BabyTalks: Brilliant Bilingual Infants and Toddlers

Beth Zack: Hello, and welcome to Brilliant Bilingual Infants and Toddlers, our first Baby Talks of 2023. We're so happy to have you with us here today. Baby Talks is a series of webinars for teachers, family child care providers, and home visitors, working with infants and toddlers in Early Head Start, migrant, and seasonal Head Start, and American Indian and Alaska Native programs. These webinars are designed to introduce you to research about infant and toddler development. My name is Beth Zack and I'm here with my colleague, Marley Jarvis.

Marley Jarvis: Hey, everybody. Beth and I, are from the National Center on Early Childhood Development Teaching and Learning, and the acronym is NCECDTL. We're based at I-LABS, which is the Institute for Learning and Brain Sciences, which is at the University of Washington. And I-LABS is an NCECDTL partner organization, which is why we're here. It's one of the leading infant research centers in the country.

Beth: We wanted to begin by grounding ourselves in some shared knowledge and definitions. We're talking about those brilliant bilingual infant and toddlers today, dual language learners. At Head Start, dual language learner refers to a child who is acquiring two or more languages at the same time or a child who is learning a second language while continuing to develop their first. While we'll use the terms bilingual or dual language learner today, we're talking about children who are learning more than two languages too. That includes their families who might speak two more languages at home.

Marley: We prefer the term dual language learner to some of the other terms you may have heard in the past, like English Language Learner, or Limited English Proficient, things like that. Those kind of center English as the other language that's being learned, whereas dual language learner does not.

Beth: We're going to ask that you think about supporting children who are dual language learners as an issue of equity today. Equity is defined as the fair and just treatment to all children, families, and those who support them. Equity enables everyone to achieve their full potential. When we lead with equity, we understand that we have this responsibility to make time and space to support children who are dual language learners, just as we make that same time and space to support children who speak one language, create nurturing environments for children and their families.

They feel seen and heard and acknowledged, and where they have a sense of belonging at a connection to their community. We've included these full definitions for you in your viewers guide so you can go back and look at those later. We also want to ground ourselves in the knowledge that bilingualism is a strength, and it's a strength that's rooted in culture. Our culture and the languages that we speak are central to our identity. No amount of scientific data can measure the importance of language to who we are as individuals of course.

Marley: But we do have science to help us better understand how our brains work and how we learn. That's what we're going to focus on first today. How we learn languages and how learning languages shapes the brain. Which brings us to our learning objectives for today. The first is to explain the brain's role in supporting dual language learning in infants and toddlers and as part of that, we're going to highlight the cognitive benefits of bilingualism. The second is to identify strategies to support infants and toddlers who are dual language learners, including children with disabilities.

Beth: As we're talking about the science behind bilingual language development, remember, we don't learn in isolation. We're part of a culture or multiple cultures. Languages that we speak, that's an intrinsic part of our identity.

Marley: Children and adults learn best in environments that are linguistically and culturally relevant to them.

Beth: Before we jump into research on bilingualism, specifically, we want to think about how brave development serves as this foundation for all learning. Brain growth supports language development. And of course, this is true whether a child is learning one or more than one language. Take a look here. We're thinking about how the brain is growing in early childhood. In this first few months and years of life, the brain is growing faster than it will at any other time in our life.

At birth, a baby's brain is about 1/4, by volume, of an adult's brain. If you think about the rest of the newborn baby, its body is not even close to 1/4 of their adult size of their body. If it was, the average people in North America would weigh about 40 pounds. Then flash forward by about three years of age. As you can see here, that pink brain there. A child's brain has grown about 85% of an adult size already.

Marley: But this doesn't mean that the brain is 85% finished developing by age three. As we all know, a 3-year-old still has a lot to learn.

Beth: And this is great because children's brains, they're so uniquely primed to learn from the experiences they have with you every single day.

Marley: Our brains look similar to the naked eye, at that microscopic level, our experiences are influencing how they're wired. Every time we learn something new, we're building and straightening those neural connections in the brain. Scientists estimate that between the ages of zero and three, the brain makes 1 million new connections each second.

Beth: And that number is incredible. But part of what makes it so amazing is that our experiences that we have are guiding which of those neural connections form, to begin with, which become stronger or more efficient, and which are removed. The more frequent we have an experience, whether positive or negative, the stronger those connections grow. In a very real and tangible way, our experiences shape our brain.

