Delving Deeply into Making Learning through Play Visible

ACM InterActivity
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Preseneters

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Mission Statements

Providence Children’s Museum
To inspire and advance creative thinking for all children

New York Hall of Science
To bring the excitement and understanding of science to children,

Bay Area Discovery Museum
To ignite and advance creative thinking

Providence Children’s Museum

Mission Statements
Our mission:

creative thinking for all children
to ignite and advance
Child Directed
Risk Friendly
Emotionally Attuned
Active
Time Flexible
Exploratory
Educational Philosophy

Influences

Research

Approach

Practice

Community
<table>
<thead>
<tr>
<th>Domain</th>
<th>Overarching Outcome</th>
<th>Creativity Framework</th>
<th>Alignment</th>
<th>6-18 months</th>
<th>18-36 months</th>
<th>3-5 years</th>
<th>5-6 years</th>
<th>6-8 years</th>
<th>8-9 years</th>
<th>9-10 years</th>
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</thead>
<tbody>
<tr>
<td>STEM</td>
<td>The child uses science process skills to conduct cycles of inquiry.</td>
<td>Imagination and originality, flexibility, decision making</td>
<td>Experiments with cause and effect</td>
<td>Asks questions, uses simple tools to explore the world</td>
<td>Forms and tests hypotheses, makes inferences, and compares and contrasts</td>
<td>Uses numbers to represent quantities, describe relationships and solve problems; measures, compares, and orders; recognizes and extends patterns</td>
<td>Represents, relates, and operates on whole numbers; describes, combines, and creates shapes</td>
<td>Investigates properties of light and sound waves; identifies the structure and function of animals and plants; explores inheritance and variation of traits; studies Earth’s place in the universe</td>
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**Learning Outcomes**

- The child reasons mathematically, developing a foundational knowledge of number sense, algebra, measurement and geometry.

- The child actively explores the natural world to gain an appreciation for and understanding of humans’ role in caring for it.

- The child uses science process skills to conduct cycles of inquiry.
Current Efforts: Staff Training

- Staff messaging to parents
- Learning outcomes
- Curriculum share
- Robust internal PD
- Strategic focus on

Currrent Efforts: Staff Training
Current Efforts: Research

- Creative Thinking Research Lab
- Research Toys
- Mutual PD
- White papers
Current Efforts: Documentation and Signage
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Challenges and Next Steps

• Time
• Evaluation
• Comprehensive Internal PD
Design emphasizes problem-solving, intentionality, divergent solutions, and helps you see the possibilities in the world.

Make invites thinking with your hands, tinkering with materials, and nurtures the development of science process tools, and processes, and promotes skills and confidence.

Play privileges delight, promotes intrinsic motivation and leads to deep engagement.
Little Makers invites young children and their families to tinker, design and make together.
Collaboration and Co-Learning
Speaking the Same Language

Principles into Practice

Challenges

Design-Make-Play in the Classroom

Digital Noticing Tools

Case Studies

Next Steps
Robin Meisner, Director of Exhibits

Susan Letourneau, Project Researcher

Making Learning Through Play Visible

at Providence Children’s Museum
The mission of Providence Children’s Museum is to inspire and celebrate learning through active play and exploration.

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Average age of child: 4.3 years

5 to 8 (30%), 9 and up (10%)
Children’s ages: 1 or 2 (33%), 3 or 4 (28%)

Most (95%) visit in family groups

Families

25% of visits are made by over 1,972 member families

31% visit for free

160,027 visitors in 2014

Audience

Serving children ages 1 to 7 and their adult caregivers
Providence Children's Museum

Re-examining Learning Frameworks

1977
Children's Museum opens in Pawtucket, RI

1978/79
Staff defines learning philosophy – children learn through play

1997
Relocates to downtown Providence, tripling size

2008
Learning philosophy updated

2013
Research – how do children learn through play?

2014
Learning frameworks updated to clearly define belief about play and its connection to learning
Learning Frameworks (in brief)

By providing an environment that is supportive of children's play and learning, the Museum also supports children's learning. By providing an environment that is supportive of children's play and learning, the Museum also supports children's learning.

• Museum experiences support learning by providing opportunities for children to explore with their senses, to make their own decisions, and to reflect on their own ideas.

• The Museum recognizes and celebrates the connections between active exploration, play and learning, and acknowledges that playing and learning are processes that share many characteristics.

• Learning is experiential, dynamic and shaped by the physical, social, and cultural environment.
Our goal: To encourage children and their caregivers to notice and value the learning that happens naturally through play, exploration and experience with the world.

Making learning through play visible
Strategies

- Encouraging families to observe and reflect on their experiences at the Museum

- Communicating the variety of ways that naturally happen in children’s play and connecting them to learning

- Highlighting recognizable behaviors that children can learn through play

- Drawing on and sharing research about children’s learning and development
Mind Lab: A Space for Learning about Learning

Excerpt:

Through experience, exploration, and

• play, kids learn by...

Physical and social learning (cognitive, emotional,

• communicating different aspects of

• recognizably behaviors to

Prototype labels use examples of

Taking risks

Collaborating with friends

Describing and explaining

Trying again and again

Challenging themselves

Looking, touching, listening
Mind Lab: A Space for Learning about Learning

Help only when it's needed.

Over time, children learn to support one another by

1. Can you help?
2. Can you help?
3. How do kids help each other learn?

Project funded by NSF (grant DRL/RESE 1223777)
A self-guided activity encourages children to learn through exploration and experimentation, accompanying prototype labels and observation activities for caregivers help them notice and support children’s thinking as they play.

Project funded by NSF (Grant DRESE 1223777)
Looking for "thinking behaviors"

than in the moment
the-fact, based on memory, rather

Challenges: Some reflection was after
behaviors and purpose behind common children’s play. show what the meaning in

Benefits: Encouraged caregivers to

Play Observation Activities for Caregivers

Observing Your Child’s Play

What do you see?

What’s happening?

Child Age

A LOT

A LITTLE

NONE

Add other notes about what you see.

What’s most interesting to you about what you noticed?
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• Pairing observation with activity in the Mind Lab
  – Linking activity to research on children’s discovery learning
  – Linking activity with circuit blocks in Mind Lab

• Photo missions: Using photographs to capture children’s thinking in the moment
  – Inviting caregivers to record and share their observations

own

– Encouraged adults to watch to see what kids could figure out on their

strategies that children used in their play

– Caregivers captured moments of “problem-solving” and articulated

Play Observation Activities for Caregivers
Next steps

- Final prototyping and summative evaluation
- Creating final versions of materials
Discussion

1. How do you reconcile different views about learning (among staff, or between individuals and the institution)?

2. What aspects of learning can be visible in the moment? What can children and/or adults actually notice or reflect on about their learning through play?

3. How do you create a shared vocabulary about play and learning that is understandable to different audiences and helps staff communicate?

4. When trying to make learning more visible, how can you acknowledge and build off of people's existing beliefs about learning and play?

How do you create a shared vocabulary about learning through play that is interesting, novel or useful?