

Idaho parents and children learn math concepts through Block Fest

The Situation

Throughout the United States, policy makers have become increasingly concerned about student success in math and science, knowledge domains that are critical in today's technology-based economy. Over 20 years of research shows that children engage in math and science exploration from a very young age. Early experiences play an enormous role in the development of math concepts, and serve as a foundation for cognitive development. Between birth and five years of age, children develop mathematical concepts of space, shape, size, pattern, number, and operations such as addition and subtraction.

Play provides a natural learning lab for young children, where they can develop informal concepts that provide the foundation for later formal math learning. For example, block play offers a rich context for learning, where children can experiment with math concepts such as shape, pattern, number, addition and subtraction. In fact, research shows that pre-school block performance is related to several indicators of math interest and skill in junior high and high school, years when many students fall behind.

Our Response

To bring information about early math learning to Idaho families, University of Idaho Extension developed Block Fest, an event celebrating early math and science learning in a block play context. Block Fest is a traveling interactive exhibit for parents and their young children (8 months to 8 years), featuring five different types of blocks at building stations. A station with large cardboard blocks allows children to experiment with the architecture of big structures and enclosures, while the large geometrically shaped blocks at the foam block station pose challenges of balance, symmetry and shape. One station features



Exploring shape, pattern and balance.

colored cubes with pattern cards for children to match as they build shape color patterns, while the unit block station invites exploration of proportional relations among blocks. The final station has Keva blocks, uniformly shaped planks that can be stacked into structures of all sizes and shapes.

At each station, children enjoy block building while family adults learn about block play and ways to support their children's math learning and informal science exploration. Information about early science and math is available at each block station, and the lessons are reinforced through the take-home book we developed for parents: *Learning and playing with blocks*.

Program Outcomes

Block Fest functions through local collaborative arrangements in communities throughout Idaho. This hands-on learning event has been hosted by several Idaho county Extension offices, and by parenting and

early childhood programs in schools and organizations throughout Idaho. At each site, Block Fest is launched with the help of community partners. Youth groups have provided volunteers and made blocks to sell, Lions and other civic organizations have provided funding and food, Parents as Teachers programs have promoted the event and set it up, schools and churches have donated space for the event, child care and Head Start centers have helped spread the word to parents. Block Fest events have also strengthened relationships between UI Extension and community businesses – with over 50 businesses sponsoring Block Fest events throughout the state.

Block Fest was developed in 2005 to teach parents about early learning in math and science and ways to support that development. Since the program was implemented in 2006 we have reached 8,000 children, parents and other family adults in more than 50 Block Fest events throughout the state, involving nearly 300 volunteers and staff members. Block Fest regularly fills to capacity with a waiting list when it comes to a community. Often event participants include as many adults as children, with parents – both Moms *and* Dads – enthusiastically learning with their children.

Block Fest was designed to engage parents and children in early concepts of math and science through block play. Parent responses after the event show Block Fest's effectiveness in attaining that goal. Parents responded that they could see how their children learned through block building at Block Fest (76%) and they learned ways to support early math and science learning for their children (66%). Parents' comments about Block Fest showed their enthusiasm:

- "It was a great way to experience some of the learning a child works on every day!"
- "Experience a fun time that inspires enthusiastic, truly interested kids."
- "Great way to encourage math and science at a young age."
- "Go and let your child have fun while they develop their brains – and bring your camera!"
- "Creative juices flow at Block Fest."
- "What a great way to get down on the floor and see the world they do."

Three months after Block Fest parents reported continued effects of the program, getting out blocks at home (70%), playing blocks with their children (89%), talking more about math and science with their children (55%), and seeing math and science in everyday activities (72%).

These results show that Block Fest provided a context for lasting learning for parents. Months after the event, concepts learned at Block Fest were shown in parents' thoughts and in their activities with their children.

Through four years of Block Fest events, UI Extension has reached families in communities of all sizes with the message of early math learning. In addition, we brought professional development training on early math learning and block play to over 400 early childhood professionals. At this point, we were interested in expanding the availability of Block Fest beyond Idaho's borders and have licensed the program to the Twiga Foundation, which will also continue to offer the program in Idaho – further information is available at www.blockfest.org.

Many thanks to the University of Idaho personnel throughout the state who have supported Block Fest over these years, including Diane Demarest, Patti O'Hara, Janica Hardin and Jennifer Cammann in Boise, Lorie Dye in Jefferson County, Cindy Kinder in Gooding County, Carol Hampton in Boundary County, Valdesue Steele and Kathee Tiff in Nez Perce County, Nancy Deringer and Suzanne Planck in Moscow, and the many Parents as Teachers educators who hosted Block Fest programs in Idaho communities.

FOR MORE INFORMATION

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