

## The Foundations for Life and School Readiness Begin in Infancy

### Track A – Inclusive Child Development 17<sup>th</sup> Annual Virtual Birth to Three Institute

You can find the webcast titles here: <http://eclkc.ohs.acf.hhs.gov/hslc/tta/system/ehsnrc/btt/descriptions.html>

These are the titles of each track:

- A. Inclusive Child Development
- B. Child Health and Prenatal Services
- C. Family and Community Partnerships
- D. Management and Professional Development
- E. Home Visiting and Family Child Care

[Music]

Angie Godfrey: Hello. I'm Angie Godfrey, Infant and Toddler Program Specialist at the Office of Head Start.

Jennifer Boss: And I'm Jennifer Boss, Director of the Early Head Start National Resource Center. We want to welcome you to the 17th annual Birth-to-Three Institute, brought to you for the very first time virtually. Today's webcast kicks off a 5-week series of online events for vBTT, with each week addressing a different theme. We'll begin each week with a webcast featuring a plenary keynote speaker, and a panel of respondents who will discuss the speaker's presentation. At the conclusion of the webcast, you'll have an opportunity to participate in a live Q&A audio call with the plenary speaker. Later in the week, you can join us for two live webinars, also focused on that week's theme.

Angie: The Office of Head Start is so excited to bring you this virtual professional development event. Because vBTT is free and open for you to join from the comfort of your own home, center, or office, we know we are reaching a wide range of parents and professionals from Early Head Start, Head Start, and Migrant and Seasonal Head Start programs all across the country. Wherever you are watching, we hope that you'll be able to gather with colleagues and friends, so that you can listen and learn and discuss the presentations together, talk with each other about what you are learning and how it can impact our work with children and families. Think about how you can take the information presented and apply it to

your own work with young children and families. We want you to make the most of the information offered and use it to support your own continuous quality improvement efforts.

Jennifer: Our first week, Track A, will focus on inclusive child development. Our featured plenary speaker this week is Dr. Ron Lally. Dr. Lally is Co-director of West Ed's Center for Child and Family Studies, a program focused on improving the quality of child care for children ages birth to 3, helping children and families who are living in poverty, and influencing national, regional, and local policies and practices that have an impact on young children and their families. Dr. Lally is kicking off this track with a hot topic in the Head Start world: School Readiness Begins in Infancy.

Angie: As Jennifer explained a moment ago, the format for this webcast will be Dr. Lally's plenary address, followed by a round table panel discussion, moderated by Terra Bonds Clark from the Early Head Start National Resource Center. Immediately following the panel discussion, you can join us for a live question and answer audio call with Dr. Lally. The call-in number for the Q&A session will be given at the end of this webcast, so be sure to jot down your questions as you watch. Later, on Wednesday of this week, is another wonderful webinar that will benefit your work: "Reflective Curriculum Planning for Infants and Toddlers." Our presenters, Mary Jane McGuire-Fong and Margie Perez-Sesser, will focus on supporting infants' natural curiosity and planning a context for learning that ensures a strong foundation for school success. Mary Jane is professor of Early Childhood Education at American River College in Sacramento, California, and also serves as faculty for the Program for Infant/Toddler Care. She has been a preschool teacher, an infant center director, and a contract manager for programs serving migrant farm workers. Margie is currently an early childhood consultant and part-time faculty for the Program for Infant/Toddler Care. She also has been a director of Head Start, Migrant Head Start, State Preschool, and private nonprofit centers.

Jennifer: On Thursday, please join us for a webinar on supporting early math with infants and toddlers. This webinar will feature Dr. Eugene Geist, a professor at Ohio University who's a national expert on early math. Dr. Geist will leave you with an increased understanding of the types of play and interaction that can help build early math skills in infants and toddlers.

Angie: As you can see, we have an exciting week lined up for you. As we move through the next five weeks, be sure to visit the vBTT page on the ECLKC website.

Jennifer: And don't forget to come back next week for Track B. We'll be focusing on child health and prenatal services, and we've got many great events in store for you, so please tune in. And now, we'll turn it over to Dr. Lally. Enjoy!

[Music]

Dr. Lally: Hi. I'm thrilled to be here. This is a topic that's near and dear to my heart. I'm also thrilled because I'm talking to an audience that loves babies. My experiences go back to 1966 when I started studying infants and one of the things that's happened is over my career there's been this explosion of research that tells us that what's happening during the early years of life are crucial to how people will behave both in school and in the rest of their life. What I'd like to do today is I'd like to talk with you about some of this research where we're finding that environmental situations and experiences that children have, even in the womb, influence how they are going to act as adults and, of course, before then, when they are in school.

Let's take a look at before you're born and what is happening to you then. Interestingly enough we see that how we function in school and how we function in life is affected by things before our mother even gets pregnant. As a matter of fact, there is research that says during the three months before a child is conceived, that what is happening in the, in the prospective mother's life, during preconception, the drugs she takes, the foods she eats, whether she drinks in binge drinking and things like that, what happens to her affects the constitution of the womb and the brain development of the child. And so one of the things that we need to think about is we need to think about what is going to be happening with babies before they're even conceived. And it has an impact on them later in life. I was stunned when I, when I heard about this because one of the things that we find out in the United States is that we probably never pay attention to this early time in the lives of women who are in childbearing age as they do in other countries. We would love it if Head Start could get involved in starting to get information about appropriate nutrition, appropriate lifestyle to moms that would move children into the kinds of first types of environments that they need.

Secondly, what we're finding is that during pregnancy one of the things that happens is the brain is starting to get constructed. By the time the baby is two-thirds of the way along, what has happened is brain cells have migrated to the part of the brain where they're going to take up residence and live for the rest of their lives and that what is happening to the mom during pregnancy...her nutrition her health, the stress that she's living under...is influencing the development and structuring of the brain. And so what we're, we're hoping for with Early Head Start is that many more people are starting to get involved in the pregnancy part of Early Head Start so that they can help, help moms get through this point in life, which is very, very crucial to the development of the brain.

One of the things that I would like to talk about today is the, the difference between experience and environment and the structuring of the brain in relation to both of these things. When we're really

young, while we're in the womb, one of the things that happens is that we are directly influenced by the, the womb environment. The quality of the womb environment. When we get a little bit older, two-thirds of the way through our pregnancy, during the last three months of pregnancy, research is telling us that one of the things that's happening is, is that we are actually starting to experience that environment in a way that shapes us for later in life. And so new research has said that the, the words that a mother says, the language; we're starting to get understanding when we're in the womb...the tastes of the food that your mother likes you start to like yourself, and so already, before we're even born, we're starting to be shaped by our experiences.