Marley: Yes. To get us thinking about that, as it relates to language development, we want to start by playing a little game with you. We're going to play a series of sounds using the media player. Then for each pair, we want you to write down whether those sounds are the same or they're different. There's space for you to record in your viewers guide. We're going to play those sounds for you.

[Audio begins]

Teacher: Ra. La. Ra. La.

Teacher: Da. Da. Da. Da. Da.

Teacher: Da. Da. Da. Da.

[Audio ends]

Beth: Each pair of those sounds was different. As a native English speaker, I could only hear the difference between the first two sounds, the Ra and the La. The other pairs of sounds sound exactly the same to my ear.

Marley: Okay, Beth. Tell us what's going on here.

Beth: When we're born, we can tell the difference between all the different sounds of all the languages of the world. But as we grow and develop, we can only hear the sounds specific to our own language or languages. When I was a baby, my little brain became good at telling the difference between Ra and La because I heard those sounds in my environment, but I never heard Ta or Da in Spanish and Hindi as an infant. I didn't have that experience.

Marley: For those of you listening who maybe did have that experience, could you hear the difference in those sounds? Go ahead and let us know in that Q&A widget. Chances are that you could. Thinking also about some of these amazing parts of this early language learning is that our linguistic journey begins early, like in utero.

Beth: Hearing is one of our earliest senses to develop. Beginning in that third trimester, developing infants can hear the voice of their birth parent from their womb. That experience builds and strengthens connections in the brain, even before they're born.

Marley: But what does this mean for children's language development. They're not speaking at this point obviously.

Beth: This photo on the right is from a resource that looks at just that. This baby in the photo is only 20 hours old and it's listening to vowels sounds from both its home language and from another foreign language using these specially designed speakers. The researchers measured how many times that baby sucked on that pacifier while it was listening to these sounds. The more sucking that baby did in response to the sound, the more interested the baby was in the

sound. They expected babies to be more interested in the foreign language sound because it was new to them.

Marley: What'd they find?

Beth: When the researchers played the sounds from the baby's home language, they sucked on the pacifier less compared to when they heard those sounds from a foreign language. From this we know that from hours of birth, the newborns are always recognizing and they're identifying their birth parents' language or languages. This means for some children that path to becoming bilingual can begin before they're even born.

Marley: We're going to take a little closer look at this idea. In the first few months of life, even though babies may recognize that a language that they're hearing isn't their home language, they're just as good a telling the difference between sounds in their home language as they are at telling the difference between sounds in foreign languages.

Beth: We can see that here in this graph. This is for, on the left, six to eight-month-olds. That purple line represents babies' abilities to tell the difference between sounds in their home language for languages. The orange line, that represents baby's ability to tell the difference between foreign language sounds or sounds that are not present in their home language or languages. On the left, it's six to eight months. The purple and orange dots, they overlap. Babies are equally good at telling the difference between sounds in their home language or languages and foreign languages. We like to think of this as babies are born citizens of the world.

Marley: They are, but then those early experiences with language, that's continuing to shape those connections in their brain.

Beth: We're seeing this change if you look for the right side of the graph. That age down there you can see it says 10 to 12 months. By 10 to 12 months of age, babies are becoming specialists in their home language.

Marley: Can you explain that a bit more, like being a specialist?

Beth: That just means that they're getting even better at telling the difference between language sounds in their home language or languages. That's where that purple line, you can see that's gone up. But they're no longer as good at telling the difference between sounds that they don't hear or sounds that aren't in their home language or languages. That's the orange line that you can see is a bit lower at the 10 to 12-month mark.

Marley: Baby's brains are being shaped by the language or languages that they hear most often. As they come more skilled at hearing and recognizing speech sounds that are most relevant to them. We know for research that the brain is trying to learn different skills at different times. And the results we just showed you are the perfect example of that. Around nine months, the child's brain is primed to learn or sensitive to the sounds of language. During this early sensitive

period, the brain is good at picking out sounds of the home language and learning to recognize them.

Beth: It's important for us to mention here that not all aspects of language learning have the same sensitive periods. There's a lot of different skills involved. For example, the best time to recognize the sounds of home language or languages is during that first year of life. But the best time for learning words, that's a bit later in second year old life. But all of that combined early childhood is best time to learn languages.

Marley: We also know from research, it suggests that there's a sensitive period for learning to speak a second language with a native proficiency. What researchers found is that learning a second language before the age of seven will likely result in a child being able to speak that second language just as well as their first.

