Keeping Parents Informed about Research

The Research Spotlight section of the monthly newsletter is one way Children’s School parents can learn about research in progress. Also, each time your child participates in a study that involves playing a “game” with a researcher (i.e., as opposed to merely being observed), he or she will get a participation sticker suggesting that you, “Ask me about the … game” and a study description detailing the task. We also have recent articles resulting from Children’s School research posted on the school web site (www.psy.cmu.edu/childrensschool) and a notebook of articles in the office. Feel free to contact Dr. Carver to discuss any questions you have about research.

Observations for Psychology Assignments: Students from Dr. David Rakison’s Child Development class conduct periodic observations throughout the fall. For each assignment, they observe specific differences between preschoolers and kindergartners in motor skills, social interactions, language, etc.

Research Methods Class Studies: Students in Professor Anna Fisher’s and Graduate Student Lucy Erickson’s Developmental Research Methods classes will start with a lab entitled the The Animal Names Game to explore age related changes in children’s working memory capacity by having them do a word span task. The experimenter starts with a short list of animals for the child to repeat and gradually lengthens the list. As part of this study, the students are varying the length of the animal names (e.g., frog vs. butterfly) to determine whether it is the number of items in the list or the amount of time it takes to say the items that determines how much can be remembered. Later in the semester, students will work in small groups to conduct a study of their own design, which will be approved both by their instructor and by Dr. Carver.

Research Spotlight

The Learning About Living Things Game

Previous research has suggested that, as children grow older, they increasingly recognize that living things can be divided into different biological taxonomic groups, such as mammals, birds, and plants. The purpose of the Living Things study that graduate student Layla Unger is conducting this fall is to test whether an instruction session that explicitly highlights these biological taxonomic groups facilitates the organization of children’s knowledge about living things. All of the participants will complete a pre-test and post-test during which they are asked to arrange a set of pictures on a game board according to which are “the same kind of thing” and then again by which ones “go together”. Between the two tests, half of the children will participate in an instruction session that highlights similarities between living things that look very different but are part of the same category (e.g., “This ostrich is a bird, and this penguin is a bird. See? They’re both birds.”). The researchers may repeat the instruction and related post-test multiple times to strengthen the effect of the instructional manipulation.
Research Spotlight, continued …

The Picture Finding Game

Word recognition tasks are often used to determine the average age of acquisition for these words. These data can then be applied to the study of other cognitive topics. For example, Dr. Anna Fisher’s research team is particularly interested in the degree to which children utilize their word knowledge in various working memory and reasoning tasks. In the Picture Finding game, children are shown slides of pictures of animals and plants and then asked to find the picture representing the target word on each slide. For example, we might ask children to point to the picture of the rabbit.

The Flowers Game

Professor Anna Fisher and graduate student Karrie Godwin 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 Flowers Game, they are examining how children allocate their attention in different learning environments. In particular, they are interested in examining whether children’s ability to effectively distribute their attention has consequences for learning new science content. In this computer game, children are presented with a series of pictures of flowers. Children are told the name for each picture. At the end of the game, a memory assessment is administered to see which items the children learned. For example, after learning the names of different types of flowers, children may be presented with a picture of a flower and asked to recall the flower’s name (e.g., “What was the name of this flower?”).

The Butterfly Game

Fisher and Godwin’s Butterfly Game is a similar computer game in which children are presented with a series of pictures of butterflies. Children are told the name for each picture. At the end of the game, a memory assessment is administered to see which items the children learned. For example, after learning the names of different types of butterfly, children may be asked to identify the morpho (e.g., “Point to the morpho”).

The Remember That Game

In a series of games like the Flowers Game, the Butterfly Game, the Land Animals Game, and the Fish Game, children learn about novel science content by reviewing a series of pictures of animals or plants and practicing the name for each picture. In the Remember That Game, experimenters examine whether children’s ability to engage in sustained attention during those initial games affects their long-term retention of the science material. In the Remember That Game, children are asked questions about the animals and plants they learned about over the semester. For example, children are presented with a series of pictures and asked to recall the name of the objects (e.g., “What was the name of this Butterfly?”). Children are also asked about educational displays that were present in the classroom to see if children remember the classroom visual environment. For example, children may be presented with pairs of objects and asked to identify which object he or she saw in the classroom previously.