One of the things that research is telling us is that there is major construction work going on in the brains of babies while they're in the womb and after they're out of the womb. While they're in the womb, the environment of the womb kind of dictates the health of the child and stresses that the mother experiences while the child is in the womb can actually influence the migration of brain cells, the, the tensions that the child picks up, and what is happening while the child is in the womb is they are preparing themselves for an environment that they are anticipating based on the environment that they have in the womb. What's fascinating is that children are learning and altering how they will operate later in life based on the experiences of the womb.

We've just recently found out that they will cry in the inflection of the language of the...of their parents. They will relate to the foods that their parents eat in ways that they give preference to those. And what we're sensing is what's happening is that, is the child is learning a way to fit into the, the family that they are being born into before they are even born. When damage happens, when deprivation happens in the womb, the child adjusts to a life that they anticipate will happen later on that will be similar to that. That's why it's so important for us to get to, to pregnant moms and, and their families and help them to have this kind of awareness of the influence of the food, the drink, the drugs, the toxins, the stresses on the babies. Early Head Start now works with pregnant mothers and it is essential for us to take this seriously; this helping create an environment of the womb which allows the child to kind of relax and grow in positive ways.

What's fascinating to me, though, and I think Joshua Sparrow will be talking about the pregnant moms in another presentation, but, what, what's fascinating to me is what happens after that, because what we're learning is that children are...once born, still need a womb-like experience. David Hamburg, a famous anthropologist, has said that what we go through, all of us, as human infants is a prolonged helplessness where it looks like we are just very vulnerable and weak, but in fact, what's going on is, he says, we are going through an extra uterine gestation period.

We need a social womb to be protected for the first 3 years of life, so that what will happen is that we will learn; our brains will grow, our brains will be constructed, based on the social experiences that we have with the people who care for us. And so this is fascinating because what we're saying is that the human infant is not finished growing when they, not finished developing when they leave the womb, that, in fact, they need another couple of years to form their brains to function effectively in society. And what do they do? They learn in this environment, in this age, in this culture, in this family, in this social setting: These are the ways that you're supposed to operate in order to survive, in order to prosper, in order to fit in. And what we see happening is that early on in infancy what's being constructed is a, an adapted brain to succeed in the expected environment that's coming your way. And how do you find out what is expected? By the experiences that you have day after day after day in these kind of nothing looking kinds of exchanges between caregivers. And so what we're seeing happen with babies is a relationship is established. A relationship is established first with a child wired to seek out and find people who will help them survive.

And so I'm going to take you through three different periods of infancy where what's happening...what's happening during these periods are crucial for the development of the child's competencies later in life. And the first is that when babies come into the world they are wired to expect that someone will be there to nurture them and take care of them, and their day and their life is organized around seeking out and finding security. How they do that is draw you in to take care of them. And what we're talking about here are attachment issues where the baby desperately needs to find someone that he can say, [sighs] everything is all right with this person. They care for me. They'll protect me. They'll feed me. They'll keep me out of the cold. This is, if the child gets this, research says this correlates with success later on in life. If the child doesn't get this, one of the things that happens is that they anxiously keep looking for it or give up on ever finding it. What we're wanting to do is to, to help families to sit, to spend time with their babies, to be with their babies and to, and to get them to have the time and opportunity to let their babies know everything is okay.

Now one of the problems that we have in the United States around that, is that parents have to go back to work really quickly and, very often, extended family members are not available for the care of babies. What we need to do is we need to find a way to help this attachment process happen during the first five or six months of life and one of the ways to do that is providing, well baby care for parents so that when they are forming these early relationships they have some help. And what I'm, I'm excited about with Early Head Start is home visitation is starting to take this issue on. It helps us to understand a little bit about when we're a new parent, how to continue to engage in breastfeeding and the attachment relationships that happen with that; how to deal with issues like temperamental differences in children. How to deal with spending unhurried time with a baby and reading the, the baby's cues. These are valuable lessons that we can help families with which help them to be attached, which then correlate with later success in school and life.

Second, what we're, we're looking at is another period of life where our child takes that secure base...the attachment...and uses that base as a way to venture out and explore the world. What we see in children from 9 to 15 months of age is a period what, where what they're doing is practicing their independence. They are practicing being independent. They will kind of walk away, or crawl away, excuse me, crawl away from their parent, go out and explore the environment, or crawl away from their caregiver who they have formed a relationship with and explore the world. But if something happens, if something falls over, they're scared; they crawl back; they plug into that security. They rev back up again and go out and explore the world. What they are doing and what they are wired to do is prepare themselves for, for life at a distance from their caregivers. But what we see them doing once that they're out there exploring the world, is they're checking...are you watching me? Is, is, am I still in your mind? Can I take this attachment that I have with you and move with that with the reassurance that you're not going to abandon me once I go off?

And, the other thing that they do during this exploratory period is they watch their caregivers like crazy to find out what are the things that I should eat? What are the dangers out here? What are the, ways that I'm allowed to express my emotions? Because what I want to do desperately is I want to fit in. I want to live in this culture and society into which that I've been born and I'm going to learn my lessons from you. As a matter of fact, I'm pre-programmed to learn those lessons from you by the way that I'm wired. And I'm going to take this period of time where I'm supposedly helpless, and use that time to prepare myself for success later on in life. And so what we're looking at here are two major issues of a, of a development where a social womb is needed. There is a period of life where the child is allowed to prepare, and what we're seeing in this preparation is brain wiring is being done in ways that help the child move out into the world either successfully or not.

Here are a few of the things that, that happens during this 9- to 15-month age period. Children are figuring out: "My parents listen to me." "My caregivers listen to me, or they don't." "What I choose to do is valued, or it isn't." "How I express my emotions are accepted, or they're, they're not accepted." "I'm allowed to explore, or I'm not allowed to explore." "Mostly my needs are met, or they're not." These are the kinds of shapings that move the child to...by the time they get to preschool, have a way of viewing the world and engaging the learning community, their friends, their coll-not...their peers, and alter whether they'll be successful or not later in life.

