

Block play and performance standards: Using unstructured materials to teach academic content

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Presentation at the National Association for the Education of Young Children, November 8, 2006.

Play has long had a key role in early childhood education, where it has been viewed as an efficient “medium” for promoting all aspects of child development (e.g., Johnson, Christie, & Wardle, 2005; Van Hoorn, Nourot, Scales, & Alward, 2007). Preschool programs have routinely allocated large amounts of time to center time during which children could choose to engage in a variety of play-related activities, including play with different types of blocks and other open-ended construction materials (Drew & Rankin, 2004).

Major policy shifts in preschool education, including the standards movement and the new “science-based” perspective on early learning are starting to erode play’s curricular status. Zigler and Bishop-Josef (2004, p. 1) warn:

In recent years, children’s play has come under serious attack. Many preschools and elementary schools have reduced or even eliminated play time from their schedules....Play is being replaced by lessons targeting cognitive development and the content of standardized testing, particularly in the area of literacy and reading.

Play is being shunted aside in early childhood programs in favor of more direct forms of instruction that address the new ‘Pre- K basics’ of language, early literacy and numeracy skills.

Two major shifts in policy, originating in the latter decades of the 20th century, have contributed to this dramatic shift in play’s status in early learning, especially as it applies in language and literacy domains. One is the powerful movement to prevent reading difficulties which has given rise to a new perspective on reading instruction that is anchored in a body of ‘Scientifically Based Reading Research’ (SBRR) (Snow, Burns, & Griffin, 1998). The other is the standards movement, with its persistent press for accountability, presently manifested in the rise of state-level early childhood academic standards, the development of standardized assessments of academic achievement at the preschool level, and a heavy emphasis on school readiness (Kagan & Lowenstein, 2004). The combination of the science of reading and standards converge to form current conceptions of “best practice” that, at first glance, appear to have little in common with play (Christie & Roskos, 2006).



We firmly believe that play with blocks and other open-ended resources can provide an ideal context for meeting curriculum standards and promoting young children’s early literacy and oral language skills, logical reasoning and creative problem solving abilities, and social/emotional competence. To illustrate this point, we present examples of how research has linked constructive play with several of the Arizona Early Learning Standards.

LANGUAGE & LITERACY STANDARD

Strand 2: Pre-Reading Processes, Concept 1: Print Awareness – The child knows that print carries meaning. Literacy-enriched play centers contain theme-related reading and writing materials. For example, a block center might contain pencils, pens, materials for making signs, storage labels (*large blocks, Legos*), etc. Research has shown that when children play in print-enriched settings, they often learn to read play-related print (Neuman & Roskos, 1993; Vukelich, 1994).

Strand 2: Pre-Reading Processes, Concept 5: Vocabulary Development – The child understands and uses increasingly complex vocabulary. Research by Cohen (2006) showed that new vocabulary words are learned as children socially interact with partners and in groups during constructive play.

Strand 2: Pre-Writing Processes, Concept 1: Written Expression – The child uses writing materials to communicate ideas. Research by Pickett (1998) has shown that adding writing materials to block play areas resulted in a large increase in emergent writing, including making signs to identify function and ownership, regulate behavior, and communicate messages.

MATHEMATICS STANDARD

Strand 4: Geometry and Measurement, Concept 1: Spatial Relationships and Geometry – The child demonstrates an understanding of spatial relationships and recognizes attributes of common shapes. Recent research Miyakawa, Kamii, and Nagahiro (2005) has shown that block building can help children learn important spatial relationships.

SOCIAL EMOTIONAL STANDARD

Strand 2: Social Interactions with Others, Concept 2: Cooperation – The child demonstrates the ability to give and take during social interactions. Creasey, Jarvis, and Berk (1998) contend that a two-way relationship exists between group play and social development: the social environment influences children's play, and play also acts as an important context in which children acquire social skills and social knowledge needed to engage in group play. Children learn attitudes and skills needed for this play from their parents, teachers, and other children. At the same time, play with others has a key role in social development by providing a context in which children can acquire many important social skills such as turn taking, sharing, and cooperation, as well as the ability to understand other people's thoughts, perceptions, or emotions

Strand 4: Approaches to Learning, Concept 5: Problem-solving – The child demonstrates the ability to seek solutions to problems. Bruner (1972) proposed that play contributes to children's ability to solve problems by increasing their behavioral options and suggested that block play encourages inventive thinking and logical reasoning while constructing three dimensional patterns. Copely and Oto (2006) found that young children demonstrated considerable problem solving knowledge during block play.

The purpose of this hands-on session is to help early childhood educators actually experience the connections between block play and early childhood academic standards. These play experiences will help teachers to better understand the developmental and education significance of block play, to see ways of integrating open-ended resources within their instructional program, and in this way improve their professional practice and enhance the academic performance of young children.

The photograph on the left shows one of wonderful structures built by participants in the *Promoting literacy and oral language through block play* session at the meeting of the National Association for the Education of Young Children in Anaheim in 2005.



