Creative Learning Technologies for Early Childhood

A proposed collaboration of Reggio Emilia Schools, Exploratorium, and MIT Media Lab

Goals

As new technologies enter the lives of young children around the world, there is a need to ensure that these technologies enhance, rather than undermine, the playful exploration with physical objects that is so important to young children's learning and development.

This project directly addresses that challenge, investigating and documenting how young children (ages 4-6) can use new technologies for playfully designing, creating, experimenting, exploring, and learning. The project builds upon the internationally-acclaimed strategies and activities developed in the preschools and kindergartens of Reggio Emilia in Italy -- but extends the play and learning possibilities by integrating digital technologies with the building blocks, magnifying glasses, and craft materials typically found in Reggio classrooms.

Participants

The project will bring together researchers and practitioners from three of the world's most respected and creative educational organizations:

- The Preschools and Kindergartens of Reggio Emilia (Italy): known for material-rich environments that support young children's inquiry, expression, and learning through thoughtful documentation
- The Tinkering Studio at the Exploratorium (San Francisco, CA): known for creative activities that engage children in learning through tinkering and making
- The Lifelong Kindergarten research group at the MIT Media Lab (Cambridge, MA): known for designing new technologies that engage children in creative design projects

Initial Workshop

To kick off this collaboration, we will organize a workshop bringing together key people from the three participating organizations, so that they can learn more about one another's activities, strategies, challenges, and dreams. One outcome of this workshop will be a concrete plan for an initial collaborative project, including the development of new technologies and activities to be tried in classrooms in Reggio Emilia.

Initial Project

For the initial project, our current plan is to extend a thematic area that Reggio schools, over the years, have found to be a rich domain for children's exploration and learning: light, color, and shadows. The Exploratorium has explored these same themes in workshops for informal-learning educators. In this project, we plan to create a new set of technological tools, including a slow-rotating turntable and a collection of high-intensity colored lights, all of which can be programmatically controlled from a tablet computer. Children will be able to place everyday objects on the rotating turntable, adjust the positions of the lights, and program time-varying changes in the color/intensity of the lights and the direction/speed of the turntable. In this way, young children can conduct new types of experiments -- and create new types of artistic exhibits -- involving light, color, and shadows.

Longer-Term Plan

Our hope is that this initial project will lay the foundation for ongoing research and development. Although we will start with a specific set of tools and activities in the initial project, we expect that these initial explorations will lead to the development of a general technology platform for use in early-childhood learning -- and continuing studies of how to integrate new technologies and materials into the Reggio approach to learning.