

Andy Meltzoff: Cognitive Development

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Announcer 3: Welcome to the National Center on Early Childhood Development, Teaching and Learning podcast series, which focuses on the Head Start Early Learning Outcomes Framework. In this podcast, we will hear from Andy Meltzoff about cognition in young children. We hope you enjoy this broadcast.

Announcer 2: From the ELOF — "Cognitive development includes reasoning, memory, problem-solving, and thinking skills that help young children understand and organize their world."

Claire Lerner: Hi, Andy. Thank you so much for coming in today to talk with us about the Head Start Early Learning Outcomes Framework, fondly known as the ELOF, which describes the skills, behaviors, and knowledge that programs should be fostering in all children. The focus of our discussion, based on the depth and breadth of your experience in this particular area, is on cognition, and specifically how early-childhood providers can provide really effective learning experience that supports the ELOF's early outcomes for this area of cognition. So, to begin, why don't you tell us a little bit about your background and experience.

Andy Meltzoff: Claire, thanks. It's good to be here. So, I'm the board of ZERO TO THREE, and I'm a researcher at the University of Washington and run an institute called Institute for Learning and Brain Sciences. And one of our goals is connect basic research with practice. We developed a phrase that the child — the little child — is like a little scientist, and published a book called "The Scientist in the Crib."

Claire: Andy, could you say a little bit more about what you mean about babies and young children being little scientists?

Andy: When you think of a child as a little scientist, we don't mean a laboratory scientist locked in the lab. We mean sort of an everyday problem-solving scientist like you are at home when your channel changer doesn't work. You're trying to figure out, "Do I push this button, or I push that button?" You sort of systematically investigate it.

When you lose your keys and you're trying to figure it out, you're almost like a little scientist or a detective trying to say, "The last place I was here, and then I was going to there," and you try to find your keys systematically. If you just run around frantically, you probably aren't going to find them. So that's what we mean by, "The child is a scientist in the crib" — an everyday scientist, a problem-solving, little being who's motivated to understand the people and things in their world. And when you look at babies that way, that they're curious problem-solvers, children set goals for themselves and want to get things right. So, they might build a block tower, and they tried carefully to balance the blocks, but then it all falls down. So, they had a

goal in mind, and then they didn't achieve their goal, and then they have to sort of recalibrate and try to do it better.

Claire: What about the importance of the adults and their role in nurturing early cognitive development?

Andy: A lot of research has shown that brain development doesn't just happen by itself. Little babies' brains are not like sort of potted plants that all you have to do is water them and then they grow. Really, they grow through interaction with people, and people provide brain food for babies. It's social interaction that are the occasions for making synaptic connections and growing the baby's brain in the best way. And so, we play a large, large role as the social beings in their environment. So that's why we say we are the child's first and best teachers and that our social interaction with them is brain growth for their own development. We can affect their brain development by how we interact with them through exploration and their own play.

Claire: So, help us think about or imagine how an adult working with a young child would be nurturing this ability.

Andy: You can see a child trying to make objects in the world work, like they roll a ball and it goes underneath the couch, or they use the channel changer or they try to make their parents' lipstick work by swiveling the bottom. Those are all trying to understand how the world works. What we sometimes appreciate less is they're trying to understand how people in the world work. So, sometimes we say, for instance, that 2-year-olds are going through the terrible twos. Just to give an example, you know, don't put your finger in the electric socket. You say, "No! Don't do that!" And you turn your back, and the next thing you know, they're crawling over to the electric socket to put their finger back in, and it's very dangerous. And you panic and run over there or whatever.

And, really, what they're doing is, I think, not misbehaving, but they're trying to understand what makes you tick. And when you've said, "No, don't do something," they sometimes go over to do it with a mischievous smile on their face, where they're thinking to themselves, "I can predict what she's gonna do now. Let me run a little experiment to see if I'm right. So, we sometimes think of them as misbehaving when they're really just trying to understand the rules of the world. They like to have the same rules and routines followed. And the reason they like that is, the world becomes predictable for them. If you look at the world through the eyes of the child, you can begin to understand sort of how chaotic it is and how unpredictable it is. And what we need to do is make routines and rituals where the children can kind of get control over these very unpredictable things called people. If you can make things repetitive and break it down into small units, then they have control of their social world, and then they can understand it a little bit better.

Claire: I think that perspective of seeing cognition through that very overarching frame is really helpful and I think will really help teachers know how to scaffold and encourage those experiences when they see it through that lens, that they're constantly problem-solving and they're constantly learning and figuring things out and having to take other perspectives, in order to keep moving forward.

Andy: Right. Taking perspectives is something that children have to learn. It's a lifelong goal. People in different political parties have to learn that. Countries have to learn that about other countries. But we, as human beings, struggle with perspective-taking, even when we're adults. The magic is, the 3- and 4-year-olds are just, at that moment, discovering it. And they're just coming to learn that your desires and your tastes can literally be different than my tastes. And that's called "theory of minds" sometimes or "perspective-taking." And there's great advances in theory of mind and perspective-taking between 18 months and 3, 4 years of age. And it's one of the things that teachers really can get a lot of joy out of watching the children coming to understand that other people have perspectives that differ from their own.

Claire: We hope you've enjoyed this podcast featuring Andy Meltzoff on how the Head Start Early Learning Outcomes Framework applies to cognitive development in young children. Have a great day.

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