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## Child Care Facility Design

*Figure 1. Block play. Cartoon by Tim McGinty, from Moore, Cohen, Hill, Lane, and McGinty, 1994.*

# A Place for Block Play

by Gary T. Moore

*A few months ago, a correspondent wrote that he had 12 to 14 interest centers, or resource-rich activity pockets (see **Child Care Information Exchange**, July/August 1996), set up in his kinder classroom each day. The children are given their "self-selection" card (a 2" by 3" card with their name on it) at the beginning of self-selection time. They may then select the center in which they wish to play/work. They may change centers at any time, after cleaning up their work area, and they may change as many times as they need to during the self-selection time.*

My own son's NAEYC accredited child care center has the same procedure for three older-preschool/after-school rooms. The children put their cards on a cup-hook board, with the maximum number of children per resource pocket indicated above each hook. The children are then free to go to any interest center in any of the three collaborating rooms.

No matter how it is arranged, almost any developmentally appropriate child care, lab, other "pre" school, or kinder center will have at least one such pocket that is a place for block play (*Child Care Information Exchange*, January/February 1997). So why is block play so important, and what goes into a good block play area?

### Importance of Block Play

Various commentators have pointed out that a center or its rooms without adequate blocks has major problems; for them, having blocks is an unquestioned axiom of good developmental care. The NAEYC accreditation criteria (Bredekamp, 1987a) are more general than this, but state that a developmentally appropriate center should provide activities focused on small muscle and child-initiated activities, should have developmentally appropriate materials, and should have a variety of activities that emphasize concrete experiential learning by encouraging children to think, reason, question, and experiment (items B-4, B-5, and B-7). Block play is one key way of achieving these goals. The companion NAEYC *Developmentally Appropriate Practice* guide (Bredekamp, 1987b) in five different places suggests the importance of block play for young children.

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The child's active participation in self-directed play with concrete, real-life materials is very important for early perceptual, fine-motor, and cognitive development. A child's ability to manipulate his own environment and to do so in cooperation with other children is also important to social development. Block play aids intellectual growth, muscular coordination, balance, visual acuity, and small and large muscle activity. It allows children to discover weights, balance rules, and construction techniques. Blocks also facilitate exploration and dramatic play. Building the scenes of imaginary environments helps the child role play, dramatize, and explore fantasies.

Block play can be a quiet retreat activity for one child or a small group of children. Or, on the other hand, block play areas may be very active, even aggressive, areas with the potential for conflict. Other conflicts may arise from territoriality and possession of materials. These two very different social values in block play suggest that some compartmentalization or separation within block play areas might be useful.

Imaginative and constructive play with hollow, table, and unit blocks is important for older preschool children and for children as young as 3 years of age, with many examples of younger 2,6 and 2,0 and even younger toddlers doing tremendous things with blocks.

The developmental roots for block play comes from the constructivist developmental theory of Jean Piaget (e.g., 1950). Piaget stressed that the child is an active organism, adapting to his or her environment through a combination of *assimilation* (incorporating new *aliment* or "food for thought" into existing schema or cognitive structures) and *accommodation* (adjusting those schema or even creating new ones in the light of new *aliment* from the socio-cultural-physical environment around the child).

The key here is that the child is an active, thinking organism, manipulating materials, creating new situations, new problems to solve, and developing from the successes at achieving results to these challenges. In this way, the child constructs his or her own intelligence, hence one of the names given to his theory — "constructivist early education" (e.g., DeVries and Kohlberg, 1987). As DeVries and Kohlberg so eloquently say, the metaphor for development in this view is neither the plant nor the machine. The constructivist cognitive-developmental stream of thought sees the child as a "scientist-poet who progressively reorganizes knowledge on the basis of personal 'reading' of experience" (p. 7).

