

Psychomotor competence is the ability to control the voluntary muscles of the body, and to know one's position in space (Blane and Jordan, 1975). It involves the ability to move each part of the body separately (differentiation) and the ability to make integrated movements to achieve a goal.

The primary processes of psychomotor development that can be facilitated in early childhood are balance and posture, locomotion, and manipulation. Balance and posture and locomotion are often referred to as *gross motor movements;* manipulation is often referred to as *fine motor movement.*

Balance and posture refers to the ability to move slightly in relation to the force of gravity while maintaining a position in space. This process takes place primarily from the ages of birth to three years, starting with infant learning to hold up their heads and continuing through sitting, standing, walking, running, and so forth. At each stage children learn to move their muscles in ways that enable them to maintain their positions or to move in space without falling over.

Sample goals are:

1. To sit.
2. To stand.
3. To stand on one foot.

Sample objectives are:

1. To sit without support for one minute.
2. To stand without support and without falling over for one minute.
3. To stand on one foot for one minute before putting the other foot down.

Locomotion refers to the ability to move; to execute a series of muscular movements that carries the organism through space over time while

maintaining balance and post
muscle movements necessary
movements of the legs and ar
swimming, and so on.

Sample goals are:

1. to walk;
2. to run;
3. to hop;
4. to swim.

Sample objectives are:
1. to walk twenty steps w
stop;
2. to run six yards without
3. to hop on one foot five t
4. to float in the water with
for one minute.

Manipulation refers to t
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Sample goals are:

1. to pick up and hold on to
2. to put an object inside a l
3. to eat with a spoon;
4. to pour water from a pitc

Sample objectives are:

1. to pick up and hold a teel
2. to put a block into a toy
3. to put food into one's mc
4. to pour four ounces of wε
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maintaining balance and posture. Locomotion involves both the minute muscle movements necessary to maintain balance and the much larger movements of the legs and arms necessary for walking, running, skipping, swimming, and so on.

Sample goals are:

1. to walk;
2. to run;
3. to hop;
4. to swim.

Sample objectives are:
1. to walk twenty steps without support and without falling over to stop;
2. to run six yards without falling over;
3. to hop on one foot five times before putting the other foot down;
4. to float in the water without touching the bottom or side of the pool for one minute.

Manipulation refers to the ability to move, or cause to be moved, some aspects of the environment in accordance with some intention or purpose. It includes the use of objects as extensions of the body, such as a hammer, a fork, or a baseball glove. The development of this process begins early in life: from the first day of life, infants, through the grasping reflex, are able to hold on to objects, feel them, and move them. Manipulation usually involves hand-eye coordination.

Sample goals are:

1. to pick up and hold on to a small object;
2. to put an object inside a box;
3. to eat with a spoon;
4. to pour water from a pitcher into a glass.

Sample objectives are:

1. to pick up and hold a teething ring;
2. to put a block into a toy box;
3. to put food into one's mouth using a spoon without spilling the food;
4. to pour four ounces of water from a pitcher into a glass without spilling the water.

While most of the goals and objectives mentioned for these three processes often are achieved by the child without any adult intervention, there are a number of ways in which adults can facilitate the development of psychomotor competence through arranging the child's environment and guiding his interaction with it.

At the day care center, the environment, or certain parts of it, can be structured to promote movement. For example, one area that is isolated from the rest of the classroom could be carpeted and set aside for running and tumbling. If such a room is not available, an outdoor playground can be used. Apparatus should be provided, such as stairs and platforms; things to climb on, hang from, slide down, jump off, scramble over and balance on; balance beams; ladders; rope ladders; and geodesic domes. Something as simple as a ladder placed on the floor or ground provides children with the opportunity to jump in and out, walk from one space to the next, walk from one rung to the next, walk along the sides, and so on. Two-by-four beams can be used in a number of ways: placed flat on the floor, raised to varying levels, arranged side by side at varying levels, or inclined. Of course, all equipment must be checked for safety and stability, and activities should be supervised by an adult at all times.

To facilitate manipulation, a large variety of educational materials can be provided. Commercially available materials include blocks, stacking toys, design tiles, pegboards, clay, paints, and so on. An even wider range of materials can be made or put together from household items, for example, play dough, tweezing exercise, shoe polishing, pouring exercise, woodworking materials, old clothes for dress-up, and sewing cards. Cooking activities provide many opportunities for manipulation: cracking eggs, beating eggs, pouring the ingredients into mixtures, stirring batter, cleaning fruits and vegetables, rolling out dough, and so forth. Arts and crafts activities also facilitate manipulation: gluing, painting, finger-painting, drawing with crayons or chalk, stitching, and cutting. Once the children have been shown the skill involved, many of these materials can be used by the children without supervision. Other activities, such as cooking or messy art, will require adult supervision.