Beth: I do want to mention that, of course, we can always learn new things, including a second language later in life. Our brains are constantly evolving and changing. It's just a different way that we have to use our brains to learn language later. It might take more experience and more time. It might be a bit more challenging. Anyone who's tried to learn another language as an adult can be challenging. But the takeaway's not that we can't learn these skills later in life, but rather our brains are incredibly well adapted to our multiple languages in the first few years of life.

Marley: Since children who are bilingual are exposed to two and more languages, they remain sensitive to the sounds of those languages. They have more sounds in their repertoire, compared to their peers who only speak one language or are monolingual. Although monolingual and bilingual language development is similar in many ways. They're sensitive period is where we see some difference. It turns out that dual language learners have a longer sensitive period for language learning than children learning just one language. And that extra time gives children more time to have more experience with the languages that they're learning.

Beth: I just want to clarify that this extended sensitive period, it's not a delay. Other than this extended sensitive period, children who are learning more than one language, they're following the same learning trajectory as far as those milestones as children were learning one language. We're going to talk about this a bit more in the webinar just to dispel that.

Marley: Then what is going on in the brain while young children are learning a language, or two, or even more?

Beth: Scientists often wonder the same thing. We've taken a look at this with this pretty cool machine that we have at I-LABS. It does something called MEG for short, because the real name is very long, magnetoencephalography. And our researchers can use this to sort of peek inside the brain of infants, and in this case, as they're listening to the sounds of language in real time. We can't see the connections that are forming, but we can see what areas of the brain light up or are active while listening.

Marley: We're going to show you a short video of the process with a Spanish, English bilingual 11-month-old. We also have a link for this in your viewers guide, in case you'd like to watch the full video or watch this clip again.

[Video begins]

Woman: Our researchers first prepared the babies for data collection. They used a hat and a special digitizing pen to track the shape of the baby's head. This procedure allowed us to continuously monitor the baby's head position as they move in the MEG machine. Then we brought the babies into the imaging room. The magnetoencephalography, or MEG Machine, is safe, noninvasive, and completely silent. By detecting changes in the magnetic field, it precisely pinpoints both the timing and the location of activity in the brain. The babies sat on a special high chair beneath the MEG helmet with their parents sitting nearby. The babies listened to a stream of sounds such as Das and Tas.

Teacher: Da. Da. Da. Da. Ta. Ta. Ta. Ta.

[Video ends]

Marley: Okay, Beth, can you tell us a bit about what the researchers found in that study we just watched the video from?

Beth: I'm going to show you a graph comparing the strength of the brain responses in monolingual babies, those learning one language, and the bilingual babies. The bilingual babies were learning English as their home language. And the bilingual babies were learning English and Spanish. Let's look at those monolingual babies first. When monolingual babies, when they listened to the Spanish sounds, their brains showed little response, and that's that green dot on the lower left. But when the monolingual babies heard English sounds, so their home language, their brain showed a strong response. That's that higher green dot on the right. Their brains responded to the sounds that were familiar to them.

If we look at what did the bilingual babies do, they were good at processing both Spanish and English. This is the dark blue line on the graph here. The strength of their brain response was high for both languages. These are the languages that they're learning, so it makes sense that their brain is becoming specialized to process the sounds of both. This means that the experience of hearing more than one language is changing babies' brains at 11 months old as they build those strong language pathways.

Marley: I wanted to talk about another finding from that same study that was cool. We're jumping now to talk about the prefrontal cortex. This is the area of the brain right behind your forehead. It's shown there on the slide as well. The prefrontal cortex area showed activity when those bilingual babies listened to a stream of sounds in both of their home languages, and that's what's shown in the image on the right. The yellow and the orange areas show where the bilingual babies had the stronger brain activation, than their monolingual peers.

Beth: Marley, so what does that mean for their developments?

Marley: The prefrontal cortex, this is a key area of the brain. It's responsible for a lot of our executive function skills, which are super important. Those include things like planning, paying attention, problem solving, being able to switch between tasks. Clearly, executive function skills are fundamental for success in school, but also life. We knew about this sort of activation in that area of adult brains who were bilingual, but it's exciting to see this sort of increased prefrontal cortex brain activity in little babies too.

Beth: It's such an interesting example of how our experiences are shaping the brain in a very real way.