I want to switch and spend a little bit of time talking about the older infant now, because there's another lesson that, that happens. So, first of all, that we've talked about the child is wired to attach. If he attaches well and has a secure attachment they kind of relax. They use the relationship as the base for going out and exploring the world. When they're exploring the world, one of the things they're doing is they're using their relationship with their caregivers to find out how they should act in this world that they've moved into. Then, when they get to about 15 months of age and move toward preschool age,

around 3, they go through another period. Rather than dealing with the excitement of "I explore," and "Wow, this is really an interesting world," they're starting to think about "me" and "mine," and the notion of "I." So, if I were to take the, the expression "I explore," the way that a 9-month-old would, would say that expression is "I explore! I explore!" The exploring the world was crucial to them. It was exciting to them. It was what they were doing. It was based on they were secure enough to go out and explore. But when the child is 15- to 30-, 36-months of age, the way they say that sentence is: "I explore." "It's about what I can do." "My choices, my responsibilities." "What I want. Who I am." And they go through a period of life of dealing with "who am I, in relation to the rest of society? "Am I someone who can do whatever I want, and how do I deal with bumping into the needs and rights of others?" And so here, we see that caregivers have this, and parents have this other task, and this task is to help the child understand that there..."you have rights, you have choices, but in addition to that, there are other people in the world too." And there are these things that they need to get from us which will allow them to be good students and not sent to the principal's office all of the time. Allow them to be less impulsive and, and get a job and hold it even though sometimes they have to do some things that they don't like. And it starts during this period of life when you let the, the child know, through give and take, again in relationships..."I know you like that wagon. It's a great wagon. I like the wagon too. It's okay that you're mad at me that I took the wagon away, but this part of your behavior, this part of hitting Susie on the head to get that wagon; that's not acceptable."

They need to learn from us in interchanges with their peers and with, with those who love them and care for them some self-regulation, some impulse control. Some understanding of their rights within the context of other people have rights too. And it's a very tricky lesson for them to learn. And it comes from hundreds of day-to-day give-and-takes with, with caregivers so that they can learn: "I'm valued, I'm cared for; I'm, I'm here with people who are reasonable, and so therefore I can be reasonable too."

If we pay attention to providing the security that the child needs early on in life which then sets them on the stage for confident exploration, knowing that there's someone they can go to, giving them kind of a safe environment so that they can do, exploration in an interesting setting, and help them learn the lessons of self in relation to other, we are setting them on a course for success in school and in life. I'm going to tell you a little bit, a story, a story about a little child who has stuck with me since I heard this story. Maybe, 10 to 15 years ago, a colleague of mine was asked to come to an infant/toddler center in San Francisco where I live where they were going to kick a child out of the program because at 20 months of age...this was going to be a drop-out at 20 months of age...for hitting and kicking other children. What they said was, anytime a child comes near this child they are hit or kicked by the child. Parents were complaining. They couldn't do anything about it, and so here was a child who was in jeopardy of being kicked out of school. My colleague went...she was an infant mental health consultant...observed and what she saw was that exactly was what was happening. Children weren't taking things from this child. They weren't aggressing upon this child. They were just walking past the child and they were being hit or kicked. She asked if she could make a home visit. She made the home visit and what she found was that ever since this child was a baby he had two older brothers who were

treating him like a football, pushing him around, taking his things, terrorizing him. The experiences that he had over the lifetime, up until he was not even 2 yet, wired his brain to fit into a society where attack was the, the norm. And so when he saw another child coming toward him what he did was, in his mind, defended himself. And he had the chemical surging and, and the, the hormones raging which made that happen. So, he was surviving in the way that he learned how, but in fact, everybody else in that program didn't see him being attacked. Only he saw he was being attacked because his experiences over and over again created this expectation and then he started to predict that "when somebody was coming toward me I'm about to be attacked and I need to defend myself." Think how this kind of behavior influences the rest of the life of this child. He's not going to be doing very well in classrooms because he's going to be kicked out of classrooms.

But, but our mental health consultant, once she saw that said, "oh, I think I'm going to try something." It's early enough. He is young enough that we can still rewire the brain. And so what she did is she took an easy temperament child and sat that child next to her. She had the child who was hitting and kicking and sat him on the other side of her, so there were two. She took a toy that she saw that the, the, the child who hit liked and put it in front of her. And then she had them play with her providing psychological and physical safety. This child couldn't get at her, him, and this child couldn't get at him, and they started to play a little bit with her providing that physical barrier. She moved back the tiniest bit. She let them play. She brought another child over. She had that child play this way. And then what she told the teachers was what she was doing and why. She wanted to give this child a different experience than the experience that he was having at home. Within three months of the teachers doing this routinely, this child was no longer hitting and kicking every child who, who came near him. He had been rewired to the place where: "Oh, I've got it. It's not every child who is coming near me that's going to attack me. It's only my brothers. And unfortunately, there was nothing changed at home. There was no kind of miraculous cure there, but still this child made a major breakthrough. And the breakthrough was he now could get along with children in a different context.

Now, this is an example of how the brain gets shaped in many, many different areas, not just in physical aggression, and how, when we're very, very young we can be set on a course to, to push us in development either in positive ways or negative ways. It's hard when you see through spectacles that blind you to what's really happening because your experience has said this is what I should expect. "I cry and nobody comes." Geraldine Dawson, for example, did some research on children from 6 months to 15 months of age who were the children of depressed moms. And what she found, during this exploratory period when they are depending on someone to be there and eye-check them as they go out and explore, that if the mom was depressed during that period of life, one of the chil...what the children learned was it's dangerous out there because the person isn't watching me. Once I leave her side, I don't exist anymore and we, they...and Geraldine Dawson found that these children showed depressive characteristics when they were two and a half to three. So, where am I going with this?

Where I'm going is that when we are looking at competencies in later life, they start and are shaped, and as a matter of fact, some of the physical structure of the brain is developed during the first three years of life. They can be uprooted; they can be distorted; but it's so early in life that if we can get in there and find out that something is going wrong, it's easier to fix when it's...first goes off track than if we waited later and later.

So, here's what we need to do. We need to find ways to give information to moms or women of child-bearing age, even before they become pregnant, to say there are things that you're doing in the three months before you get pregnant that can damage your chances...your, your child's chances for an optimal development. We need to find ways to get parents and their children to spend as much time together as possible during the first nine months of life and also have people like home visitors be there to, to help them with the early bumps in understanding and relating and reading the cues of babies. We need to help caregivers who are dealing with children once they get into child care to understand that they need a secondary attachment relationship; that the care of babies is a...should be a subjective thing rather than an objective teaching; and, that one of the things that they need to do is deal with the transition of a child from home to, to child care in a way that allows the child to feel somebody here is on my side.

So, what we're talking about is setting up our programs where primary caregivers are assigned to children so the child knows and mom knows and the caregivers know and the directors know that this is the person who is principally responsible for you and there are lots of other people here who love you too; that relationships with caregivers are formed for continuity reasons and that they...relationships get established and grow over time; and that when children are moving into this period of, of, of life between 15 months and 36 months of age, that they need lots of help with self in relationship with others. That they're learning about: "This is the, this is the good me and this is the bad me and this is the way that I can effectively interact with others and get my needs met." And also understand that at this period of time in their lives...in their development children are critically negatively influenced by shame and humiliation.