Guiding the child's interaction with the environment as he or she strives to develop psychomotor competence can be done in a number of ways.

1. Children should be allowed freedom to move as much as possible. Keeping a child in a playpen or sitting in a chair for long periods of time will definitely inhibit psychomotor development.
2. Children should be encouraged to use the equipment and materials for the purpose for which they were intended. This is usually done best by demonstrating for the child the proper (and safe) use of the material.
3. The child's day should be balanced between physical exertion and rest, between noisy and quiet activities. Too much physical exertion will cause the children to become overtired. Too many quiet activities will cause boredom and restlessness.
4. Directions should be given to children in ways that allow for differing abilities. For example, instead of saying, "Draw a house," the

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teacher might say, "Draw a picture using three colors." Or, instead of saying, "Throw the ball and hit the target," the teacher might say, "See how many different ways you can use to get the ball from here to there." Children who are less skilled can thus be encouraged to participate without losing self-confidence, and the more skilled are not inhibited from doing their best.

Questions for administrators are:

1. Is there sufficient space in each classroom for movement to take place without disrupting other activities?
2. Is the equipment (both indoor and outdoor) safe?
3. Has adequate supervision been provided for indoor and outdoor play areas?
4. Is there a balance between materials that require adult demonstration and those which the children can use on their own?
5. Is there a balance between active and quiet activities? Between large motor and small motor activities?

Perceptual Development

Perceptual competence refers to the ability to receive and recognize information (stimuli) from the environment through the five senses.

> [It] refers to the capacity to differentiate sensory information and then integrate that information into generalizable patterns, which constitute interpretations of reality, that enable the organism to make meaningful decisions and to act (Jordan, 1976, p. 285).

Perceptual competence includes competence in each of the following areas: visual perception, auditory perception, olfactory perception, taste perception, and tactile perception. Fundamental to all of these modes of perception is *figure-ground perception*, which is the ability to distinguish one stimulus (such as a color, sound, smell, taste, or texture) as the main item of focus from a host of competing stimuli that form the background. Once figure-ground perception has been established, finer and finer perceptual differentiations can be made.

Visual perception refers to the ability to see. It is the detection and utilization of information about the environment carried in light waves reflected from the environment. Competence in the area of visual perception is the ability to differentiate critical features of the environment that are transmitted through light, to integrate these features into a singular and unified pattern, and to generalize these patterns to other visual experience. Four basic processes essential to competence in visual perception are color perception; object or shape perception; space, distance, or depth perception; and motion or event perception.

Sample goals are:

1. to distinguish between shades of the same color;
2. to distinguish objects on the basis of shape;
3. to draw a picture that indicates depth;
4. to perceive movement of an object relative to one's own position in space.

Sample objectives are:

1. to seriate five color tablets of the same primary color from lightest to darkest;
2. to classify triangles, squares, and circles of the same color and size;
3. to draw a sphere with one side shaded after viewing an actual sphere that was lighted on one side;
4. to catch a ball rolling slightly to the side of where one is sitting.

Auditory perceptual competence refers to the ability to hear. It is the conscious ability to differentiate the features of sound waves (frequency, amplitude, timbre, duration, and direction), integrate them into patterns, and generalize the patterns to similar auditory experiences. Because sound waves are produced by a vibrating body or substance of some kind, they are potential conveyors of information about the environment. For this reason, sounds come to signify events and later become the vehicle for language and thought. The basic processes of auditory perception are pitch perception, loudness perception, timbre perception, duration perception, and sound localization.

Sample goals are:

1. to distinguish different pitches from each other;
2. to distinguish a loud sound from a soft sound;
3. to distingiush sounds according to the instruments which produce them;
4. to distinguish a fast tempo from a slow tempo;
5. to identify the source of a sound in space with eyes closed.

Sample objectives are:

1. to put in order from lowest to highest three bells with different pitches;
2. to identify as loud or soft different sounds from a tape recording of various sounds from nature;
3. to distinguish a violin from a clarinet from a tape recording of the two instruments;

4. to identify fast and slo
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5. to point with eyes clo
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Sample objectives are:

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4.   to identify fast and slow music from a tape recording of pieces of music with various tempos;
5.   to point with eyes closed to the position of a bell that has just sounded.

Olfactory perceptual competence refers to the ability to smell. It is the conscious ability to differentiate and integrate certain characteristics of molecules in the air that are interpreted as odors, from which can be inferred certain attributes or events in the environment.

The primary goal for olfactory perception is to distinguish different smells from each other.

Sample objectives are:

1.   using spices, six jars, each filled with one of three different spices, to match them allowing one to smell but not see the spices;
2.   to identify three different flowers with strong smells without seeing them or touching them.