Marley: And it's a line with a growing number of studies that suggest that being bilingual comes with a variety of advantages, including things like mental flexibility and cognitive control. Both have something to do with cognitive flexibility. What that means is just our brain's ability to quickly switch from one task to another, multitask. And it's part of that suite of skills called executive functioning. You can learn more about executive functioning, it's part of the approaches to learning domain in the ELOF, the Early Learning Outcomes Framework. You can find a link to the ELOF in your resource list to check that out.

Beth: And this is not to say that bilinguals are the only people who have cognitive flexibility. Anyone can develop cognitive flexibility with practice. The best kinds of activities to develop these skills are ones that require you to switch roles or to inhibit your impulses. We like to play a game so that you can experience what cognitive flexibility feels like. You're likely familiar with the classic head, shoulders, knees, and toes game. When I say head, you touch your head. When I say shoulders, you touch your shoulders and so on.

Marley: We're going to add a little twist to the standard version. We're going to play with Beth. If you're unable to stand, or you feel more comfortable, we'd love for you to play in whatever way works for you. You can stay seated. The first part goes like this. When I say touch your head, what I want you to do this touch your toes. And when I say touch your toes, you need to touch your head. We'll practice. Touch your toes. Touch your head. Touch your head. Touch your toes.

Beth: Good, now we're going to try. I'm just going to sit back down. We're going to try two more. This time when I say touch your knees, you're going to touch your shoulders. When I say shoulders, you're going to touch your knees.

Marley: Okay, it's my turn.

Beth: Everyone ready? Here we go. Knees. Knees. Shoulders. Knees.

Marley: Don't hit your head on the way down.

Beth: Shoulders. Now Marley's going to help us put both these sets together. I'll stand back up for this one.

Marley: Okay. Touch your toes. Touch your shoulders. Touch your shoulders. Touch your head. Touch your knees. Touch your toes. Touch your shoulders.

Beth: Pretty fun.

Marley: And obviously challenging.

Beth: Yes. We're talking about infants and toddlers today. For older toddlers, you can try playing this with just two sets of body parts, like we did at the beginning. Only your head and toes.

Marley: You can simplify a little bit. Fun with teachers too. This game gets kids moving. It helps improve some skills that we were talking about as well. Some of those key skills. Think about what you needed to do in order to play this game. You had to pay attention. You had to remember the roles. You had to inhibit your impulse to reach for the body part that I was saying and instead of had to follow that new rule.

Beth: I think I might have missed a few of those up myself. This is just one game you could try. There's other games, like red light, green light, or sorting games are also great where you switch the rules that children need to sort by. You could ask them to first sort by color and then by shape. These are just fun ways to build those executive functioning skills. Anyone can exercise their cognitive flexibility, but children who are bilingual, well they get that practice naturally. Bilingual environments give children extra experience with those skills associated with cognitive flexibility.

Marley: Let's think about that relationship a bit more.

Beth: Children who are dual language learners, they are getting that extra practice because they are listening and then also starting to speak in two or more languages each day. To do those things, they need to pay attention and switch between languages and inhibit their impulse maybe to speak a language in certain contexts. Then that practice allows them to be faster and more accurate at these skills — switching between tasks, paying attention, inhibiting impulses in other learning domains as well.

Marley: Which is cool.

Beth: And what's neat is that these findings also extend beyond typically developing children too. In a recent study, parents reported on their children's executive functioning skills. All the children were under the age of six and diagnosed with autism. Of those children, half were dual language learners and half were monolingual.

For those children who were dual language learners, their parents reported that they showed fewer challenges with executive functioning skills, such as impulsivity and cognitive flexibility, compared to those parent reports of their monolingual children. These findings suggest that there's benefits of learning more than one language. They extend beyond typically developing children to children with developmental disabilities, such as autism.

Marley: I love seeing more inclusion on these research studies here.

Beth: Oh yes, me too. In this study, the children were also for many different cultures and they spoke 13 different languages.

Marley: We've touched on some of the bilingual benefit including improved executive functions skills and cognitive flexibility. But we're going to highlight few more before moving on. Compared to infants raised in monolingual environments, infants raised in bilingual environments, they show greater ability to control their attention.

Beth: They show increased memory flexibility. To remember actions and then to generalize that information.

Marley: Even later on in life, we know that being bilingual is related to stronger cognitive abilities as we age. Delayed onset of dementia.

