

DO OUR CHILDREN PLAY ENOUGH?

“Play is the serious business of children” said Jean Piaget, educationist and propounder of the theory of cognitive development in children. But it is becoming obvious that adults are just not allowing children time to mind their own business.

A recent study published in *Pediatrics* by Barros, *et al.* from New York looked at the effect of free play time in more than 10,000 children between 8 and 9 years. The available research suggests that play has an important role in the learning, social development, and health of children in elementary school.

What exactly is free play and how does it differ from games? Play is repetitive, voluntary and conducted in a relaxed environment. It should also be apparently pointless with no obvious goal. Games on the other hand have clear rules and do not allow creative responses. Play teaches children to be socially competent, improves their communication, develop persistence and negotiating abilities. It fosters creativity and reduces anxiety levels. Basic science research in rats indicates that free play promotes neural development in many areas of the brain.

Leo F Buscaglia’s prophetic statement rings true “It is paradoxical that many educators and parents still differentiate between a time for learning and a time for play without seeing a vital connection between them.” (*Scientific American, January 2009*).

HOW GREEN WAS MY VALLEY?

Patancheru is a small place in Andhra Pradesh once famous for its sparkling lakes and streams. Today it has the dubious distinction of being one of the critically polluted areas in the country.

Joakim Larsson from the University of Gothenburg, Sweden studied waste exiting from a waste-treatment facility (PETL) in this area. 90 companies which manufacture or assemble drugs send their wastes to PETL. They found ciprofloxacin levels as high as 31,000 mcg/L and cetrizine levels upto 1400 mcg/L. Tadpoles and zebrafish exposed to these toxic wastes downstream showed significant reduction in growth, color and movement. A survey by Greenpeace in 2004 also documented significant increase in morbidity in people residing in the area.

While the United States focuses on figuring out how to keep drugs and other chemicals out of the nation’s waterways, the European Union’s approach could be called “benign by design.” It goes right to the source, evaluating the dangers of medications when they are created, before they enter the environment. The European Union requires pharmaceutical companies to analyze the environmental risks of new drugs, adopting guidelines in 2006 that grew out of concern about traces of drugs discovered in waterways and drinking water.

Some pharmaceutical companies are also showing interest in green chemistry. Industry, policymakers and scientists convened at the first International Conference on Sustainable Pharmacy in Germany last April to discuss how to make drugs more environmentally friendly. In the United States, major corporations have joined the American Chemical Society’s green chemistry pharmaceutical roundtable. As for India, its lopsided industrial development with flagrant disregard for consequences is a ticking time bomb, which no one knows when it will explode (*Scientific American, February 2009, The Times of India 31 January 2009*).

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