Taste perception refers to the ability to differentiate and integrate certain characteristics of matter through the taste receptors on the tongue.

The primary goal for taste perception is to distinguish different tastes from each other.

Sample objectives are:

1.   to identify salt and sugar by tasting each of them;
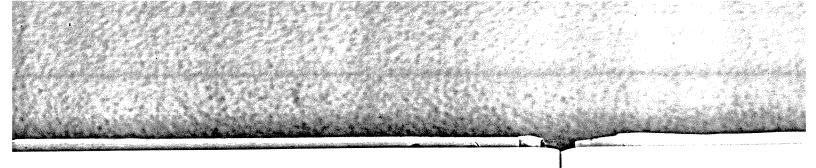2.   to match three different spices without seeing, smelling, or touching them.

Tactile perception refers to touching. It is the ability to differentiate and integrate the information conveyed by receptors in the skin (cold, hot, pressure, pain, texture, and so forth).

Sample goals are:

1.   to differentiate rough from smooth;
2.   to differentiate hot from cold;
3.   to differentiate hard from soft;

Sample objectives are:

1.   to match three different grades of sandpaper from a selection of six pieces, with two pieces of each grade;
2.   to put four glasses of water in order from hot to cold;
3.   to identify as hard or soft a number of objects in a blind box.

Perceptual competence is achieved through interaction with a wide variety of perceptual stimuli—materials that can be seen, heard, touched, tasted, and smelled. The teacher should arrange the environment to include materials with these properties. Many of the materials will have more than one property: for example, bells can be seen and heard and spices can be seen, smelled, tasted, and touched. Such materials will facilitate inter-sensory integration.

It is important to provide a perceptually rich environment for young children without making it so stimulating that confusion results. For example, too much decoration on the walls can be visually distracting for children. The materials should be clearly displayed so the children can distinguish figure from ground. Some materials should be kept in storage to be brought out from time to time and exchanged with some of the materials on the shelves. Children will be attracted by the novelty of the new materials, and the richness of the environment will be increased without increasing the clutter.

Some materials that might be provided to facilitate perceptual development are:

1. circles, triangles and squares of different sizes and colors;
2. spheres, pyramids. and cubes of different sizes and colors;
3. design blocks;
4. puzzles;
5. musical bells;[3]
6. musical instruments;
7. records and record player;
8. tapes and tape recorder;
9. material scraps of different textures;
10. blind box for a variety of texture and shape games;
11. crayons, paints, and other visual art materials;
12. snack foods for smelling and tasting;
13. jars of spices for smelling;
14. opaque containers with different-sized beans in each for matching and seriating sounds;
15. sandpaper of different grades;
16. color tablets.

Of course, this list is only the beginning. Teachers will be able to think of a wide variety of materials to use to stimulate perceptual development. In addition to providing the materials, teachers can guide the child's

[3]Musical experiences—songs, chants, and instrumental music—can be a part of every day. They bring children together during group time and teach concepts simply and effectively. A teacher who does not feel musically talented can use records or tape recordings to teach songs.

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Questions for administratc

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sically talented can use records or tape

interaction with the materials to achieve maximum benefit. Some ideas to keep in mind when guiding the child's interaction are:

1. Present the material as clearly as possible. Other distracting stimuli should be removed. For example, a visual stimulus might be presented on a white or neutral background; an auditory stimulus should be presented in a quiet room.
2. Materials should be complete. Puzzles should have all their pieces. Materials for matching should have all their pieces. Materials for matching should have two of each item. Otherwise children become confused and think it is their perceptual problem rather than a problem with the material.
3. Materials should be attractive to look at so children will notice them and will want to use them.
4. When helping children to distinguish colors, sounds, textures, and so forth, start with stimuli that are very different and move on to those with only minimum differences. For example, with sandpaper, start with pairs of very rough, medium, and very fine grades. If the child has no trouble matching these, try separating each pair with two or three more grades in between. If the child has difficulty, try only two pieces that are very different.
5. Older children can be presented with problems to solve. For example, ask them to show what a tree would look like in back of a house, or to draw something that looks as if it is far away. Ask them to make a sound that sounds far away.
6. Children can be asked to transfer a stimulus from one perceptual modality to another. For example, they might draw a picture that looks like a sound, or make a sound to correspond to a taste, or make a movement to correspond to a sound or sight.
7. In general, move from simple to complex, from large differences to small differences, and from few items to a larger number of items.

Questions for administrators are:

1. Is there a large variety of materials available to stimulate perceptual development? At several levels of complexity? For all five senses?
2. Are the materials displayed in such a way that makes them perceptually appealing? Is there adequate display space?
3. Are the rooms themselves decorated with an eye to aesthetic appeal without being cluttered?
4. Are there enough work spaces so children can work alone or in small groups, free from the distraction of other children or too many materials?

