

Block Building

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If a group of practising kindergarten teachers were asked to list five pieces of essential indoor play equipment I am quite certain that included in every list would be project blocks. In fact we tend to place blocks high on our list of necessary play equipment in a kindergarten. But can we really identify our reasons for seeing them as important?

A quantity of project blocks is an excellent material for a wide variety of creative constructions — horizontals, verticals, tunnels, bridges, towers, grid patterns and duplication of patterns. Blocks offer means for exploring form, pattern and space. They have as much value for three-year-olds as they have for five and six-year-olds and therefore retain their usefulness and importance over a period of years.

With blocks a child can quickly and easily acquire a feeling of achievement; this can have particular value for a new child or for a child who feels uncertain in a group situation. Even if blocks are not familiar to a child when he begins at kindergarten, they are easily manipulated and no tools are necessary; children can quickly set to work with them. Some children too find blocks attractive because they are "clean" in comparison with paints, fingerpaint or water.

Building with blocks provides opportunities for physical development in the eye-hand co-ordination necessary for precise placement, or balancing at a height, as well as development in co-ordination and control of movement as a child moves between and around buildings.

Building with blocks provides opportunities for learning new facts and

acquiring information about the cultural and social environment, for developing thinking abilities, recalling events and reproducing visual sequences, for solving problems on the basis of known facts and relationships or making inferences or predictions on the basis of existing information. Creative thinking is needed when ideas are expressed through construction and interchanged with others working alongside.

Building with blocks provides opportunities for solitary, parallel and co-operative play, and especially during co-operative use there can also be opportunities for dramatic play. Also associated with a co-operative use of blocks is the development of "respect for the rights and privileges of others, of desirable social habits and a growth of responsibility".

The following points on perceptual learning are taken from the film and following discussion presented and led by Dr. Mary Moffitt, Professor of Education, Queen's College, New York, during a visit to Melbourne in August 1969. The film shown "Blocks — a medium for perceptual learning" was made (arranged, produced) by Dr. Moffitt.

As a child builds he has the opportunity to learn to deal with space, with closures (inside and outside), position in space (on top of, underneath), continuity and planes (verticals and horizontals). He has the chance to learn about sequential order, what comes first, what comes later. He can learn eye-hand co-ordination and a sense of alignment. He can learn about form and pattern. Building horizontal grid patterns a child looks down and sees the pattern and shape in

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plan form, and this can have value in later years for map-reading and drawing plans. He has the chance to learn about the relationship of the parts to the whole, for example, four curves to complete a circle, or four blocks to complete one grid pattern. He can develop accuracy in estimating visually spatial relationships between objects.

All these perceptions of quantity, shape, size, length, relationship to whole, are relevant to mathematical concepts, and along with these opportunities for perceptual learning are opportunities to learn associated vocabulary. When a child has learned verbal symbols, that is, words to describe his perceptions of the physical environment, and can use them appropriately, only then can it be said that he has acquired the concept.

Four to five year olds can begin to learn the correct names for project blocks — unit, half-unit, double unit, Y switch, S-bend. These older children, when they are ready, can enjoy matching and identifying the blocks with patterns cut from cardboard and pinned on display areas above or near the block shelves. At the Melbourne Centre in the Senior Group during the second term patterns of the unit, double-unit and half-unit blocks were displayed first and then gradually the other shapes were added. The children were quick to notice and recognize the shapes and used them frequently, measuring and matching size or shape or fitting a gothic door into a Y switch. Pinned near these patterns the teachers had placed a list of the above terms—more than, longer than, etc.—to remind themselves to use these words as the opportunities arose. And later in the term, patterns were placed at the back of the block-shelves to remind the children which shapes were stored on which shelves.

Presentation of blocks

For constructive and imaginative block building there must first be an abundance of project blocks and a good store of all the interesting shapes. This means more than one set of project blocks. Two sets for a group of twenty-eight children have been found to be insufficient. Dr. Moffitt recommended one thousand blocks. When money is available for new equipment for the kindergarten, what do we usually choose to spend it on? What do we usually think of first? Books? Puzzles? Outdoor equipment? Does anyone ever buy more blocks?

When children have little skill they can achieve solid and satisfactory buildings in a short time with hollow blocks. They can make buildings that are sufficiently strong and solid for dramatic play — a train, or truck or bus that can be sat on. In the early part of the year they are excellent for three year olds, while 4-5 year olds can enjoy them too for a time. As hollow blocks have a very different feel from the solid project blocks, lacking the weight as well as the variety of shapes, we would not offer only hollow blocks to the children, and with the older groups would probably remove the hollow blocks from the shelves during the first term to make the task harder. As well as hollow blocks and project blocks we need a store of all the different shapes — cylinders, pillars, fences, floor-boards, Y switches, gothic doors, roman arches, right-angle switches, S-bends, curves and quarter circles and all the interesting pieces cut from Y switch and right-angle switch.

