

# Learning Begins at Birth

Have you ever heard a joke that everybody around you laughs at, but you just don't get? This may not be because you have no sense of humour, but more likely because you didn't know a vital piece of information that made the joke come together. Without the right context, the joke just isn't funny.

What is true of humour is also true of learning. It is extraordinarily difficult to understand new information if you do not have the correct context for that information. That notion of needing to have base knowledge in order to acquire new knowledge is the essence of the constructivist theory of learning.

I recently taught an activity designed to show preschool children why cars need roads.<sup>1</sup> By rolling cars down stretches of Hot Wheels™ track covered with different materials, the children observed how friction from the different materials affected the distance the cars rolled and they could see why smooth roads are better for cars. What did those children need to know in order to understand this activity? First, they needed to know what a car is, what a road is and that cars usually travel on roads. The children also had to know what rolling is and understand that cars roll on their wheels when they move. Finally, the children had to be able to identify smooth and rough surfaces. During testing, I encountered one child who did not have a clear understanding of what "smooth" and "rough" meant. To explain the concept, I had the child rub her hand across the different surfaces and label them. Without that background knowledge, she would have been unable to draw the conclusions that the rest of the children did.

This example, one of many that I have encountered while performing Science<sup>2</sup> activities with preschool children, highlights the critical importance of learning in the very early years. Since children learn by building upon what they already know, providing a rich set of experiences in the first three years of a child's life will give them a tremendous advantage for learning in later life.

Of course, infants simply do not have the same cognitive or motor skills as older children, so the emphasis in a child's first year of life should be on providing that child with a rich variety of experiences and introducing him or her to many different concepts, objects, materials and language through play and discovery. Suitable activities to lay the groundwork for the cars and roads activity discussed above could include having infants touch different surfaces to experience the textures, observing that toy cars always roll down ramps and practicing rolling cars across a smooth surface. Such experiences can start as soon as a child can unfurl her hand – my four month old daughter and I read many textured board books together, and we touch and label each surface as we read along.

Toddlers can build upon their experiences by beginning to investigate concepts, manipulate objects and articulate language in a more sophisticated way. What does this mean? To relate this to the cars and roads activity, toddlers could practice pushing and releasing cars in a smooth motion, they could label the different parts of a car and they could begin to label different materials and then sort them according to the roughness of their texture.

As important as the experience and skills that you provide children with is the language that you use with them. This is particularly important with regards to labelling. As children hear the

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<sup>1</sup> This activity can be downloaded in .pdf format at <http://www.letstalkscience.uwo.ca/programs/wings/PDF/Transport%20sample.pdf>.

<sup>2</sup> Our Science includes life and physical sciences, technology, engineering and mathematics.

proper names and descriptive words for objects and actions, they can begin to communicate their observations about the world in a more orderly fashion. Even though a child may have seen a picture of a camel, unless he has been told the name of it then the word “camel” would have no meaning to him. (In the context of the car activity above, if an infant is rolling a toy car across the floor, then you could use the word “car” to describe what the child has in her hand and the word “roll” to describe the car as it moves across the floor.) A rich vocabulary will yield great benefits for a child as he or she grows up. Words allow a child to make sense of what goes on around him or her and communicate what he or she sees or wishes to know more about.

There is little doubt that children learn best in a hands-on environment, by doing for themselves. Allowing a child to do something on his own will give him a much better understanding than mere observation. By providing very young children with a rich variety of experiences and solid foundation knowledge, you can help children to get it – regardless of whether “it” is a joke or a deeper understanding of how the world works. The more that children learn in their first years, the better positioned they will be for learning in later life.

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