*Figure 2. An ideal setting for early block play. A one year old, the author's daughter, playing with light weight, hollow wooden outdoor blocks at the former Harbourfront Creative Playground, Toronto, Ontario. Photograph by the author.*

Caroline Pratt, working in New York at the turn of the 20th century, is credited by some as being the most influential person in the use of blocks for the education of young children (see Pratt, 1948; Walker, 1995).* Of course Maria Montessori also developed a block system to teach mathematics in the early half of the 20th century (see Provenzo and Brett, 1983). Caroline Pratt developed a set of materials that were, in her words, "so flexible, so adaptable, that children could use them without guidance or control. I wanted to see them build a world; I wanted to see them re-create on their own level the life about them" (cited in Walker, 1995, p. 13). She developed a set of blocks which she called the "unit system of building blocks" or, as we know them today, simply *unit blocks*.

## Role of the Spatial Environment in Block Play

Children could play with blocks anywhere to great advantage. How we set up our child care centers certainly does not determine how, when, where, or why they will play, nor does it determine development. But as Montessori has taught us, the presentation of the stage each day is important. Based on years of research and observation, I do believe that if we set the stage well, we make it easier for the actors to do their play, their work of development. If we set the stage poorly, we make it more difficult for development to occur.

In January, I recommended that all centers should have a variety of resource-rich activity pockets, each devoted to one key activity, like arts and crafts, socio-dramatic play, fine-motor play, music, and, of course, block play, among others (*Child Care Information Exchange*, January/February 1997, pp. 15-20). The NAEYC DAP practices remind us that such areas should have lots of appropriate

materials, but that we as adults shouldn't have definite ideas about how these areas should be used, nor should we restrict the materials to the designated area (Bredekamp, 1987b, p. 49). Resource-rich activity pockets may be the key to a well-organized room, but they have to be treated flexibly.

**Blocks.** Maybe even more important to sensitive teachers, the blocks themselves are the most important ingredient in a successful place for block play. There are a variety of blocks available on the market. Robert Mills, the state of Indiana's licensing specialist, has said that he has taken directors to visit centers to see firsthand the value of an appropriate block play activity pocket stocked with unit blocks. As with many other people, he is of the opinion that only unit blocks teach all the concepts that children need to learn from block play.

The simple shapes and mathematical modularity (the blocks are in the ratio of 1:2:4) have made unit blocks a favorite since they were invented and introduced by Caroline Pratt at the turn of the 20th century. The cost of a unit block set may seem expensive, but many feel strongly that the long-term cost is less because they last so long, and the value to children can be lifelong.

Bob Mills believes that even if a center uses some form of scrap blocks as a temporary solution, they should immediately develop a long-term plan to come up with all the important unit blocks, even if they take a year's worth of fund raisers per classroom. Almost everything else in a center can be made, donated, obtained free, and substituted for with inexpensive items, except unit blocks.

A basic unit block set of 11 to 15 basic shapes and 85 blocks of excellent quality, smooth, and rounded cut from solid northern maple, a wood exceptionally resistant to splintering and denting, can be purchased for about $85 (U.S.) including shipping from the better children's catalog houses and educational toy stores. Larger sets going up to 161 pieces in 19 shapes cost about $300, and the so-called full set of 644 pieces in 19 shapes for 18 to 20 children (i.e., could be shared by 4 or 5 classrooms where only 4 to 5 children per classroom would be using them at one time) costs about $1,200.

To complement the unit blocks, a place for block play may also have a variety of other accessories, like other types of stacking blocks, toys, other items like cars, traffic signs, road maps, or sign-making materials, boats, trains, and planes, doll furniture, toy people, animals, various store-bought bed legs, railing balusters, cabinet door handles, large wooden spools, beads, cubes, and other turnings or even simple hardware store dowels, other manipulables, and so on.

Brio wooden toys are an excellent complement to unit blocks. They are both aesthetical and size compatible with unit blocks. There are also a number of other quite wonderful block systems available that can be used for creative, specialized building, like Kapla blocks.

**General spatial principle.** Having secured the "raw materials," the general spatial principle, or *pattern*, is to provide ample space where 2 or 3 children can play with blocks and other accessory toys. The space can be adjacent to and open up onto a larger, centralized, open activity area to give more room for expansive block play or where a larger group can build. Acoustic separation, plenty of storage, and the possibilities of subspaces are also desirable.

But we can also specify some more specific criteria.