One of the things that devastates confidence in children is being with caregivers who dismiss their, their thoughts, their inclinations treat them in ways like: "Oh, you're disgusting" or "Stop that;" "Nobody ever should do that." What we learn is, as the child is developing this sense of self that it's a tender period of time and so we have to be extra careful in dealing with young children around this notion of self in relation to other and whether or not there are things about you that are just not so good. Very often what I hear is I, I hear people saying things to children that shock me. And then they say: "Oh, I'm just kidding and he knows that I'm just kidding." Well, very often that young child doesn't know that.

What we're wanting to happen in this stage of, of life is that the child learns that they are in an interdependent world where they can count on people; they can do some things independently; they can, they can be dependent when they need to be and then they move on to their functioning in adult life. What I'm hoping is that what we do with babies is understand that we can't wait to fix things later to get kids ready for school. We can't wait until the preschool years or the transition to kindergarten, and, and then say: "Oh, you know, this is the time to get children ready for school."

Instead, what we need to do is look at the child even before they're born and say there are things that are shaping the way this child will look at life. There are things that are shaping the physical construction of their brain. There are things that are wiring, the way that the brain functions. There are things that happen in two areas that we must deal with early on in life. The first area is the baby is wired for predictability in emotional support. They are looking for people who will be there for them, who will be on their side, who will provide for their physical needs and, and their emotional needs and then help them get along in society. While the other part of them we, we have...research has uncovered, is very early on in life what we see is rather than being a "blank slate" or an "empty vessel," the child is this curious, motivated, interested learner who is looking for novelty and looking for interactive communication. And that what they need simultaneously are people who will provide them with the predictable, ongoing emotional and social support while at the same time providing them interesting experiences in the safe protective setting. If we do that, we will be getting children ready for school. If we do that, we'll help...we'll be helping children to be much more successful in life.

My career has been spent trying to, to get people to understand that not only is the baby fragile and desperately in need of us, but the baby is very competent and at, and what we need to do is deal with both of these things starting early on in life. This is where school readiness starts. This is where life's success starts. And I, I thank you for listening to me.

[Music]

Terra Bonds Clark: Good afternoon. I'm Terra Bonds Clark, Director of Special Initiatives at the Early Head Start National Resource Center, and I want to thank you for joining us for today's webcast. We just heard a presentation from Dr. Lally about the importance of the first 3 years of life, and how the vital work we do with infants and toddlers helps prepare them for future success in school. Now, I'll be moderating a discussion about that presentation with a panel of some very dynamic early childhood experts.

First, we have Sarah Merrill, who is an Infant/Toddler Program Specialist with the Office of Head Start. Next, we have Claudia Quigg, the founding Executive Director of Baby Talk, and consultant for the Brazelton Touchpoints Center of Children's Hospital, Boston. Third, is Tweety Yates, a staff member of the Office of Head Start's National Center on Quality Teaching and Learning, and a research assistant professor at the University of Illinois at Urbana-Champaign. And last, but not least, I'm happy to welcome Tarima Levine, who is Materials Development Specialist and the Assistant Director of the Office of Head Start's National Center on Cultural and Linguistic Responsiveness.

As we get started, I'd like to ask everyone to reflect on the information Dr. Lally presented, particularly the centrality of relationships in infant/toddler development. As we always emphasize in Early Head Start, the first 3 years of life are a time of amazing developmental progress, and the relationships babies form with their parents and other significant caregivers provide the core context for their development. As Dr. Lally discussed, babies are biologically programmed to be emotionally attached to, imitate, and learn from their caregivers, and are dependent on adults to provide them with experiences that structure their brains. A child who has warm, responsive relationships with his parent or caregiver will learn to trust, and will apply that trust and positive expectation to later relationships, including relationships with teachers and peers when the child eventually enters school. For that reason, we need to be very intentional in our planning for the work we do with children during the first 3 years of life, and engage families early and often to help them build attached relationships with their baby. Attached, responsive relationships are ones in which the adult provides not only nurturing physical care to the baby, but also a sense of consistency and a strong emotional bond. If the relationship has these qualities, the baby will respond to the caregiver in ways that further her experience with the world around her, and contribute positively to her development. But, conversely, if the relationship is distant and unresponsive, or even harsh and unpredictable, the child may learn to avoid interactions with her caregiver, thus restricting opportunities to develop intellectual and social-emotional competency. So, truly, relationships are at the heart of school readiness for infants and toddlers.

Now let's talk about some of the key points that were raised in Dr. Lally's presentation. First, given what we know about the importance of attachment, what are some strategies we can use to promote attachment with infants? Sarah, would you like to start us off?

Sarah Merrill: I'd love to start it off, and I'm so glad that Ron spoke about the research because that's what the Head Start Performance Standards were based on and we want programs to think about the new research that comes out. So, I think one strategy is to remember that relationships are at the heart of the context of learning for babies and all children. So, I would suggest managers and direct service staff think about how they can bring the Performance Standards to life and really make those relationships meaningful. I love that he used the word, "social womb;" so, how do we set up our systems and our program design to make sure that children feel secure, they feel nurtured by their parents, by

their, the caring staff who are taking care of them...their home visitors and their, their caregivers and teachers, and all of that will support their child development in early learning. So, it's those three objectives that we want the programs and staff to think about.

Claudia Quigg: I think we can support the attachment between babies and their parents in all of our work in Early Head Start, beginning in pregnancy. Affirming parents for their good efforts with their children, and making a real effort to be present with the family sometime around the birth of the baby, maybe in a post-partum visit, where we can spend what Dr. Lally called "unhurried time," observing the baby and looking and listening to the parent, and observing about how they're doing with their babies, and giving them support around that emerging relationship, letting them know that we recognize their mastery and all the assets they bring to their child. You know, we are working in Head Start to move from just parent involvement to parent engagement, listening to parents and observing them and really collaborating, coming alongside them rather than giving them advice about their babies; so we can start that at the beginning and carry that all through the programming.

Tweety Yates: And I think you're so right with that, 'cause I think when we truly engage families, we're sending the message that you are so important to your child and that attachment bond, that strong attachment bond is so important. But I also think it's a message we need to send to caregivers and home visitors and teachers and family care providers, as...because they too are so important and their role is so important in everything that Dr. Lally was talking about this morning. And just to realize the opportunities that they have to provide those responsive interactions and environments that really promote those strong and healthy attachments of infants and toddlers. And I think that, you know, often we hear people say, "Oh, I would love to have the time to just have interaction, individual interactions with this particular child, and I just don't have that time." And that may be families that have other children or it may be center-based programs that have group care.

