Childhood Cognition and Learning Laboratory

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From Left: Aman, Anisha, Michèle, Laura, Emily, Jennifer, Cristina

Lab Director
Cristina Atance, PhD

Lab Coordinator
Emily Essig

Ph.D. Candidates
Michèle Bélanger
Laura Jackson
Jennifer Metcalf

Research Assistants
Aman Bassi
Anisha Varghese

Dear Parents,

As always, it has been a busy and exciting year at the CCLL! In addition to starting many new studies (some of which we outline below), we have also temporarily moved our laboratory to 200 Lees Avenue. We plan to be back on the University of Ottawa main campus by the summer/fall of 2010, where we will have fully renovated lab space providing an even more welcoming environment for you and your child!

A big thank you to all the children and parents who have participated in our studies this year! We look forward to seeing you again and also to welcoming all the new families to our lab!

Best wishes for the new year,

The CCLL Staff

What We Do and Who We Are

We're interested in young children's thinking, and how it changes and develops during the preschool years. We're currently studying children's perspective-taking, planning, and future thinking skills. Here are some of the questions we've been addressing:

1) What do young children know and understand about the future? For example, do young children save items for the future? Do young children understand that what they like right now might change in the future?

2) How do perspective-taking skills change across the preschool years? How adept are young children at understanding that although they may feel a certain way (e.g., tired, thirsty) or feel a certain desire or emotion (e.g., happiness), others may feel differently than they do?

3) Is the capacity to understand that others have different desires and emotions related to children's capacity to understand that they might have different desires and emotions in the future?

We are currently conducting many different studies to help us answer these questions, and are always happy to have parents bring in their preschoolers to our lab to participate in these studies. All of our studies involve a series of engaging and "child-friendly" games. By watching how children play these games, we learn a great deal about their thinking.

Our Completed Studies

"Present for Mom"

The main goal of this study was to examine children's ability to adopt multiple perspectives on their own, and others', desires. To do so, we designed a "gift-giving" task in which children were asked to choose presents for themselves and for their Moms. We were interested in determining whether children's choices for "Mom" would be influenced by what children, themselves, currently liked or "desired." To answer this question, we presented children (3- to 5-year-olds) with an item that we were sure would be desirable to them (a plush teddy bear) and one that we were sure would be less desirable to them but more desirable to their Moms (a "Canadian Living" cooking magazine).

Overall, 5-year-olds were much better at taking Mom's perspective (i.e., recognizing that she would want the magazine, not the bear, as a gift) than were 3-year-olds. However,

we also found that when children were able to choose a gift for themselves *before*, as opposed to *after,* they chose a gift for Mom, they were better at recognizing that Mom's perspective would differ from their own. In other words, children were more likely to choose the magazine for Mom. These findings suggest that although younger preschoolers have difficulties recognizing that someone else's perspective may differ from their own, when they have had the chance to express their own desire first, this might help them to recognize that someone else could desire something that is different. We are currently extending this research by testing whether children understand that what they desire right now (e.g., plush teddy bear) differs from what they will desire when they are all "grown-up."

"Memory, Future thinking, & Knowledge"

This study examined the development of children's memory, future thinking, and knowledge about everyday events like "bedtime" and "going to the park." The 3-, 4-, and 5-year olds in this study were either assigned to a condition in which we asked them about their memory (e.g., "What did you do at bedtime last night?"), their planning (e.g., "What are you going to do at bedtime tonight?"), or their knowledge (e.g., "What do you do at bedtime?") about 8 different events. Half of these events were ones for which parents rated their children as having a high level of control (or input) over how the event unfolds, whereas the other half was rated as "low control." Results revealed that the older children were more accurate in their reporting of these events (to assess the "accuracy" of future events, we asked parents how plausible their children's responses were) for each of the 3 different conditions. Especially interesting, is that we found that children's memory (but not their knowledge about events) were less accurate for low control events, compared to high control events. We interpret this to mean that children will be able to best remember and plan for events for which they have a certain amount of control or "say" over how the event actually unfolds.

"Action Explanation"

In a series of studies, children were given a plausible reason to perform an action (e.g., "Can you go get some pennies to put in this box?"). While children retrieved the pennies, a "switch" was surreptitiously made and the box was replaced with a piggy bank (pennies are presumed to be more associated with piggy banks than with boxes). When children returned, they were asked to explain their action (e.g., "Why did you go get the pennies?). Results showed that children between the ages of 3 and 5 have difficulty explaining their actions in this context. That is, the majority of children said that they went to get the pennies to put in the piggy bank. Surprisingly, no age differences in performance have been detected on these tasks.

