

The Centre for Brain and Cognitive Development

THE 'CONTAINERS' STUDY

Concepts are fundamental to our lives. Not only do they reduce the diversity of the world to a manageable level, they enable us to make inferences about things we have never encountered before. So, when we see a new type of bird, we can draw on what we already know about birds and infer that this one too is a bird. Concepts are therefore the mental glue that bring together all our past knowledge with our present experiences.

But knowledge and experiences are not always consistent. For example, if we believe that all birds fly, what happens when we come across an ostrich? Do we assume it is not a bird, or do we revise our concept of birds to take into account this large creature with wings, that runs instead of flying? Previous research suggests that adults are reluctant to abandon their background knowledge when faced with an inconsistent experience in concept learning. Instead, they may reject such inconsistencies, depending on how well-established the knowledge involved or how inconsistent the experiences are.

This raises the intriguing question of how infants, who have little knowledge of the world, learn concepts when they are faced with inconsistent experiences. Our research suggests that young infants rely predominantly on their immediate experiences to learn new concepts. So perhaps, unlike adults, they are unperturbed by information that contradicts their background knowledge and simply update their concepts to incorporate such inconsistencies.

We will explore this by showing the infants a short film in which different shaped objects with two different patterns are either placed into a container or put aside. The concept rule is that those with the oval pattern are placed into the container (illustration 1), whilst those with the diamond-shaped pattern are set aside (illustration 2). Then, in order to explore whether experiences that contradict their background knowledge affect their ability to understand this concept rule, some of the infants will see objects that are too big, 'magically' disappearing into a small container (illustration 3).



(1) Oval pattern placed into container



(2) Diamond pattern set aside



(3) Oval pattern 'magically' placed into small container

If infants rely solely on their experiences to learn a new concept, then this inconsistency should have no effect. If however, like adults, they also draw on their background knowledge when they learn a concept, this may confuse them. By exploring how infants combine background knowledge with everyday experiences in infant concept learning, we hope to understand more about this early and critical ability to group information into meaningful concepts. THANK YOU for helping us today!!!