Beth: Lots of benefits. Given these examples and more, we want to end this section by returning to the idea that bilingualism is a strength, rooted in our culture. Our understanding of bilingualism and our attitudes to children who are dual language learners, it's an important piece to providing both children and families the support that they need.

Marley: So far we've mostly been focused on what's happening inside the brain of children who are dual language learners. Let's talk a bit about their language milestones.

Beth: There's a lot of misconceptions about language development in children who are dual language learners as well as children who are dual language learners who also have a disability. We want to talk about their language trajectories as they compare to children who speak one language. We often jump right into first words here, but we want to kick off this section by sharing a cool finding about babbling in 12 month olds.

Researchers found that 12 month olds learning two languages, they change their babbling to match the vocal patterns, so for example, intonations of the language of the person who's talking to them. But that's not all. They also found that babies who were only learning English at home, so monolingual babies, but who came to the lab and received five hours of exposure to Spanish during these play sessions, well they changed their babbling in the exact same way as those babies who were already learning two languages at home. Babies who were learning only English, they did not show this change.

Marley: It's amazing how the short exposure to another language is shaping, even their babbling.

Beth: I want to share this image. It's from a home visit, not from that research study, but whether you're on a home visit or in a research lab, a family child care center, or in a classroom, these are the when baby's, they're listening to us, and they're developing those connections in the brain based on the languages that they hear.

Marley: These everyday interactions, they matter.

Beth: They do. I want to emphasize that we don't see delays in babbling for children who are dual language learners. And the babies adapt their babbling to match the language environment that they're in, which is sophisticated and amazing.

Marley: I'm glad we're talking about delays because I think this is one of the areas where there's just the biggest misconceptions about children who are dual language learners in their language production.

Beth: Yes. Some people believe that bilingualism puts children at risk for delays. But there's no research suggesting that.

Marley: Let's take a closer look at this graph. We're going to show you some data supporting that. It shows children's vocabulary development over time. In this research, the children were all simultaneous bilingual, they're learning two languages from birth. If you look at the bottom of the graph, that's the children's age in months. On the left of the graph, that is the number of words they can say or produce.

The green line that just popped up, that shows the growth of bilingual children's Spanish vocabulary. The purple line shows the growth of bilingual children's English vocabulary. Then the orange line shows monolingual children's vocabulary growth in English. Now look at the green and purple bilingual lines. Both lines are below the orange monolingual line, but each line only represents part of a bilingual child's vocabulary.

Beth: What happens if we add together the bilingual children's Spanish and English vocabulary knowledge?

Marley: This blue line represents that, the combined English and Spanish vocabulary size for children are bilingual. The blue line basically overlaps almost perfectly with the orange Line. If anything, it might even be slightly higher. The combined vocabulary for a typically developing bilingual 22 month old is the same as monolingual 22 month old.

Beth: When we look at the trajectory of children's language development, regardless of the number of languages they're learning, they typically say their first words around 12 months of age, and this could be in one or both languages. And it depends on the child's experience with each language, when that happens.

Marley: Bilingual vocabulary and grammar development, it shows the same pattern as monolingual language development. Children who are monolingual and bilingual, they begin to combine words around 18 months. By age, three to four-ish, children produce more complex sentences. Just like children who are monolingual, those who are bilingual, they're going to have some variability here in the ages that they reach each of these milestones.

Beth: A simultaneous bilingual, they might reach those milestones at the same time. Whereas the sequential bilingual, they may reach milestones at staggered times, sometimes months or

even years apart. But the main takeaway here is that children who are bilingual do not lag behind their monolingual peers when we include growth in both of their languages. Learning one language does not take away from their ability to learn another language.

Marley: Thanks Beth. I also want to make sure we address children who have or are at risk for developmental delays.

Beth: There is a lot of misconceptions here too. Learning two are more languages doesn't lead to developmental or language delays. From research, we know that children who have a developmental delay, they are capable of learning more than one language with the same proficiency that they can learn their first language.

Marley: Unfortunately, it's common for professionals to recommend to a family that children with developmental delays only learn one language, but there's no research to support this position.

Beth: And the fact we know that the opposite is true. For example, there's research with monolingual and bilingual children who have Down Syndrome and when they match them for their developmental level, they found that they performed the same on standardized tests and language measures as their typically developing peers.

Marley: Even if a child has a language learning delay, adding a second language will not confuse the child or lead to further delays. To become bilingual, both typically developing children and children with disabilities, they all need the same thing. They need frequent, high quality exposure to language on a continued business.