Those smaller shapes are invaluable for decorating, pairing, making and repeating patterns, and fitting into spaces. And if children want to repeat patterns then they need a quantity of blocks which



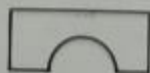
right-angle switch



cylinder



pillar



roman arch



gothic door



Y switch

means we must have not just half a dozen of each shape but 20 or 40 or more.

A bag, basket or box of small coloured blocks is also valuable. These again are extremely useful for decorating, patterning, or sliding and fitting into small spaces.

There needs to be ample space. A space that is smooth and flat, uncluttered by mats, and away from the flow of traffic if possible. As an example of size of a block building area, our area is roughly 20'x13' and this seems to be adequate in a group of twenty-eight 4-5 year olds. Let's forget the term "block corner" as this sounds too snug, cosy and small, and let's get into the way of speaking about the "block area" as this suggests space, and space is what we need.

Another requirement for the presentation of blocks is an attractive and thoughtful arrangement of the blocks on the shelves. The different sizes and shapes of the blocks must be easily apparent. For example, the unit and half-unit blocks need to be arranged so that the difference of size can be seen, and not placed so that only the ends are visible and the difference not apparent until blocks are removed from the shelves.

They need to be arranged in such a way that they can be handled easily and not packed so tightly that it is difficult to remove the first ones. By arranging the same sized blocks in two different and widely separated shelves, movement of children within the block area can be facilitated.

Thought should be given to Dr. Moffitt's suggestion to arrange blocks in two different areas of a playroom so that children at widely different stages of development could build in different areas; naturally the size and shape of a playroom would determine the practicability of such a scheme.

While teachers spend time preparing indoor play materials in order that the selection, quality and quantity are attractive and challenging to the children, blocks, once on the shelves often receive little or no preparation. By re-arranging blocks from time to time or displaying certain shapes differently, the children's

attention may be drawn to their possibilities and thus they may be spurred to further creative construction.

The variety of block shapes offered will change as the year progresses. In the same way as we add more tools to the waste material section — stapler, paper punch, paper clips and paper fasteners as the children's skills increase, so we need to add a wider variety of shapes to the block area.

Accessories

These should be introduced according to children's readiness, skills and interests, and therefore it is an individual matter for each teacher to decide.

This year, in the 4-5 year group at the Melbourne Centre, we found that the small wooden cars and trucks and boats were not good accessories. Many of our children, living in small houses with little outdoor space, use small cars for play at home and we wanted to offer extended rather than repeated play opportunities at kindergarten. We also found, when small wheel toys were available, little building was done, the cars and trucks just being pushed around the floor. If the cars were not in sight but available on the understanding, "let's build first", there was the situation where a hurried and poor building was sometimes constructed to gain the prize.

Now we tend to use that equipment outdoors in the digging patch or in a large sand tray indoors, while in the block area we offer accessories designed to promote building or dramatic play.

Some of the accessories used successfully this year have been plastic reels and spools; cardboard and interesting shapes from packaging; small flags; assorted pieces of material for curtains, carpets or beds; a very small china tea-set; a set of rubber animals and family figures; blocks of styro-foam of uniform size from packaging; and a box of small coloured blocks.

The children's interest in block building is highly influenced by the teacher's. It is not good enough to say, "The children this year are just not interested in block-building", or "There's very little block-building this year but the children are busy using other materials". This is

when we need to think again. How interested are we? What do the block shelves really look like? Are there enough blocks? Have we got a good variety of shapes? Is there enough space?

One of the requirements for the constructive use of blocks is an interested, alert and appreciative teacher. This area of the play room requires more than fleeting glances, brief visits and words of appreciation. It requires more from the teacher than her participation only in controlling situations. The teacher must watch, listen and suggest; in this way she can sharpen the experience for a child or help a child verbalize what he is doing.

It is neither realistic nor practical to expect a teacher to devote all or the greater part of her time to one activity in the playroom, but it should be possible to arrange with the assistant one or even two mornings in a week when the teacher can spend a long period of time there.

The teacher must play a key role. She sets the stage, provides the materials and arranges them to advantage. She adds or subtracts according to the children's needs, skills or readiness. She continually sorts and selects to avoid a "clutter" of accessories in the same way that she is constantly sorting and selec-

