How Children LEARN

Inside UVA’s Child Development Labs

I recently volunteered my three-year-old daughter to participate in a research study at the Child Study Center, one of four Child Development Laboratories at UVA. With input from local babies and kids, UVA researchers are performing studies that will inform the child-psychology world at large, as well as give the rest of us better insight into our children, how best to design learning tools and create environments to better suit their development.

Teams of child psychologists at the Child Development Laboratories (CDL) conduct cutting-edge research into the cognitive, language and social development of young children from infants as young as four-months-old to age 12. The Child Language and Learning Lab, directed by Dr. Vikram Jaswal, studies how learning language affects the way children think; the Early Development Lab, directed by Dr. Angeline Lillard, studies pretend play and best practices in schooling; the Child Study Center, directed by Dr. Judy DeLoache, researches how children master the many symbols necessary for thought and communication; and the Early Childhood Lab, directed by Dr. Rachel Keen, studies perceptual-motor problem-solving in babies and young children. The first two labs are located on Millmont Street and the latter two in Gilmer Hall UVA’s grounds.

I knew all four labs relied on local subjects for research but, until now, I was reluctant to volunteer, fearing that participation would be time-consuming or stressful for my daughter or for me. (Mostly for me.) What if my daughter didn’t behave well or perform correctly? Would they say she wasn’t developing properly? That I was a bad parent?

I needn’t have worried: “We are not assessing your child,” says Kai Sherman, Lab Coordinator of the Child Study Center and the administrative liaison among all four labs. “We are looking for changes within an age group.” Fellow volunteering parent Julie Innes Caruccio concurs: “They are testing a phenomenon, not your kid.” Caruccio has been taking her two children, ages 3 and 5, to CDL research studies since birth. As Assistant to the Vice President and Chief Student Affairs Officer at UVA (with

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Caruccio says she knows the CDL’s research has nothing to do with how smart her kids are.

“None of this is an IQ test,” says Caruccio. “There’s a wide range of responses. Researchers don’t care — they don’t expect you to solve the puzzle. They need data. Researchers are fascinated by variants.”

In the case of the Child Study Center, director DeLoache is looking for variants along the development of symbolic functioning.

“We primarily focus on how infants and young children start to learn about symbolic objects — how they come to understand what symbols like pictures and models are, and how these symbols are related to what they stand for,” says DeLoache.

One of the current research projects at the Child Study Center involves scale errors — a phenomenon where toddlers misestimate the size of their bodies relative to objects. In one study, toddlers ages 18-30-months were given large objects to manipulate — a car they could get into, a slide they could go down and a chair they could sit in. Researchers then replaced the objects with miniscule replicas. The researchers observed as the children often tried to use the models in the same way as the larger objects — they tried to sit in the mini chairs and climb into the tiny toy cars.

“The main thing [research into symbolic functioning] tells us is that the symbols that are so transparent to adults have be learned, and that it takes a while for children to come to understand what they are and how they’re used,” says DeLoache.

The case of trying to drive the mini car is a humorous situation I observed in my own daughter when, at about 20 months old or so, she repeatedly tried to sit in a mini red toy wagon that looked similar to the Radio Flyer we used to pull her around the neighborhood.

“Judy tends to pioneer research projects that start with just seeing what kids do,” says Cat Thrasher, a research assistant at the Child Study Center and a freelance photographer.

Sherman notes that DeLoache’s research into the fascination infants and young children have with animals is another such example: “Judy has this keen ability to notice these curiosities and ask, ‘What’s going on here?’ She observed that babies will fall out of their strollers to get a better look at the dogs passing by,” says Sherman.
Noticing that attraction to animals — or “biophilia” — has led DeLoache and her team to research whether such attraction has an effect on childhood learning.

Another research area in which Thrasher has been involved probes an aspect of kids and nature — the connection between young children and preparedness theory, which is the notion that there’s an evolutionary aspect to humans readily learning fears and developing phobias, such as that of snakes. In one study, infants were shown images of snakes and non-snakes and given the opportunity to match a fearful voice and a happy voice with each of the images. In most cases, the infants matched the fearful voice with the snake.

