Research Spotlight

The Hearts & Flowers Game

Graduate student Karrie Godwin and her advisor, Dr. Anna Fisher, are investigating the relationship between learning and other general cognitive processes such as attention, memory, processing speed, executive function, and general reasoning ability. In the *Hearts and Flowers Game*, they are measuring children’s cognitive control and their ability to inhibit a behavioral response. In this computer game, children are presented with a series of hearts and flowers. Children are instructed to respond to each object as follows: When children see a heart on the computer screen, they are told to press the response button on the same side that the heart was presented (e.g., if the heart appears on the left hand side of the screen, the correct response would entail pressing the left response button). However, when children see a flower, they are instructed to press the opposite response button (e.g., if the flower appears on the left hand side of the screen, the correct response would entail pressing the right response button). Next, children are shown pictures depicting the sun or the moon. Children are asked to provide a verbal response that conflicts with the picture. For example, if children see a picture of the sun, they are instructed to say “night”; and when children see the picture of the moon, they are instructed to say “day”. In other studies, children’s skill at tasks that require such inhibition of the common response predicts their learning ability. Discovering the precise correlations will help researchers and educators know how to best facilitate children’s learning foundations.
Research Spotlight, continued …

The Similarity Game

In this study, Dr. Anna Fisher and graduate student Karrie Godwin are investigating how young children learn synonyms. They present children with reasoning tasks in which children must rely on their knowledge of labels to solve the problem. They are interested in the degree to which children utilize their knowledge of labels in various reasoning tasks. In the Similarity Game, children are shown identical pictures of doors, trees or rocks similar to the ones presented below. The children are told about objects that are hidden behind the pictures. For example, we might tell children that there is a bunny, a rabbit and a squirrel behind each door (or tree or rock). The children learn that one of the objects has a particular property. Then children must decide whether this property can be generalized to the other two objects. Having the doors, rocks, or trees as hiding places provides an engaging context for the game, but the objects remain hidden during the task and are never revealed because the researchers do not want the perceptual similarity to influence the children’s decisions. Learning to better understand how children reason about similar objects in the absence of visual images can help researchers and educators more effectively prepare instruction that will support children’s learning most effectively.