But I think if we can start thinking about those daily routines that just happen naturally, as those golden moments and those golden opportunities to provide those individual interactions, that that really supports those strong attachments. And, you know, if you think about, if, if a child's diaper is changed six times a day until they're like 30 months old, then their diaper's changed more than 5,400 times. Anything that happens to us 5,400times is significant, and you're going to have memories from that, and from that experience. So, you know, we can also look at that as, that gives us 5,400 opportunities to have special time with that particular infant, or that toddler, to really promote the feelings that Dr. Lally talked about this morning of just that sense of being special and important, and that my caregiver cares enough about me to do that. And if you kind of think about if, those caregivers who, as they're walking towards a child to pick a child up, and they say, "I'm going to pick you up. We're going to go change your diaper." And then they're doing some song that they learned from the family, that the family does at home and what message does that send to a child about who they are versus just going and picking up a

child, changing the diaper, not really making eye contact because you're busy looking at the other children. That sends a very different message about attachment. So, I think those we just really need to remember how important we are in making those things happen.

Tarima Levine: Absolutely. And listening to attachment and how we walk alongside families and the important work of caregivers and what immediately comes to mind is a context of culture and how culture influences relationships, all interactions, and all aspects of child development and parent-adult development. And I'm sure we can all think of our own definition of culture, and when I think of culture I think of different attributes, like gender and family structure, and geography, and economics, and ethnicity, country of origin, home language...but I also think about the cultural framework or the orientation, the lens in which we view and interpret the world. That might be your belief systems, what you value: How you communicate; how you express your emotions; how you view interdependence, or dependence or independence; whether you're people-oriented or object-oriented, and it's really important to remember that these attributes aren't necessarily situational, but can...but are...and, but can be used in context. So, I might be a family where I value interdependence because I want my child to develop positive social interactions, while at the same time I value independence, when my expectation is my toddler needs to eat by herself. So, I think we all need to be careful about the assumptions we make about a family based on just one attribute, such as ethnicity. Because really, every individual is rooted in culture which is from the Office of Head Start Multicultural Principles. And I think individual is key because every family has their unique cultural framework in which they view the world and caregivers have the opportunity, through their relationships, to learn about their families, the similarities and the differences, so they can align their practices and children can receive respectful and consistent messages.

Terra: Absolutely. Thank you. Now let's move on to discuss the stage of development that comes after early infancy. At about 9 months, the child turns outward to their world and begins to learn about how the world works. What do families and caregivers need to know about this stage of development? How can parents and program staff strengthen the relationships they have developed during early infancy to support the child so they'll develop the skills they need to later succeed in school? Claudia, what are your thoughts on this?

Claudia Quigg: Nine-month-olds are secure and ready to move out into the world and as they look outward and begin to move, their motor skills lead them to great, new cognitive experiences, and they become pretty full of themselves and tremendous self-confidence. And at that point, they want to be in control of themselves as they build for autonomy. And sometimes this new strength in children kind of throws parents and caregivers because it represents a real shift in their relationships with each other and how they've been together. And so, the baby is getting a lot of messages from his environment around him, reading the faces mostly of his parents and caregivers. So, this social referencing is so

important that 9-month-olds do, to learn about the world around them. And so for us to be aware of what's really going on when they look at our faces, as Dr. Lally pointed out. Also, at about this age, when they're moving around, we begin to get a glimpse of the temperament that each child brings into the world and, and that temperament's been there since birth, but at 9 months we begin to really see it and as the child moves into early toddlerhood, and sometimes his temperament is a great match for his parent who has tremendo...a real goodness of fit with her child's temperament, but sometimes it's not such an easy fit. And so we have an opportunity when we see a parent and child who are struggling at this time, to come alongside the parent and to, together, observe the child and value the child for his temperament, and then think with the parent about what it must be like to live at home with this child and help to strategize for that. If we're the provider and we recognize that we have a goodness-of-fit issue with one of our children, which sometimes does happen, we have an opportunity to take a step back and reflect about that. And wonder about the child's temperament and think about our own efforts to work with the child, and figure out a way to make adaptations to be more effective with the child.

Tamira: Absolutely. And I think culture influences how you view a child's temperament; so, whether you appreciate calm behavior; whether you promote spirited activity; whether you're encouraging more introverted characteristics, young children are going to be learning indirectly or directly what the cultural expectations are of their family and their caregiver. Whether they were intentional about doing that. So, I think being intentional is very important.

Sarah: Absolutely. And understanding the varying settings, because some...a lot of our programs have center-based, or family child, family childcare settings or even home-based settings; so, sometimes the interactions you see can be different from a home environment or even in a group care. And I'm just reflecting from back in my experiences when I worked in center-based; some of the children I worked with came from family dynamics where they had siblings and others didn't, so how they interacted with the kids in the group care was different. So, I love that you're talking about watching the behaviors and understanding where the child's coming from, but then the adult being the ones who are doing the adaptive, you know, understanding where the child's coming from and it's our responsibility to come up with as consistent responses as we possibly can to make it an easier learning experience for the child.

Tweety: And I love that we're just talking about temperament, because I think it's one of those things that we don't always think about and very intentionally try to match that child, but yet it's so important; when we think about attachment and, you know, some of these other areas; so, I'm just glad we're bringing it up as a reminder that that's something we really need to, to pay attention to.

Terry: Absolutely. Thank you so much. The next thing I'd like to talk about is executive function, a term that is used in Head Start. But what does executive function look like within Early Head Start, and how is it related to school readiness? What exactly does executive function mean for infants and toddlers, and how can we support very young children as they develop these skills? Claudia?

Claudia: You know, it must be crazy for people to think: "Well, I'm changing diapers and walking the floor with a baby who's fussy and you want me to think about school readiness?" But really, during infancy and toddlerhood we are laying the foundation for our children to be successful in school and in life. And the primary way that we are really doing it is by using supportive relationships with adults and...in their lives...to help them learn to manage their own impulses and to regulate themselves, to figure out the rules about how I can work successfully. I love some of Frieberg's idea that the, the role of adults is to help children move the policeman from the outside to the inside. So, for children to become the master of their own self which leads them to a positive self-concept, and sets them up for success in school.

Tamira: Yes. And these self-regulatory tasks are just naturally embedded in infant, infant and toddler curriculum...the daily routines and interactions they are already having. So, exploration and sleeping, and eating. Diapering, expressing emotions, and I think during these interactions, children are learning what the cultural expectations are in their family and in their school around how those self-regulatory tasks get played out. So, for example, in sleeping, how does the adult support children to develop self-regulatory skills around sleeping? Do they co-sleep? Do they use nat...natural body rhythms? Do they use a time schedule? How do they manage children's crying? I was in a New York City taxi with an infant...with my infant daughter...and she did not like being in the car seat, and she was wailing and crying and I was very worried about disturbing the taxi driver. And he turns around and he asked me, "Is she okay?" And I said, "Yes. I, you know, I'm sorry." And he said, "Well, don't apologize. If she's okay, the crying doesn't bother me. It actually, I believe, that it actually is a sign that she has strong lungs." And so, I think we have to be careful about making assumptions about families' different regulatory practices in their home.