Another study in preparedness involves images of threatening faces and how young children detect, learn from and react to them. As an offshoot of this, Thrasher has been working on a combination art and

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– Judy DeLoache, director, UVA’s Child Study Center

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participation of nearly 100 babies — a massive recruiting effort — and took over a year to complete. DeLoache says finding participants, particularly babies, is the hardest part of her research. And yet, babies are the most crucial for this kind of cognitive research because they develop so quickly. There is often a relatively narrow window of time for observing them.

The Center used to learn of newborns from newspaper announcements and they’d use the phonebook to recruit volunteers. With so few people making formal birth announcements or listing their numbers in the phonebook these days, the Child Study Center and the other labs at the CDL now have to rely heavily on word of mouth and targeted recruiting events, such as booths set up at Fridays after Five and other gatherings to drum up new volunteers.

Before attending the Child Study Center, I knew only that my daughter would be participating in research involving picture books and animals. That sounded fun, and I discovered that my fears about the experience being at all stressful were completely unfounded a few minutes after we got out of the car at Gilmer Hall.

Sherman had told me that “the staff is trained in how to make the kids feel comfortable,” and she did exactly that when she greeted us. As she handed me a parking pass, she introduced herself to my daughter and began chatting with her in a friendly, non-condescending way. She led us into the lab, which isn’t like a typical science lab — there are no metal desks, test tubes or white lab coats around. Instead, it’s a few intimate rooms, many decorated with colorful drawings from the kids who have visited.

My daughter and I first encountered a room with a shelf full of interesting puzzles and toys. While my daughter played and became comfortable with her surroundings, Sherman handed me a couple of forms to sign and explained a bit more about how the research worked.

After a few minutes, we were led into another room set up with a child-sized table and chairs and a comfortable adult-sized recliner in the corner. Sherman explained to my daughter that she wanted to read her some picture books and then ask her about them. My daughter chose to sit on my lap in the recliner instead of at the small table, and that worked fine.

The first book contained pictures and
When completed, this Child Affective Facial Expression set — featuring children ages 4-6 making happy, angry, sad, fearful, surprised, neutral and disgusted faces — will be the first of its kind for the greater scientific research community. So far the project has taken over two years to complete, in part because of the struggle to gather so many child volunteers, says Thrasher.

In the end, the visit took less than 30 minutes. My daughter had fun, and I got to sit back and enjoy watching her play and take in new information without prompting or meddling.

My daughter still talks fondly about the place where “I sat on your lap and read books and got a stuffed rhino,” so I’m sure that when our participation is needed, we’ll be going back. Once you register for any of the labs, your name is in the CDL’s system and another lab may call to recruit you for another study.

Caruccio’s children have participated in studies at both Gilmer Hall and the labs on Millmont, and she says, “I don’t think my kids have any idea that something’s being studied. I just say we’re going to go play with Kai. It’s puzzles, but even though they are testing something, they never trick the kids. They just ask for input on whatever it is. The kids love to go. If they didn’t, we’d stop going.”

Caruccio also points out that the CDL’s studies are tightly controlled. An academic herself, she knows that any behavioral research involving human beings has to go through a rigorous
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review process and satisfy ethical standards of the Institutional Review Board to be approved. “I wouldn’t need to know that to be comfortable, but that’s in the back of my mind,” she says.

The CDL’s experiments are designed to be interesting to and enjoyable for the children. But whether the kids believe they’re just playing or not, the important reason for volunteering is more than just giving your children another fun activity out of the house. Supporting the CDL has greater implications for parents.

“I’m a consumer of what they do,” says Caruccio. “I spend a ton of my time trying to understand my kids and trying to make them successful, and I’ve relied heavily on child-development research. I have a stake in participating.”

To learn more about the Child Development Labs or to register as a volunteer visit the website, virginia.edu/psychology/childdevelopmentlabs or call 243-5234.

Katherine is a freelance writer and mother of a three-year-old daughter and a baby on the way, already clamoring to come out and volunteer at the CDL.