**Size.** For infants, provide about 20 square feet per group of 6 to 8 infants (minimum of 2 square feet/infant) where lightweight blocks can be manipulated (light wood, plastic, or styrofoam).

For toddlers, provide about 40 square feet per group of 10 to 12 toddlers (minimum of 3 square feet/toddler).

For older preschoolers, provide between 60 and 80 square feet per group of 16 to 20 preschoolers (minimum of 3 square feet/child).

If your center also has a workbench area or a place for building, the block play area may be double-

A PLACE FOR BLOCK PLAY

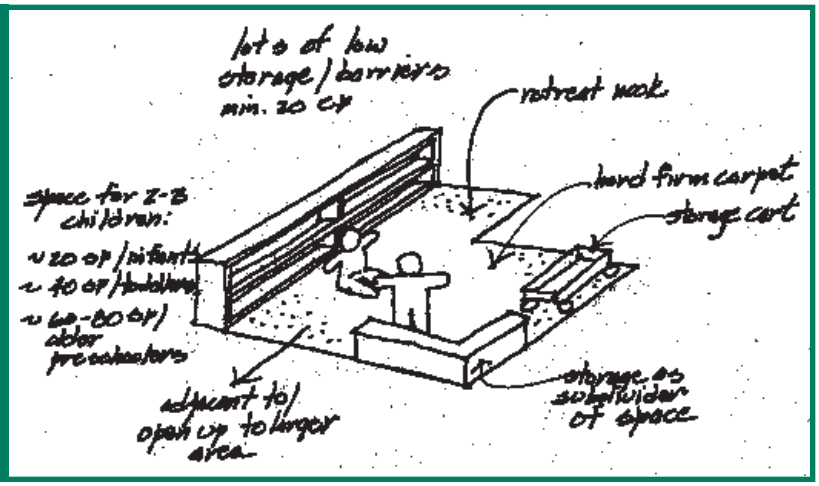


*Figure 3. General diagram of a block play area.*

functioned with them if only 20 preschoolers are being planned for. If 40 preschoolers are being planned for, it is likely better to provide one 60 to 80 square foot block play area and adjacent to it one 60 to 100 square foot workbench area.

**Location and connections.** The block play area can usefully be adjacent to and open up onto a larger, centralized, open activity area. For reasons of acoustics and active versus quiet play, it should be separated by distance and buffers from the storybook corner, fantasy play settings, and other quiet activity areas. It should also be buffered from circulation.

**Configuration.** To avoid or at least minimize possible interpersonal conflicts, the area could have a natural retreat nook where a smaller group or a single child can build semi-privately from other children. Level changes can be provided, such as a raised platform as a work area, as well as low height barriers for acoustic separation from adjacent activity pockets.

**Surface.** The block building surface needs to be open floor space, with lots of unobstructed work surface. The best surface is a clean level wood or tile floor. If noise from crashing blocks is a concern, do not go to soft carpets as they will not allow block constructions to stand as firmly as on wood or tile, but opt for a hard, firm carpet if need be to partially muffle the sound of crashing castles.

**Special environmental control systems.** Anticipate a peak noise level of 80 dbA. Reduce generated and ambient noise to 40 dbA by using sound absorbing materials, e.g., a firm carpet, soft wall hangings, cork display boards, and ceiling and wall acoustic tile.

**Furniture and equipment.** Storage and display areas for blocks is important to make them attractive and accessible to all children. Provide a minimum of 20 cubic feet of easy-to-reach block storage. Use a block or materials cart or storage units on wheels plus storage shelves and display racks as dividers to help prevent conflicts between subareas and to help with the spatial articulation of the block play area from other play zones.

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* Walker's book on *Block Building for Children* is a fascinating view of what children can do with blocks. He states in the introduction that he believes there are two ways of playing with blocks. The first is the constructivist, child-initiated way that Pratt, Piaget, DeVries and Kohlberg, and many others have professed, now represented in the NAEYC criteria. The second he calls "to play/build following directions, with a parent or teacher guide, to understand how typical building types are built . . . by carefully constructing prototypical or historical building types from plans" (p. 14). The former is the essence of DAP. The second would be considered in the NAEYC DAP practice guidelines as developmentally "inappropriate practice."