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Seeing the Brilliance of Children – Understanding Brain Development

August 27th, 2015

The view of children as competent, capable of complex thinking, curious and rich in potential comes from what we know and what we have come to know through research about early childhood development. What we now know about early brain development is astounding. With so many advances in research and technology we have a much greater understanding of early brain development, the capacity and competencies of children, and the impact of early positive adult child relationships on learning and development. We know that 90% of brain development happens before 5 years of age! That is incredible when you think about it. At Compass ELC we have a great responsibility to understand how our relationships and how the environment can impact that development.

Children are born learning. Gone are the days when we thought we needed to get children ready to learn, ready for school. When we are born we already have most of the brain cells that we will have for our entire lives, but relatively few of the connections among the different cells. (Shonkoff) Our hearts beat, we can breath on our own, we have involuntary movements, etc. From birth about 700 new neural connections are made per second in the first year of life. As we grow and learn to do more things, more and more connections are made. This continues to happen at the greatest rate in early childhood. By the age of three we will have approximately 1000 trillion connections. 1000 trillion connections... a stunning fact.

In the first three years of life alone we learn to talk and to walk; we learn how to master our bodies; we have built social skills; we have become brilliant researchers, able to make predictions, test our theories and learn from this research. In fact we could easily say that children are the greatest researchers and learners on the earth. The whole role of babies and young children is to be researchers and figure out how the world works. Let's consider some of the ideas of Alison Gopnik who has spent much of her career as a researcher interested in the baby's brain.



She notes “Psychologists and neuroscientists have

discovered that babies not only learn more, but imagine more, care more, and experience more than we would ever have thought possible. In some ways, young children are actually smarter, more imaginative, more caring and even more conscious than adults are. So one way of thinking about it is that babies and young children are like the research and development division of the human species. So they’re the protected blue sky guys who just have to go out and learn and have good ideas, and we’re production and marketing. We have to take all those ideas that we learned when we were children and actually put them to use. Another way of thinking about it is instead of thinking of babies and children as being like defective grownups, we should think about them as being a different developmental stage of the same species — kind of like caterpillars and butterflies — except that they’re actually the brilliant butterflies who are flitting around the garden and exploring, and we’re the caterpillars who are inching along our narrow, grownup, adult path.” (Alison Gopnik, 2009, NY: Farrar, Straus and Giroux)

So how does the brain influence the child’s ability to be such a brilliant learner? Among the parts of the brain is the prefrontal cortex. This part of the brain is responsible for focus and attention, complex planning and organizing and is the last area of the brain to develop. In fact, it isn’t fully developed until the early 20s. Think about it like this. An adult brain with a fully developed prefrontal cortex is like a beam of light that focuses on one thing. A child’s prefrontal cortex is more like a spotlight, illuminating a wide area around the light. This allows children to see more, hear more, feel more. Their brains are more flexible and fluid than adult brains. While we have often thought that children were easily distracted, the total opposite is actually true, they are attracted to everything! This beam of light helps them to see and pay attention to everything that is happening around them. Perhaps this is why that little piece of glitter on the floor that we don’t see draws them in just when it’s time to get ready to go outside.

We could learn a whole lot about the world through the eyes of a child ... we just have to slow down to see it with them.

Provided by: Lorrie Baird, Associate Executive Director

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