Introduction to the Curriculum

This curriculum introduces powerful ideas from engineering and computer science that are not usually highlighted in early childhood education. The term "powerful idea" refers to a concept that children can learn through a curriculum that will serve them beyond the lifetime of a specific classroom technology. In this case, the specific classroom technology is the ScratchJr iPad application. Powerful ideas may be applied to many disciplines and will be rewarding in students' academic and personal futures. Throughout the following curriculum, both activities and lessons will seek to illustrate these powerful ideas.

The curriculum will be divided into three modules based on three interactive genres of ScratchJr-based projects. These genres are collage, story, and game. Each of these modules is comprised of two units:

1. A series of lessons that introduce ScratchJr features and programming blocks
2. An opportunity for children to create their own projects by applying concepts learned in module lessons

About ScratchJr

ScratchJr is a developmentally appropriate programming language for children ages five through seven. Using the ScratchJr iPad application, children can create their own interactive collages, animated stories, and games. The application is the product of the DevTech Research Group at the Eliot-Pearson Department of Child Development at Tufts University, directed by Professor Marina Bers, and the Lifelong Kindergarten Group at the MIT Media Lab, directed by Professor Mitch Resnick. Funded by the National Science Foundation (NSF DRL-1118664), the ScratchJr iPad application is planned for release in early 2014.

Pacing

This curriculum is designed to take place over the course of six weeks. Every week, two one-hour lessons are to be taught. While this particular curriculum is described in detail over the following pages, we acknowledge that teachers know their students best. Therefore, teachers should adjust activities and lessons to accommodate both the classroom culture and students' technological experience and developmental levels.