Beth: We're going to talk about strategy soon, but I want to emphasize this here too. Encourage families to speak their home language, even with children with disabilities. Taking the time to answer their questions and listening to parents is a key part of this process. It'll help parents to understand that learning two or more languages will not lead to confusion or developmental delays.

Marley: And sometimes parents are hesitant to use their home language. There's a lot to unpack there, but one thing is that they might worry that it will make it harder for children to learn English in school later on. But we do know that's not the case.

Beth: We know that a strong foundation in a child's home language serves as a resource and a bridge to learning another language.

Marley: I want to circle back to something you just mentioned. Learning a second language does not add confusion. This is something we hear a lot from adults with children who are dual language learners, sometimes their parents. There's this fear that using multiple languages confuses children, especially when they do something called code mixing or code switching. We're going to talk about that. Code mixing happens when a child or an adult uses multiple languages in a single sentence or situation.

Beth: We're going to show you a video example now of code mixing. You can use your viewer's guide to jot down any notes about what you observe.

[Video begins]

[Teacher speaking Spanish]

Teacher: Does it go here?

Boy: School bus. School bus.

Teacher: School bus. It is a school bus, Mateo. Students take that bus to school.

[Teacher speaking Spanish]

[Video ends]

Marley: The video shows an example of both the child and the adult are code mixing here. In the first part, the little boy says, "Look, Papa." in the same sentence. Then we see the adults switch back and forth between English and Spanish. She's encouraging Mateo to complete a puzzle there.

Beth: The code mixing was a natural way for the child and adults interact here. Research shows that code mixing does not indicate confusion or language delay or an inability to keep languages apart.

Marley: For example, toddlers are able to identify words they hear in sentences that contain code mixing without difficulty. Code mixing it's a creative and effective strategy that many bilinguals use to support communication. Children who are dual language learners, they may use code mixing when they don't know an appropriate word in the target language. Sometimes that's why they might code mix, not always, but sometimes. And because they have access to the word in another language, they might use that to fill in the gaps.

Beth: We also know that when bilingual children code mix, they rarely break grammatical rules in either language. This shows that they're linguistic knowledge is quite sophisticated to keep those apart.

Marley: When children code mix, they clearly understand what the language of their conversational partner is. For example, 2 year old bilingual children will increase the proportion of words in a given language to match the language that the person they're talking to speaks.

Beth: And that reminds me of the babbling research that we shared earlier. Those bilingual babies, they change their babbling to match the vocal patterns of their conversational partner. I find it so fascinating that all this occurs without any sort of direct teaching. It just happens.

Marley: If you want more information on this, there's a resource that we highlighted in your viewers guide on code switching. You can check that out for more.

Beth: Now that we've talked about the foundation of language developments, the benefits of bilingualism, let's talk about putting what we know into practice.

Marley: How can we build connections with families and create environments to support infants and toddlers who are dual language learners?

Beth: Well, we have to lead with equity. This means recognizing the strengths of the needs of children in your care. It's ensuring that children have equitable opportunities to express what they know and what they can do. It's recognizing and honoring that every child deserves to feel comfortable and accepted, safe, and intellectually engaged, to feel like they belong.

Marley: We have to look at ourselves, our own beliefs and practices first.

Beth: That's so true. Our biases, whether they're explicit or implicit, they can impact the children and families we serve in real ways. Sometimes we might make assumptions about children who are dual language learners and their families without even realizing it. We might assume what languages they speak, where they were born, how well they speak English, or what family traditions they have.

Marley: Taking the time to understand our own culture and beliefs about language, as well as working to understand different points of view, is one of the best ways to support children who are learning more than one language.

Beth: And we can be intentional, more intentional about how we show up to support infants and toddlers who are dual language murderers. Remember that every child is unique and their culture and the amount of experience they have in each language will vary.

Marley: This is another great resource. It's called The Professional Learning Guides, specifically to support dual language learners. And the first one, there’s thee. It focuses on integrating culturally and linguistically responsive practices and it includes reflecting on your own beliefs and culture. Go to your viewers guide and you can find a link to that. We build belonging by building connections between a child's home and your program.

Beth: We encourage you to partner with families on this journey by first listening to and learning from them. There's another resource, Gathering and Using Language Information That Families Share. That's a wonderful starting point and includes questions to ask families to learn about their child's language experiences and to begin building those connections. We do highlight this resource in your viewers guide. We encourage you to, after the webinar, to go and check it out and think about what other questions you would add maybe when you're talking about learning from a family, maybe something new about their culture or their values. There's place in your viewer's guide. You can write down at least one new question you plan to ask the family to build these better connections.