Cognitive Development

Cognitive development refers to learning how to think. Competence in this area involves the ability to differentiate abstract features of an experience and to integrate these features into a pattern. It means more than being able to tell red from blue; it means understanding the concept *redness* as an abstract property of objects.

Thinking and reasoning are comprised of numerous intellectual processes. Only a few of the most important processes that pertain to early childhood will be mentioned here: classification, seriation, transitivity, conservation, extrapolation, interpolation, and numbers relations.

Classification is the identification and abstraction of a common attribute or property shared by a group of objects, actions, events, or ideas and the integration of the objects, actions, events, or ideas holding that attribute in common into a category or class to which other objects, actions, events, or ideas can be added if they possess the attribute. For very young children, classification is the same as sorting. As children get older, they recognize the attribute of a class as an abstraction and understand that the class includes all objects with the common attribute (e.g., all red objects in existence), even though not all the members of the class may be available. Older children also can form classes on the basis of ideas rather than perceptual attributes, for example, a class of all governments characterized by democratic systems, or a class of actions considered moral.

The stages of classification are as follows (Streets, 1976):

- Heaping—putting items in piles without distinguishing among the items;
- Graphic collections—grouping items inconsistently, first on the basis of one criterion, then shifting to another criterion. For example, the first item is red, the second item is red and square, the third item is square and yellow;
- Simple sorting—grouping items according to a single property that is perceptually apparent, such as color, shape, pitch, size, or texture;
- True classification—grouping objects by abstracting a property common to them all and including all objects that fit into that category;
- Multiple classification—grouping according to more than one attribute and recognizing that an object can belong to more than one category at the same time;
- Class inclusion—forming subclasses and including the subclasses in a larger class.

A teacher can determine on which of these levels a child is functioning and provide experiences which will help him proceed to the next level. Sample goals are:

1. to sort a number of obj
2. to sort a number of obj
3. to form a class from ob
4. to form a class of objec

Sample objectives are:

1. to sort the blocks acco three red, three yellow,
2. to put all the red squa blocks;
3. to put together all of t can find in the room;
4. from an assortment of c that can be used for wri

Seriation is ordering it ences. It is the differentiati objects along a single dimer these differences to form a clude new elements (Jordan in order" from largest to sm ing about seriation. The ter strength of smell, roughness that can be put in a sequenc Sample goals are:

1. to seriate objects accorc
2. to seriate sounds accord
3. to seriate objects accorc
4. to seriate groups of obj

Sample objectives are:

1. to put five sticks in ord
2. to put three bells in ord
3. to match six pieces of them in order from rou;
4. to make from a large a: group of two buttons, : buttons, and to put the

Transitivity refers to the numbers or quantities from or quantity. Transitivity of e

ıow to think. Competence in
ə abstract features of an expe-
ı pattern. It means more than
ınderstanding the concept *red-*

of numerous intellectual pro-
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ǐication, seriation, transitivity,
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shape, pitch, size, or texture;
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of these levels a child is function-
əlp him proceed to the next level.

1. to sort a number of objects on the basis of color, size, or shape;
2. to sort a number of objects on the basis of color *and* shape;
3. to form a class from objects that the child must locate alone;
4. to form a class of objects based on function.

Sample objectives are:

1. to sort the blocks according to color, given a group of nine blocks—three red, three yellow, and three blue;
2. to put all the red squares together from a large assortment of design blocks;
3. to put together all of the objects with rough surfaces that the child can find in the room;
4. from an assortment of office supplies, to put together all those things that can be used for writing.

Seriation is ordering items on the basis of their recognized differences. It is the differentiation of quantitative or qualitative attributes of objects along a single dimension, such as length, and the integration of these differences to form a graded pattern that can be generalized to include new elements (Jordan, 1976). When we tell children to "put things in order" from largest to smallest or from darkest to lightest, we are talking about seriation. The term can be used to refer to loudness of sound, strength of smell, roughness of texture, or any quality that has gradations that can be put in a sequence or series.
Sample goals are:

1. to seriate objects according to size;
2. to seriate sounds according to pitch;
3. to seriate objects according to texture;
4. to seriate groups of objects according to number.

Sample objectives are:

1. to put five sticks in order from largest to smallest;
2. to put three bells in order from highest pitch to lowest pitch;
3. to match six pieces of sandpaper with six identical pieces and put them in order from roughest to smoothest;
4. to make from a large assortment of buttons a group of one button, a group of two buttons, a group of three buttons, and so on up to five buttons, and to put the groups in order from one to five.

Transitivity refers to the ability to infer the relationship between two numbers or quantities from the relationship each has with a third number or quantity. Transitivity of equivalence is learned first. It describes the fol-