Ongoing Studies

Reception Room "Drawing Area"

Graduate student Laura Jackson

One of our study participants playing in our Reception Room

"Parental Reactions"

In this study, parents actually got to participate with their children. We presented children and parents with unexpected events (e.g., a crayon box that contained keys and not crayons!) and observed how parents would react to/explain these events to their children. For example, did parents say things like "Wow, I thought the box was supposed to have crayons in it!" We then asked children to tell us what they had initially believed the box to contain (i.e., "crayons" or "keys"). We have finished transcribing and coding all of the parents' responses and our next step will be to determine whether the children of parents who used more of these types of statements were better able to recognize that they had been mistaken about the contents of the box (i.e., that although the box really contained keys, they had initially thought it contained crayons). We will update you about this in the next Newsletter!

"Planning for the Future"

Imagine that you go to your friend's house and it's always cold there. You will soon learn that it's a good idea to prepare for going to her house by bringing an extra warm sweater. This is exactly the logic we are currently testing in this study. Thus, 3-, 4-, and 5-year-olds are exposed to two rooms; in one room, they always experience a need for some sort of item, whereas in the other room they do not. Once they have been in both rooms twice, we tell them that they will get to visit the rooms again later on. We then present them with an item that will fulfill the need they experienced in one of the 2 rooms. We are interested in whether they will take this item and place it in this room for next time. We will let you know what we find in the next Newsletter!

Lab Director Dr.Cristina Atance, with study participant

"The Two Rooms Task"

This study focused on 3-, 4-, and 5-year-old children's abilities to plan ahead. Children were presented with a series of problems (e.g., a locked box with Smarties inside) in one room and then shortly thereafter, the solution to the problem (i.e., a key to open the box) in another room. To perform the tasks correctly, children needed to remember the problem and then plan how to solve it. We found that, overall, older children solved the problems more often than younger children. However, younger children were mainly limited in their ability to *remember* the problem that had been presented to them. As a result, they were often unable to plan appropriately. However, when young children did remember the problem, they almost always planned. This suggests to us that some of the planning or "future thinking" failures that we see in young children may be due to difficulties remembering information that is relevant to the problem at hand.

"Saving for the Future"

Saving is an important future-oriented process that motivates much of adult behaviour. We save money for retirement and save room in our stomachs for dessert. We also save objects that are not immediately useful for novel, future uses (e.g., saving grocery bags for use as liners in garbage bins). Inspired by research documenting the saving behaviours of animals, we are conducting a new study examining the extent to which young children engage in saving behaviours.

Publications and Presentations

We've had a busy year presenting our work at various research conferences and publishing our results in psychology journals. Here is a sampling of some of our conference presentations and journal articles:

1. Atance, C.M. (May, 2009). The development of episodic future thinking. Invited paper presented at "The Prospective Brain" Conference, Harvard University, Cambridge, MA.
2. Atance, C. M., & Jackson, L. K. (2009). The development and coherence of future-oriented behaviors during the preschool years. *Journal of Experimental Child Psychology, 102,* 379-391.
3.Bélanger, M. J., Atance, C. M., & Meltzoff, A. N. (April, 2009). Are preschoolers better at considering the desires of others once their own have been fulfilled? Poster presented at the biennial meeting for the Society for Research in Child Development, Denver, CO.
4. Metcalf, J. L., Atance, C. M., & Walker, C. (April, 2009). The effect of schematic information on children's explanations for their actions. Poster presented at the biennial meeting for the Society for Research in Child Development, Denver, CO.
5. Jackson, L. K., & Atance, C. M. (2009). Future thinking in children with autism spectrum disorders: A pilot study. *Journal on Developmental Disabilities,40,* 40-45.
6. Quon, E., & Atance, C. M. (in press). A comparison of preschoolers' anticipation, memory and knowledge of events. *Journal of Cognition and Development.*

Questions? Interested in participating in a study?
Call us at 613-562-5800 ext 4475 or e-mail us at ccll@uottawa.ca
Please feel free to pass along our pamphlet to your family or friends!
We're on the Web!
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