Marley: I encourage you to then ask them. When you show the genuine interest in learning about a child, what you're doing there is you're building trust and belonging with children and their families.

Beth: Part of the reason for learning from families is that you can provide those individualized supports, which is also an important part of inclusive practices. Those practices that support the right of every infant and young child and his or her family, regardless of their ability.

Marley: You want wanted to make space today to talk about children who are dual language learners who also have a disability. We have a video to share with you from a special guest expert today, Dr. Xigrid Soto-Boykin.

[Video begins]

Dr. Xigrid Soto-Boykin: My name is Dr. Xigrid Soto-Boykin and I am an expert of early childhood bilingualism and disability. My background is in speech language therapy, and prior to becoming an assistant research professor at The Children's Equity Project in Arizona State University, I work as an SLP in school systems early intervention in the State of Florida. This is talking about bilingualism and the intersections between bilingualism and disability. It's a topic that's near and dear to my heart.

Children who have disabilities who are also bilingual, are able to develop their two languages or more without difficulty. In fact, it's in the best interest of families and the educational team around the child to ensure that that child's bilingualism is fostered because part of them being able to thrive in their communities is being able to communicate with their families. What does this look like specifically for infants and toddlers who might still be emergent communicators? What this means is educating parents about the value bilingualism and noting that bilingualism is always a strength, even if a child has a disability.

Number two, when we're providing language modeling or creating communication devices, it's important to integrate all the languages at the child knows or is exposed to. Finally, it's vital that we understand that in order to identify a child who's bilingual or a dual language learner with a disability or a developmental delay, we have to identify delays across their entire linguistic repertoire. In other words, we need to be able to assess them in their home language and English as appropriate.

And sometimes, if we don't have somebody that can provide that English input, continue to encourage the families to provide home language input, because that's such a strong foundation for future learning. I think one thing that is nice, is that Head Start's Performing Standards already offers a grounding framework for providing children who are bilingual or dual language learners with disabilities, the supports they need. One of the big tenants of the Head Start Performing Standards is to provide children with coordinated services that support their entire development and in their home language.

That's one thing to think about, is that we don't want to exclude children that are dual language learners with disabilities from having the services that they need, both for their overall development and for their bilingual development. It takes a team. It takes a coordinated approach to make this happen, but the rewards are infinite.

[Video ends]

Beth: We're so lucky to have Xigrid share that video with us. One of the things that stuck out to me is something that we've already mentioned, and that is viewing bilingualism as a strength. When we take a strength-based approach and provide those individualized supports, that's an important theme is to carry through the rest of today's discussion.

Marley: We're adding individualized care as our first research based strategy.

Beth: Yes. The rest of the strategies we share are based on decades of research on infant brain and language development, as well as findings from a successful intervention program. That program emphasized using social interaction, play, and high quality language supports with infants.

Marley: Research shows that children learn language best when they learn from other people. For infants and toddlers, this means lots of individual or small group activity time.

Beth: Yes, those one on one interactions and that small group time, that allows adults the opportunity to build those important relationships and be more responsive to infants' and toddlers' needs. If we think about it from the child's perspective, when they have that individualized one on one time or small group time, it's easier for them to listen and to watch adults using sounds and the words of the languages that they're learning.

Marley: Language learning spaces that are social, this provides lots of opportunities for contingent, that back and forth interactions that support language development.

Beth: Yes, back and forth interactions are important and our next strategy. How do we encourage them with infants and toddlers, especially before they can talk?

Marley: A lot of their language learning happens simply listening to the language they hear around them, but we can still connect with them and continue the conversation, if you well, so they might look or babble, point or change their posture. That's all communication.

Beth: Then we can use their responses to keep that conversation going. We give children who are dual language learners that opportunity to show us what they know in nonverbal ways too.

Marley: This a great way to engage when you don't necessarily share a language or speak a child's home language. You can use your body language, gestures, or other visual aids to demonstrate what you're trying to say. Like this picture, communication board here, it's helping all children communicate their needs and feelings, which is great.

Beth: I love these boards. Also, other things you could think about doing is singing a song that includes movement to get them involved. You could build a tower together, or color a picture together to encourage those back and forth, nonverbal interactions too. The type of language that we use with infants and toddlers is another important piece of these back-and-forth interactions, though.

