

How Children Learn Through Self-Directed Exploration and Play

Discovery Toys talk, Nov. 4, 2014

Note to participants: Please have this outline in front of you as you listen to the talk, to keep track of the ideas and to see where I am going. If you print it out, you can write notes in the large left-hand margin.

I. Children are designed, by natural selection, to educate themselves.

- Evidence from cross-cultural research & research in democratic schools in the U.S.
- Children's educative instincts: Their curiosity, playfulness, and sociability. How each contributes to education.
- Sugata Mitra's research in India, demonstrating how these drives can work together.

II. How children learn by exploring their environment and why it is best to let them control their own exploration.

- All animals are motivated to explore and learn about their environment, for good evolutionary reasons. But humans are especially motivated to do so. Aristotle began his great treatise on the foundations of science with the statement, "Man is a curious animal."
- Even newborn babies look longer at novel stimuli than at those they've already seen. Babies also look longer at events that "surprise" them than at events that coincide with what they already know.
- Babies and young children are especially motivated to learn about ways that they can control their environment, how they can make things happen.
- Research with four-year-olds has shown that they explore new objects as if they were little scientists testing various hypotheses. Such research also shows that "teaching" children what one can do with an object can have a deleterious effect on their exploration, so they learn *less* when taught than when allowed to explore on their own.

III. Play: What is it, and why is it such a powerful vehicle for learning?

A. Universal varieties of children's play

- Physical play: locomotor, chasing, rough & tumble.
- Linguistic play.
- Constructive play.
- Fantasy play; sociodramatic play.
- Formal games with rules.

B. Defining characteristics of play

1. Play is self-chosen and self-directed.

- Play is how children learn that they can control their own activities, solve their own problems, make their own creations.
- Play, social play, is also how children learn to get along with other children, see from others' perspectives, overcome narcissism.
- Why much of the educative value of play is ruined when adults try to direct it.

2. Play is motivated by means more than ends.

- In play we value our actions more than the results of our actions.
- Play may have goals, but the goals are subordinate to the means. Examples of this.
- Lepper & Greene classic experiment: How reward can undermine play.
- Note also the repetitive nature of play. Doing the same thing over & over to get it right.

3. Play is guided by mental rules.

- Examples of rules in rough & tumble, constructive play, & sociodramatic play.
- Play is nature's way of teaching children to control their impulses and behave in accordance with shared conceptions of how to behave.

4. Play is imaginative.

- Play is always in some ways mentally removed from the real world. This is most obvious in sociodramatic play; but also true for rough & tumble, constructive play, & games w rules.
- Imagination is crucial for human thinking: Designing, hypothesizing, planning. Geniuses appear to be those individuals who retain children's imaginative powers throughout their lives, and build on them

5. Play is conducted in an alert, active, but relatively non-stressed frame of mind.

- Note how this follows from the other characteristics. Some call this state *flow*.
- This is the ideal state of mind for learning, creativity, insight.

C. The power of play lies in its triviality.

- The sense in which play is frivolous or trivial. How the triviality is the foundation for play's educative power: Non-stressed state; freedom to fail; a mind open to new possibilities.
- The play world as a simulation world, to practice for the real world.
- Play is trivial, but not easy. Much of the joy of play lies in the challenges.

For documentation of these ideas and further elaboration, see:

Peter Gray. [Free to Learn: Why Unleashing the Instinct to Play Will Make Our Children Happier, More Self-Reliant, and Better Students for Life.](#) Basic Books: 2013