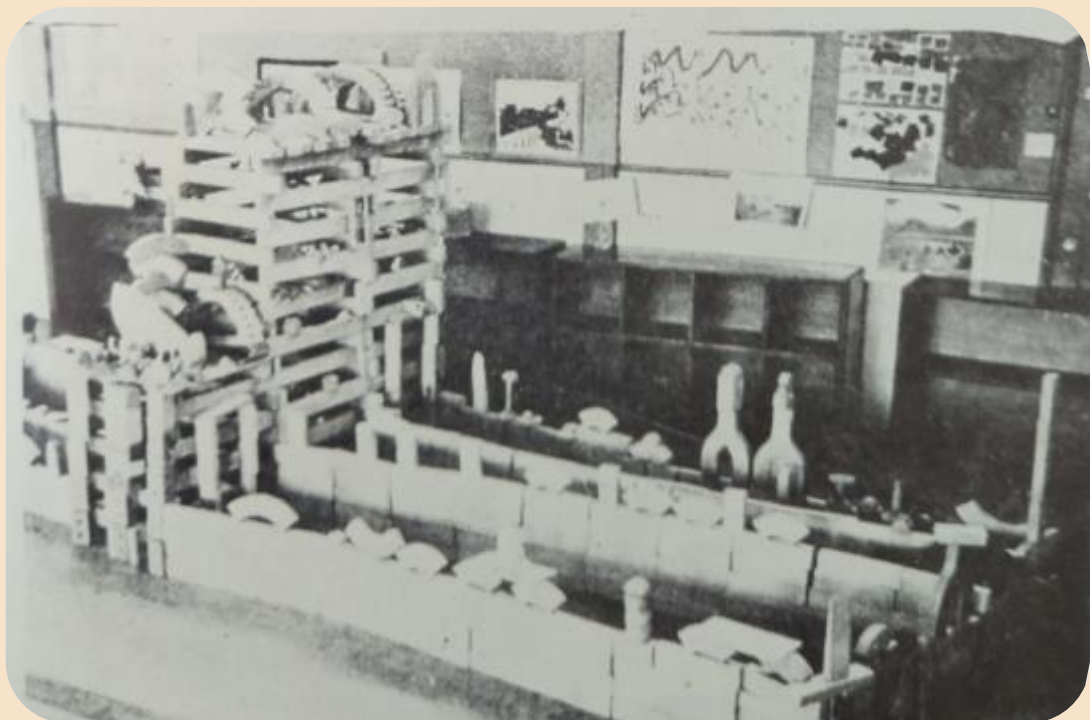
ting waste materials. She uses pictures pinned near the block area to stimulate ideas or extend knowledge.

She anticipates problems and averts tensions with her suggestions for a better location for a building, away from shelves or from another construction, or to leave a path so that others may move in and out.

She helps develop standards of construction and an understanding of certain principles of building — the need for strong, firm, solid bases or that stacking blocks flat makes a more stable building than one made of blocks standing on edge or on end. She helps children understand that the higher they build the more cautious they must be, and she helps develop skill in aligning blocks so that buildings will be strong and not topple.

She needs to be alert to the children's play and its content and her sensitivity will help her to judge the time when a child or a small group of children are ready to receive more information. The teacher's knowledge of her children helps her to know when to step in, to make comments, draw attention to a pattern or shape, or introduce new words.

She questions the children about constructions they have made to help them



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ze or understand what they have done and how they have achieved it. She might ask, "Which blocks did you place in position first?" and if the child attempts to describe the sequence, she might then say, "yes, you made the lower part first and then you put these blocks on top". Or she might ask, "How did you get the roof to stay up?" And again, if the child makes some attempt to describe what he has done, the teacher might continue and say, "You made each side the same height and then put the roof on".

Children often enjoy having their buildings identified by name for them. Sometimes they are content to have their names written on a piece of cardboard which they can prop beside their buildings. Sometimes, as well as their names, they like a description written; for example "Lachlan and Sammy made this zoo; there's seaweed in the lake". And sometimes they like to dictate a personal message which can be placed beside the building; for example, "Please leave this building until night time. If you don't leave it till night time I'll be very cross. Joanna".

Children enjoy looking at sketches or photographs of buildings they have made. In this way they can see the buildings in a two-dimensional aspect; being reminded of them, they may get ideas for future buildings. A collection of photographs of children's block buildings can be made into a book for the library corner.

Packing away

It seems that for years we have been uncertain of our attitudes and expectations in this particular section of block play, and in all probability just a little bit lazy.

Putting away and tidying the room can be a group function; it can be a collective kind of putting away, but the teacher has to take part, doing some of the work herself. It can be part of a game if the teacher is helping too. Per-

haps a counting game, "Let's see if we can all carry four of these blocks" or "Let's carry these three at a time". Or it might be a game matching shapes, "You pick up all the blocks the same as this and I'll pick up the ones the same as that".

Some days it may be practical to say, "Let's just tidy away the loose blocks now and after milk time everyone will help". And on other days it may be necessary to say, "Let's get the floor cleared before we go outside" or "so we'll have space at music time". Pressure put on "packing away" can spoil the whole experience for children and might for some discourage any use of blocks.

Conclusion

It seems, then, that there are six essential components for an environment that will produce a constructive and imaginative use of blocks.

1. An inviting setting, including an attractive arrangement of blocks, interesting pictures and useful accessories.
2. Plenty of floor space, smooth, flat, uncluttered by a mat and away from the normal flow of traffic.
3. A quantity of blocks — two sets of project blocks, or more.
4. A variety of blocks. As well as solid project blocks, some hollow ones, all the interesting shapes and small coloured blocks.
5. Change. Change of pictures, change of block arrangements, change of blocks offered, change of accessories.
6. A teacher who is interested, alert, appreciative and sensitive to the teaching opportunities as they occur while children are building with blocks.

References

- Starks, Esther B. **Block Building**. Pamphlet published by National Education Association, Washington, D.C.
- Blocks — a medium for perceptual learning**. Film by Campus Film Productions of New York, 1969.