Sarah: I love that you're talking about this because, again, it's about the adult's response and the roles, and it just brings me back to programs really need to think about ways to support their staff in understanding infant/toddler development and their important role in how their responses really support the child's growth and learning...not now, but also later in life as well. So, it's professional development activities based on solid infant/toddler development, but also the support systems, because it's such emotional work. You know, how you care for a child is a personal reflection of, of yourself and your own culture, but also you want it to reflect a family's culture, and, and their responses, and sometimes they're going to match and other times they're not. So, negotiating that process with yourself, with the families that you're working with, and with your co-staff is just

tremendous, exciting, but very demanding work. So, I think when we want to support children's school readiness, we need to think of supporting our staff in their efforts, so that they can be the best for the children and the families that they're serving.

Tweety: And I think we have expectations, like you were saying, of what we would like staff to do with infants, toddlers, and families. And we need to do that parallel process of, then also putting those supports in place for staff, so they can feel competent and confident about what they're doing. And I think that we know, like from teachers, we know that self-regulation, impulse control, challenging behavior, that those are the things that they don't feel as well prepared for, as trained for, and then what Dr. Lally was talking about this morning: Just better understanding the power that we have as adults working with infants, toddlers, and children, about our responses and what children learn from our responses. So, I think that professional development piece is such a big piece of providing that support for children. And, you know, I think that even this whole area, when you talk about self-regulation, impulse control, those are hard things because even as adults we get in situations where we are overwhelmed by emotions, but we've probably learned, at this point, how to...we've got some strategies, whether that's counting to 10, or calling a friend...[Laughter]whatever that might be, we have some kind of strategy to control that. But if you think about how intensely a toddler feels emotions, and you put yourself in their shoes, they don't have the experience. They don't have the language. They don't have that control to be able to do something with, when they're just trying to figure out what are all these things I'm feeling inside? So, you know, it really is, and it's through those relationships that when infants and toddlers get overwhelmed, they depend on the adults to be there to support them and provide that support and provide that external regulation, so they then better learn to do that. So, I think it's just really important.

Tamira: And, and I think it's also really important to mention that our Early Head Start children and families are living in poverty. And, as we all know, children who are living in poverty are more likely than their middle income peers, to experience different physical and psychosocial stressors, like inadequate housing and violent neighborhoods, and family turmoil, and how those, those stressors, if they're chronic and cumulative, can disrupt self-regulatory skills and, as Dr. Lally said, could actually change brain development, which is pretty profound. The flip side is that when children have really strong attachments, when they are in positive, responsive caregiving relationships, and they're developing these emerging self-regulatory skills, they can actually use all of this to mediate some of those stressors.

Sarah: And I was even thinking about the strong emotions of children at this age group. Think about the parents, because they're going through the same transitions, or they're, they're being pushed through these transitions because of their child's development and that's...and they need support to understand as they're growing.

Terra: Thank you all. These are some very helpful points about executive function and how the ability to self-regulate in the early years contributes to the child's later ability to succeed in school. We're nearing the end of our time together, but I'd like to ask you all what do you think some key takeaways are from this plenary? What are some of the core messages that programs should be attuned to? Tarima? What would you say?

Tarima: I think in engaging children and families in these important early experiences, it's very, very important to be culturally competent, and I view culturally competent as a lifelong process. Every new staff member and every new family gives us a new opportunity to learn their unique cultural lens, and I think about cultural competence in terms of three strategies. So, the first one always starts with me: The person. So, really becoming more self-aware about your own cultural framework, how you respond to differences, using reflect supervision or coaching to figure out issues of goodness-of-fit and other things that come about. The second strategy would be curriculum, and really using family strengths and their cultural lens to inform activities and practices that are responsive and reflective of children in the classroom. Luis Molls' work is called "Funds of Knowledge," and we often talk about families have lots and lots of knowledge that can be included in everyday routines and activities. And the last strategy is systems: Making sure that the Early Head Start policies and procedures and philosophy, hiring practices are all reflective of the families.

Sarah: And I would add to that too that I'd want programs to really think about creating a time, space, and place for curiosity and exploration, from the parents' point of view, but also the child's point of view. And, and that if they...if the adults are intentional about creating that space then they aren't necessarily having to be in that teacher role. They can just sort of enjoy the phases of development and really grow hand-in-hand with that child, and I love how Ron talked about the three phases. First, there's they have attachment, "I explore," and then "I explore!" [Laughter] And allowing that to take place.

Claudia: I think about the fact that our Early Head Start program has children and families for a fairly short period of time, but their families have them forever. And so if we can use the time that children are, are in our program, of course, to deliver high quality early childhood education, but also to help the family build a system of strength that they will use throughout the child's life, then we will have really impacted the future. Thinking that we can do this, not just by involving families, but really engaging them and, affirming them in their efforts with their children. And you know what, if we engage parents, they will make our programs better.

Tweety: And I think what you're saying goes back to that point we were making earlier about: We do only have a short period of time; so, truly helping staff see how important they are in making these things happen for infants and toddlers and children, and I think the research is pretty clear that early

experiences last a lifetime. And when you know that you're in on those early experiences and you have these opportunities to provide those responsive interactions and environments and opportunities, so children truly do have those positive experiences. That's pretty powerful.

Terra: Absolutely. Wow. Thank you all. I'm sure programs will find these core messages very helpful, particularly, because they reinforce that the work they do with infants and toddlers is very important and does have an enormous impact. Before we close, I'd like to revisit a few of the key points made today. First, as Dr. Lally reminded us, research shows that environmental factors influence how the baby's brain grows and develops, and the child's brain is being shaped before birth, even before conception. That's important to keep in mind when we're working with expectant families in Early Head Start. By teaching pregnant mothers about the importance of breastfeeding and supporting them in making healthy nutritional choices, including taking prenatal vitamins, abstaining from smoking and alcohol use, and keeping up with their doctor's visits, we're helping them shape the baby's brain in an optimal way. It's also important to remember that once the baby is born, that infant needs a safe environment in which to grow and develop.

A "social womb" outside the womb, as Dr. Lally noted. And that comes from a secure attachment to parents and caregivers. Secure attachment, as we discussed, means that there are strong emotional bonds, and that the baby is confident that the parent or caregiver is available and responsive to their needs. The sense of security provides a safe home base from which the child is able to explore his or her environment and learn to manage stress. It's all about learning to read the baby's cues: Their likes and dislikes, their preferences, how they communicate with, when they're hungry or tired or feeling interested or engaged.

Our responses help shape the child's brain as they learn how to think and solve increasingly complex problems. And, of course, all of this must be done in the context of the family's home language and culture, because, as it says in the very first multicultural principle: Every individual is rooted in culture. It's not programs versus families but all of us working together to support the child within the context of his or her own culture. As we discussed earlier, that means working alongside families rather than giving them advice or viewing ourselves as teaching them to parent their own children.

