Research Spotlight

Remembering Games

Senior Lauren Yan will conduct her honors thesis research during the spring semester after pilot testing the experimental tasks during her study abroad semester in South Korea. Many thanks to Duksung Women’s University professor Tony Lee for helping her connect with the Purumi Children’s Center and with Duksung undergraduate early education majors to facilitate her pilot work.

Lauren’s research involves playing memory games with the children to assess their working memory abilities and test several approaches for using games to introduce strategies to improve children’s working memory, which refers to the type of memory that holds information as we use it. It is important to introduce memory strategies early, so children can become facile with using strategies to bolster their learning. The study consists of a pretest, three intervention gameplay sessions, and then a posttest. For the pretest and posttest, the children play three games with the researcher individually. In the Objects on the Table Game, eight objects (animal figurines and toy vehicles) are placed on the table for the children to identify. While the child closes their eyes, two are then taken off the table and hidden. The child is then asked to report which two objects were missing. This game is repeated five times with the same set of objects to see whether increased exposure will facilitate children’s memory. The Hide & Seek Game involves a picture of a cartoon room with flaps under which cartoon animals are hidden. The child watches the hiding process and is then asked to find each animal shown on a list by pointing to the flap where the animal is hiding. The child plays two rounds of the game to determine improvement or possible interference. In the Rule Game, a picture of a turtle and a pencil are used. In the first round, the child is instructed to raise their arms when they see the turtle, and to clap when they see the pencil. In the second round, the instructions are switched.

Three intervention gameplay sessions are played between the pretest and posttest. The same three games are played in each session but with different picture stimuli. In the Remembering Foods Game, the child is shown six different pictures of various foods for one minute. The pictures are then hidden and the child is asked to name as many foods as they can remember. In the Food Matching Game, players take turns revealing two cards looking for matching pictures. In the Picture Sorting Game, the child is given a set of cards with green and yellow bunnies and boats. The child is then asked to play either the Color Game or the Shape Game. If the Color Game is played, the child sorts the cards according to the color; if the Shape Game is played, cards are sorted according to shape. After playing with the first set of rules, the child is asked to switch to the other set. During all the games, the child is supported through gameplay with structured prompts to help their memory. For half of the children, the researcher also models the strategies while thinking aloud about them. We predict that performance on these games will improve over the three intervention sessions, as well as increase memory strategy usage during gameplay on posttest games, with children who receive additional modeling improving more than those whose instruction includes only strategy prompting.