Learning through play:
New perspectives on early years development

Scientists readily acknowledge that species that play the most are the most intelligent. New research is beginning to explore the role that play has on children’s learning and development. Whilst the definition of play can be subjective, it is integral to children’s development of language skills, social skills, intellectual and emotional intelligence. Adults’ role in play is also important, providing resources and support. We attended the international Primary Science Education Conference (PSEC) and spoke with Early Years experts to find out more.

On the 6-8th June 2019, the Primary Science Teaching Trust (PSTT) hosted the Primary Science Education Conference (PSEC) at the International Conference Centre in Edinburgh. Over those three days, attendees were provided with a wealth of talks, exhibits and opportunities for professional development.

Play provides more than entertainment for young children, with 80% of brain development completed at three years old, to 90% at five. Researchers are beginning to understand the nuances and diversity of play so that parents and educators can support young people’s development. Conceptually, play can be difficult to define, however, Play England explain play as ‘what children and young people do when they follow their own ideas and interests, in their own way, and for their own reasons’.

With more being done to understand play, others are attempting to use play in developing advanced skills, such as understanding cause and effect. We spoke to two leading early years experts who were speakers from the event to shed some light on the nuances of play.

Firstly, we spoke to Professor Paul Ramchandani, the first LEGO Professor of Play in Education, whose talk explored how innovative pedagogies are discussed to develop teacher presence and children’s enjoyment.

Are certain types of play more beneficial to a child’s development during their early years?

If you’re thinking about babies, you’re looking to parents and carers to stimulate interests and support them. Young children will explore things through relationships with parents. Then as they get older, you’re thinking about trying to inspire curiosity, creativity and imagination. There are opportunities when children are 2-4 years old for them to have space to play imaginatively and with their peers.

It’s important to remember that children learn from almost everything. It’s not that there’s a separation into educational play and non-educational play because play is how children explore and understand the world.

How do a mother and a father’s roles differ in the lives and development of children?

The first thing to stress is that mother’s and father’s roles often overlap and the kinds of interactions that you see are often similar. But there are some differences. Fathers are more likely to engage in physical play, but one of the interesting things we see is that where fathers do take on more of a caretaking role, you see their interactions with their children change to become more sensitive. Therefore, some of this is strongly socially determined. There are some physical differences on average obviously between men and women but there are very strong social determinants to the roles that people get assigned or take on for themselves and that goes for parent-child play as well.

How does LEGO support science in primary education?

The LEGO Foundation funds a lot of the research that we do at the PEDAL Research Centre in Cambridge. They’ve just extended this funding for the next five years and they encourage us to set out the questions that we think are important in terms of play research.

Aside from this, the LEGO Foundation also funds other researchers and research centres, and do a lot of other philanthropic work across the world. Many of these include key research projects on play and education in countries like South Africa, China and Mexico.

Finally, we spoke with Professor Laura Schulz, Professor of Cognitive Science in the Department of Brain and Cognitive Sciences at MIT.

Do you think it would ever be possible to replicate a human mind’s computational power?

Part of my faith in the vast power of the human mind is believing that it may very well find a way to replicate its own computational power. But we are a long way away from doing that, let alone designing it.
The emphasis is very much about paying close attention, noticing patterns in what they do and trying to build on those. Some children will need encouragement.

Children, by contrast, can learn a word or causal relationship from just one or two examples. And human minds often learn from no data at all. We can pose a question and construct answers to it just by thinking – and we can invent new expressions and guess what you are thinking. But because we vastly underestimate children and the work we do with them, working with children remains one of the most poorly understood sectors of the economy. And of course, it is work largely relegated to the low-wage, low-status, low-skilled, low-education, low-income sectors of the economy.

Yes of course. We tend to focus on the mistakes humans make because we would like to be able to do things better. But there is no organism in the known universe with anything like the intellect of a human child. Our children can’t drive cars, but they can move their bodies through space with a flexibility that robots can only dream about; they can’t recognize a million faces with high fidelity but they can look at your facial expressions and guess what you are thinking, feeling and going to do next; they can’t look 20 movies ahead in Go Babies but they can invent imaginary, counterfactual worlds literally as children play. And the babies and toddlers playing their toes right now will, within a few decades, invent technological and cultural innovations that we haven’t dreamed of yet.

If we underestimate the genius of children, we also vastly underestimate the intellectual challenges involved in interacting with them. Keeping up with a young mind, minute by minute, hour by hour, day by day requires a degree of vigilance, attention, insight and flexibility compared to any of our most demanding careers. But because we vastly underestimate children and the work we do with them, working with children remains one of the most poorly understood sectors of the economy.

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