When we do all of these things, supporting attached relationships, providing consistency and continuity, and nurturing the child in the context of his family's language and culture, we help infants and toddlers develop in all of the areas that are at the inner wheel of the Head Start Child Development Early Learning Framework: Cognitive and general knowledge, physical development and health, social and emotional well-being, approaches to learning, and language and literacy. The skills infants and toddlers learn during this extremely important developmental period of their lives are what Dr. Lally called "the

strong structures that lay the foundation for eventual school success. "We're out of time, but there's so much more that we can all learn about preparing children for life and school, beginning in infancy.

I hope you will access the two webinars we will have later this week on this fascinating topic: One on "Reflective Curriculum Planning for Infants and Toddlers," and the other on "Early Math." As we conclude today's discussion, I want to thank Sarah, and Claudia, and Tarima and Tweety for being here with me in the studio. Of course, I also want to thank all of you for joining us for our first plenary session of this year's virtual Birth to Three, and to remind you that the live audio call, question/answer session with Dr. Lally is about to begin. If you have a question for Dr. Lally, you can access the call internationally by dialing 719-325-4844. In the United States, you can call toll free at 877-397-0291. For both numbers, the participant pass code is 875884. The audio for the question-and-answer session will be broadcast right here; so if you don't have a question yourself, but want to hear what others have to say, you can simply stay right here and listen in. Until next time, take care.

[Music]

Terra: Good afternoon and welcome to the virtual Birth to Three Institute live Q and A with Dr. Lally, "The Foundations for Life and School Readiness Begin in Infancy." I want to thank Dr. Lally again for being here with us to answer... to answer the questions from the field. And I want to thank our panelists for joining us as well. We have with us on the call today: Sarah Merrill from the Office of Head Start and Claudia Quigg from the National Center for Parent, Family and Community Engagement. So, Dr. Lally, it's wonderful to have you here with us. And I forgot to mention as well, this is Terra Bonds Clark. Dr. Lally?

Dr. J. Ronald Lally: Hi.

Terra: Welcome. I'd like to get us kicked off a little bit with a question that I have for you. So, if you could just share with us, what are some of the key elements that are essential for Early Head Start programs to include, to make sure that they're providing infants and toddlers with what they need to be ready for school?

Dr. Lally: Well, there's so many of them. But I really do think that we need to focus on the early months a lot and those who are doing home visit programs really emphasize the support of the parent/child attachment at the beginning. The other thing that I would say is the program policies for the child care centers: Primary care, continuity, small groups, personalized, individualized interactions. Kind of like

what the panel was talking about. I really, too, think that we need staff who know what they're doing and have time to think about what they're doing. And a lot of that comes from professional development activities and also the right kind of program policies where you're not overwhelmed by many, many rapid changes.

Terra: Right. Operator, do we have a call yet?

Operator: Yes. Caller, please say your first name and your city before asking your question.

Catherine: My name's Catherine and I'm calling from Head Start in California.

Terra: Right. Go forward with your question.

Catherine: The importance of parents being...paying attention to their children: Has that been compromised by the tendency of people to be on the cell phone all the time? Or looking at social media? Are you finding that this is distracting parents from being...paying attention to their children?

Dr. Lally: Unfortunately, the answer is yes. One of the things that we know is that children are really looking to find out what the technology of the particular time, age that they're born into is. And not only are the parents being distracted from kind of paying attention...watching, listening to the child...but also the children are picking up and modeling the same kind of behavior. We did some filming in Oakland, California, two years ago. Put in the hands of 13-month-olds play cell phones, had our cameramen call another cameraman's cell phone. And when they heard that ring, every one of the children picked it up, flipped the earpiece, and listened to their cell phone. So, it's happening, both by kids learning that this is what you do and parents doing it often when they are kind of losing great opportunities just to be there with and for the child.

Catherine: Thank you.

Terra: Operator, do you have another call?

Operator: Not at this time.

Terra: Okay, great. So, Dr. Lally, I think that you brought up a very interesting point and the caller's question was very interesting. And thinking about that, are there ways that Early Head Start programs can support parents in understanding the importance of what they're doing around technology or the activities they are involved in that the children are really looking to the parents and the caregivers for those interactive experiences that maybe are dedicated times separate from the technology pieces?

Dr. Lally: I think that's hard to do and essential. And it's kind of a combination of both. What we need to get parents to see is that the child is a sponge and they're going to be absorbing things that they may not even know they're absorbing. There are photos of ...and movies of...toddlers walking behind their fathers with the same kind of a gait that their father has. And I think one of the things that we have to have parents get is asking questions, you know: "What do I really want them to pick up from me?" Because so much of this stuff is unconscious and it's invisible to you. And so I would try to get people to understand the sponge-like quality of the child's mind on picking up all kinds of cues from the parents and have the parents be a little bit more choiceful about that. The other time is...the other thing to do is...Stanley Greenspan has a wonderful term called "floor time" where what you do is you don't use toys, don't use particular set activities, but you just sit on the floor with your child and say: "Okay, this is a time where I'll just follow your lead and we'll do whatever you want to do." And, you know, that's usually not a technology thing with these babies. But I would think floor time every day, even for 10 or 15 minutes, is a good way to start getting you in tune with your child and seeing what they really like.

Terra: Right. I would offer an opportunity for Sarah, either you or Claudia to weigh in, if you'd like to.

Sarah: Thanks, Terra. This is Sarah. I totally am just loving everything that Ron has said, especially the comment about, "What do we really want children to pick up from us?" And I would also encourage Early Head Start programs to think about potential responses to adults who are projecting not only their expectations for their child as an infant and toddler, but even as they prepare for school. And some may want to say: "I do want my children to understand how to use computers and cell phones, because that's what they'll be doing later." So, I like the idea of balancing that future expectation of what's going to be happening in the culture with really understanding the importance of developing face-to-face relationships and following the child's lead and letting them explore the world in that secure relationship. So, it is definitely important and essential to have these conversations. And it may be a little hard or tricky to have these future conversations about what's so important now in the early years and that they will get that time with technology later in life and will be competent.

Sarah: So, Ron did you have...did you want to build on that? Or Claudia?

Claudia: Sure.

Dr. Lally: Go ahead, Claudia.

Claudia: I was thinking...oh, I'm sorry...I was just thinking that the thing about being on a phone when you're with a toddler or a young infant is that you're not available. And that sends a confusing signal to a baby who's trying to understand how human interactions work. And so I wonder about...you know, I think we're doing a good job of raising people's awareness that, for example, the car may be a no-phone zone. So, maybe our programs can turn some attention toward the idea that when we are on the floor playing with children, that's another no-phone zone, another time to support parents in being more available for interactions with their babies.