BLOCK PLAY STRATEGIES

Literacy & Oral Language

1. Use **functional print** to organize block play:
 - Signs that place limits on the number of children who can be in the block area
 - Sign-up sheets for the block area – if children must wait for a turn
 - Signs that indicate that the block area is “open” or “closed”
 - Labels for block storage
2. **Environmental print** – “real word” print related to children’s constructions
 - Road signs
 - Safety signs (e.g., Hard Hat Area)
 - Building signs
3. **Child-authored signs**
 - Names – designating ownership
 - Labels
 - Environmental print
 - “Do not touch!!!” and other regulatory signs
4. **Books** in the block area
 - On shelves, in tubs, etc.
 - Related to construction projects
5. **Shared writing** about block play
 - Children dictate a story about their block play
 - Teacher writes it down
 - Teacher and children read the story
 - Story can be illustrated with drawing, painting, digital photo, etc.
6. **Block Building Conversations**
 - Provide time to talk about planning, building, and sharing block structures
 - Provide accessories (animals, wooden people, recycled material)
 - Ask children to label and describe completed structures
7. **Vocabulary** – Post related vocabulary in the block center (with graphic support whenever possible).

Mathematics

1. Use the blocks to create **graphs**. Use both vertically and flat.
2. Encourage different kinds of “fence” building using **patterns**. Photograph and preserve in “Our Book of Block Patterns.”
3. Provide a “Book of Problems” in the block center to challenge children. Example: Show me how you use only 10 blocks to build a structure that is shorter than the seat of the chair. Show me how you can use 10 blocks to build a structure taller than the seat of the chair. Capture their response and put in a book.

Social Development

It's through relationships that children grow best and learn best. Fred Rogers

First and foremost: Your caring relationship with the children is essential for any aspect of their development in any arena of child care. Now and then, sit near the children in the block area. Just your very presence there lets them know that you value what they're doing with the blocks and with each other. Being nearby, you can also encourage social development using some of the following strategies:

1. **Observe what the children do and say. Take notes so they can try to find the patterns.** Pay particular attention to the social interactions. Which children play well together? When do interactions tend to go smoothly? When do conflicts tend to arise? Which children need a lot of guidance from you?

2. **Help children feel good about themselves and their ideas.** Children who feel good about themselves are more likely to treat others kindly and respectfully and you'll be strengthening your relationship with them.
3. **Be sure to comment when you see children cooperating, sharing, working together well -- or carefully walking around someone else's block structure.** Positive comments go a long way towards building social skills. If you notice someone might accidentally knock over a building, a gentle reminder can often help children control their body and be respectful of others.
4. **Show children how to enter play or to ask for help from another child.** Many children need help learning how to enter play. Children that speak a language other than English may need assistance from you or other children. It's also important to let them know it's okay to tell another child they don't want any help and to respect that.
5. **Instead of insisting on sharing, suggest that a child might want to let another child play with the blocks when he or she is "finished" using them.** Children are often more willing to share when you let them be in charge of when it happens. They will likely be more willing to share if they know there are some times when they don't have to share.
6. **Help children negotiate when there are conflicts.** Encourage them to listen to each other and to work on finding a win-win solution. Negotiating is a skill that will help them all through their lives.
7. **Develop cleanup routines and rituals -- with teamwork in mind, singing songs or chants.** If you have blocks that are too heavy for one child, two have to work together to pick them up. Be sure to let children know that you notice when they're working together on the cleanup.
8. **When you see that the children need more time with their block structure, plan to leave their work standing for several days, if possible.** Children tend to have richer building and richer play which usually involves richer social interaction -- when they have time to develop the themes.

REFERENCES

- Bruner, J. (1972). The nature and uses of immaturity. *American Psychologist*, 27, 687-708.
- Christie, J., & Roskos, K. (2006). Standards, science, and the role of play in early literacy education. In D. Singer, R. Golinkoff, & K. Hirsh-Pasek (Eds.), *Play=learning: How play motivates and enhances children's cognitive and social-emotional growth* (pp. 57-73). Oxford, UK: Oxford University Press.
- Cohen, L. (2006). *Young children's discourse strategies during pretend block play: A sociocultural approach*. Doctoral dissertation, Fordham University, New York.
- Copely, J., & Oto, M. An investigation of the problem-solving knowledge of a young child during block construction. Retrieved September 26, 2006, from <http://www.west.asu.edu/cmw/pme/resrepweb/PME-rr-copley.htm>
- Creasey, G., Jarvis, P., & Berk, L. (1998). Play and social competence. In O. Saracho and B. Spodek (Eds.), *Multiple perspectives on play in early childhood education* (pp. 116-143). Albany, NY: State University of New York Press.
- Drew, W., & Rankin, B. (2004). Promoting creativity for life using open-ended materials. *Young Children*, 59(4), 38-45.
- Johnson, J., Christie, J., & Wardle, F. (2005). *Play, development, and early education*. New York: Allyn & Bacon.
- Kagan, S., & Lowenstein, A. (2004). School readiness and children's play: Contemporary oxymoron or compatible option? In E. Zigler, D. Singer, & S. Bishop-Josef (Eds.), *Children's play: The roots of reading* (pp. 59-76). Washington, DC: Zero to Three Press.
- Miyakawa, Y., Kamii, C., Nagahiro, M. (2005). The development of logico-mathematical thinking at ages 1-3 in play with blocks and an incline. *Journal of Research in Child Development*, 19, 292-301.
- Pickett, L. (1998). Literacy learning during block play. *Journal of Research in Childhood Education*, 12, 225-230.
- Snow, C., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Van Hoorn, J., Nourot, P., Scales, B., & Alward, K. (2007). *Play at the center of the curriculum* (4th ed.). New York: Macmillan.
- Zigler, E., & Bishop-Josef, S. (2004). Play under siege: A historical overview. In E. Zigler, D. Singer, & S. Bishop-Josef (Eds.), *Children's play: The roots of reading* (pp. 1-14). Washington, DC: Zero to Three Press.