Tuesday, October 30, 2012

Why Spatial Thinking?

Spatial thinking is integral to everyday life and is necessary to navigate, explore and survive in the world. People think spatially all the time — when tying shoes, reading maps, finding the way to school or work, packing suitcases, building snowmen, doing jigsaw puzzles, designing costumes, climbing trees or slicing pizza. Spatial thinkers are engineers planning bridges, pilots flying airplanes, doctors reading x-rays, electricians wiring houses, meteorologists predicting weather, bakers decorating cakes, geologists studying fossils and trapeze artists flying through the air. Kids are spatial thinkers, too!

Welcome to Providence Children's Museum's Blog...

A behind-the-scenes look at the interesting things Children's Museum staff are thinking about, talking about and noticing every day.

The blog began in September 2008 when the Museum closed for 8 weeks to install Play Power, a major new exhibit celebrating the power of children's play, and complete extensive renovations to our historic building. Take a peek at the exciting process and see what we've been up to since then!

Visit the Museum's website for more information.

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Things are changing – no bones about it!
Put simply, spatial thinking is about developing an intuitive understanding – a sense – of shapes and space. It’s about the location and shape of objects, their relations to each other and the paths they take as they move. It’s about the ways we can change, manipulate, represent, reason and communicate about shapes and spaces.
Spatial thinking is an important problem-solving tool and – as research shows – a key to kids’ interest and success in STEM (science, technology, engineering and math) disciplines. The connection to the arts and design is pretty clear, too. Research also suggests that, while everyone (at any age) can become a better spatial thinker with practice, spatial thinking skills may be most malleable early in life and, for young children, hands-on experiences are especially significant. However, while kids learn the basics of shape and space, spatial thinking isn’t systematically taught in schools.
In order to build strong spatial sense and become proficient at spatial thinking, kids need to opportunities to...

- Actively explore shapes and spaces in unusual and playful ways
- Practice imaginative abilities (e.g., rotating objects in their minds)
- Experiment with the interaction between space and body by, for example, inhabiting spaces and or changing perspectives
- Investigate shapes and spaces through fine and gross motor activities
- Explore shapes and spaces through sound and touch in addition to visual methods
- Hear and use spatial language and gestures
- Experience and play with tools of representation for spatial thinking (diagrams, maps, etc.)
Spatial thinking is powerful and fun – and the more time and opportunities kids have for this kind of play, the better their spatial sense will become. That’s exactly what Museum visitors will discover when ThinkSpace opens next week!

- Contributed by Exhibits Director Robin Meisner

Much of our understanding about the development of spatial thinking in young children has been influenced by the research of Dr. Nora Newcombe and her colleagues at the Spatial Intelligence and Learning Center.

**More about the importance of spatial thinking:**

**The Benefits of Spatial Thinking** (FABBS Foundation)
Spatial thinking, the way we navigate the world and manipulate the space around us, is crucial to problem solving.

**Spatial Intelligence in Children** (Parenting Science)
Spatial intelligence is an essential tool in many fields, yet it's relatively neglected at school. Experiments suggest that we can improve a child's spatial thinking skills by a substantial margin.

**Why Don't We Value Spatial Intelligence?** (Psychology Today)
For students who are not talented with words and numbers but who are talented with mentally rotating figures and shapes, there is often very little to recognize and challenge them in the regular school system.