Terra: Absolutely. Thank you, Claudia.

Dr. Lally: The thing that Sarah said about that I think is important. Young children are charged with picking up the technology of the times and being proficient in it. And so we're not trying to penalize the child from lessons that they need to learn. But we're wanting the caregivers or parents to be present with the child and to not let the phone dominate the attention. And sometimes, you know, if that phone rings, everything gets interrupted. And it's that kind of a thing that I think we have to guard against.

Claudia: Absolutely.

Terra: Absolutely. So, I want to do a quick reminder for those who might be trying to get in on the line. You have to remember to press "star one" to ask your question, so the operator knows that you are waiting. And the operator will then put you into the queue to ask your question. Operator, do we have anyone waiting on the line?

Operator: Yes, we do. Caller, please state your name and your state before asking your question.

Christie: Hi. My name is Christie John, and I'm calling from Virginia.

Dr. Lally: Hi, Christie.

Christie: Hi. I think first of all, thank you for your time in offering this conference. I've really been awakened as to the information that I've heard and these are all things I absolutely believe in and support. One of the things...kind of in response to the question with the cell phone...in a child care setting, you typically don't have cell phones in the way, especially in a center. Most programs now have policies against that. However, I'm still not finding that providers are spending much time on the floor with the children. They're spending more times on routine care and preparing for the next activity as opposed to living in the moment of the current activity. So, I appreciated the statistics you gave about the children up to 30 months getting, you know, almost over 5,000 diaper changes because that's so true. But that's a small portion of their day. And I'm having a hard time as an infant/toddler specialist getting providers to understand that they need to spend that time with the children. So, my question is this: I'm sorry to make it so lengthy. My question is: As a practitioner and also as a student pursuing a PhD in early childhood, can you recommend any research that I could pursue or begin to investigate and explore, so that I can get a better understanding and share that with my providers?

Dr. Lally: Now, let me be clear about the question. It is so that people will engage the children more directly, rather than preparing for activities or doing a diaper-changing, as the diaper-changing is the most important thing. Is that kind of what you're going at...

Christie: Right. I'm looking at ...a lot of providers, most of the language interactions are direct statements. "Do this, do that, don't do this, don't do that..."

Dr. Lally: Okay.

Christie: ...There's no, you know...

Dr. Lally: Well, I hate to kind of push my own stuff but we have, you know, 30 videos in the Program for Infant and Toddler Care and many of them are dealing with the issue of getting in tune with the child and reading their cues. We have a video called, "The Next Step," which basically says infants have their own curriculum and your job is to find out what it is by watching, asking, and then adapt to it and facilitate their interest in their curriculum. The other thing is that everything is part of the curriculum. And so diapering is a language-development activity, an intellectual activity, and even a perceptual motor activity. And so you have to look at when you're in the presence of the baby, the baby is learning. And what you're doing is trying to figure out: "Are they interested in cause and effect relationship here?"

And what can I do if they are, while I'm diapering?" And so it really is getting away from activities, like "now we're learning and now we're diapering," and rather looking at the learning interests and capacities of the child and focusing on what is the child interested in at this particular time and how can I facilitate that interest, expand it, relate to it. Now, if you're looking for people who are dealing with this kind of an issue, I would probably push the Reggio-Emilia philosopher Carlina Rinaldi. She is absolutely respectful of the baby and what the baby brings to the equation. Magda Gerber is another early childhood practitioner who came with that respect. And as I said, we have many videos and training materials at PITC which come from the point of view of "follow the lead of the child," not "do activities" and don't separate routines from learning.

Terra: Right. Sarah, would you like to get in on this? Or Claudia?

Sarah: I think Ron's absolutely right and in fact the Standard 1304.21(a), although it's approached for all children, they talk about the use of meaningful routines and transitions as part of the child's early experiences. So, it really is up to the caring adult to be in tune, to be engaged, and to be in awe of what the baby and toddler are bringing to that interaction.

Dr. Lally: I was in Pistoia, Italy, about six years ago and I asked them about what their routines were like in their infant/toddler program and I got an answer that just stunned me. The person said "Every day, we want the child to...it's routinely amazed. What we have, as a day-to-day routine, is a little bit of disorientation where the child is kind of surprised by the novelty and didn't expect something to happen." They were dealing with a whole different notion of what is the routine day look like to a child. And they weren't talking about diapering and feeding, but they were saying they wanted the children to generate hypotheses. That was an expectation for the day and I was blown away by it.

Terra: Absolutely. We have about a minute left on the call. But I wanted to give at least one more question. Somebody has another question ...opportunity to ask a question.

Operator: We do have one more question in queue. Caller, please state your name and your state before asking your question.

Glendelia Savalla: Glendelia Savalla., San Antonio, Texas.

Terra: Hi Glendelia, go ahead.

Glendella: Hello. Yes, my question is there is a lot of emphasis on STEM...science, technology, engineering and math, you know, with early childhood learning. Overseeing a home-based Early Head Start program makes it a little challenging. And so I'm just...I would like to know if you can offer some recommendations on how we can help our parents work with their children in this area for a home-based option Early Head Start program.

Dr. Lally: Well, I...it's all according to the age of the child. The younger the child, the less differentiated the developmental components of intellectual development are. And I think one of the things that you're seeing is that if you're interacting with children and dealing with their interests, that they're going to be getting...For example, rolling a ball back and forth with a child looks like nothing. But what they're getting is the understanding that: "I'm learning about distance and relative size. This ball is not getting smaller when it rolls away from me and bigger when it rolls to me, even though it looks like that." And I think one of the things that we need to do is in the natural experiences that children are calling for, that have to do with arcs and have to do with groups and have to do with numbers of things that they can differentiate from, what you want to do is give them a rich day-to-day experience in a natural environment and then point out to the families what the children are getting. They're getting many, many sophisticated concepts. What you don't want to do is have a lesson which trains them on numbers when they're babies. What you do is, they learn about numbers and groups of things, for example, and be able to differentiate it from their day-to-day experience.

Terra: Thank you so much, Dr. Lally. Well, I'm afraid that we have run out of time, today, but I want to thank again Sarah and Claudia for joining us. And also a special thanks to Dr. Lally for a wonderful presentation and also for being on the call with us today. And I would like to remind folks about which coincidentally...and this wasn't planted in the audience...that we have a webinar tomorrow on curriculum planning for infants and toddlers, and on Thursday, a webinar for early math. So, I would invite people to join in. I know that if the slots are full for the webinars, we will let you know that we will be archiving them on the ECLKC as well, so people will still have an opportunity to watch those later on if you weren't able to register for those. But again, thank all of you for joining us today for the virtual Birth to Three Institute. Have a wonderful afternoon.