Marley: Think speech that has large variations in pitch, slower, often includes repeated words. Like, "Hi, baby. Let's get your coat. Yes, your coat so we can go outside." I have a 1 1/2-year-old, I'm doing a lot of this. It's called Parentese, but you don't have to be a parent. Anyone can use it.

Beth: It helps babies more easily recognize those different elements of a language. They love listening to it. It's a signal that we're talking to them and that we want to engage in these wonderful back and forth interactions with them. This is true across cultures and languages.

Marley: There's a few misconceptions around Parentese we want to address. Sometimes we think of Parentese as something that just women do, but we know this isn't true. And in a study that focused on bilingual Latinx fathers, every single one of the fathers used Parentese, even if they didn't think that they did.

Beth: They also found that fathers use this type of language boosting speech more if they knew how important it was to language development. We encourage you to encourage both mothers and fathers to use this type of speech as a as a wonderful way to support their children's language development.

Marley: And using Parentese, it's one part of providing a language rich environment, which is the next strategy here. Two key pieces are being a language model and providing an intentional language support.

Beth: We know that parental language input is one of the best predictors of children's language achievement. One way to provide that support is, for example, when a child code mixes, the best thing to do is to be that strong language model. Respond in full sentences and in a way that invites further conversation and in a language you feel most comfortable speaking.

Marley: You can help families understand the importance of using their home language. Both throughout the day, but also you can think of this during focused conversational times as well.

Beth: Even when we don't share a child's home or their heritage language, it's still important to provide them with as much experience in their home language as possible, so that intentional language support. We have a lot of strategies up on the screen here, but we're just going to highlight a couple of them. First, supporting children who are dual language learners, it requires dedicated planning time on our part. Then staff expertise, and that includes hiring bilingual staff. Then carefully created environmental supports. It takes planning to be intentional about imbedding a child's home language or their languages into their learning experiences.

Marley: And to do that, we have to learn from families so that we can provide that individualized support.

Beth: For infants, you might learn a song or a lullaby maybe that includes their home language to help them feel more comfortable. To find out about that, you're connecting with families to learn what that might be.

Marley: This ties into the second strategy. Learn 10 to 20 survival words in that home language. It might be milk, sleep, help, things like that. You can talk to families and you can check out the Ready DLL app linked again in your viewers guide, or use Google translate for quick translations. These are just some of those ideas.

Beth: We encourage you to use a child's home language in a variety of contexts and across the day.

Marley: That's a great one to end on because it connects to our final strategy here.

Beth: We all know that children learn best through play and the same is true for children who are dual language learners.

Marley: Absolutely. We want to design intentional learning experiences that are play based. Incorporating skills or concepts intentionally around maybe a theme or a topic throughout the day. That way children are exposed to the same words in different circumstances.

Beth: I love that because each interaction with a new word or idea, it just continues to build their understanding. You can use that theme, when you're thinking of that theme, to bring in their culture or their interests and their home language too, to make the experience meaningful to them.

Marley: I love that. And what about a child who is a dual language learner, but doesn't share a home language with any of their peers?

Beth: Well, the beauty of play is that children don't need language. They can interact with their peers using actions or gestures, their eye gaze. We talked about as an adult building a tower with them. They can do that. Take turns with their peer. Then during those times of play, their peers are also serving as a language model for children who are dual language learners. Then those children, so they have the experience of hearing other languages and then also the chance to practice their emerging language skills too.

Marley: And play is fun. It's very motivating. This is all happening on that great learning without a child feeling like pressure to learn this specific word or concept.

Beth: I love that. No pressure. Play, there's no pressure. We want to leave you with some final thoughts. And to do that, we'd like to go back to where we started. Lead with equity so that all children and their families, they have consistent and equitable access to all services and supports and to feel like they belong.

Marley: And a key message here is that children's brains are built to learn two or more languages at the same time.

Beth: Right. And we also talked about how children and adults, they learn best in environments that are culturally and linguistically relevant to them.

Marley: Finally here, that supportive learning environments can have a positive impact on children who are dual language learners in their development across learning domains. Before we go, we just want to show you just a few other little resources. The dual language learners program assessment, the DLLPA, long one there. It assists Head Start, childcare, and other pre-K programs to assess their management systems and services. You can make sure that you're allowing for the full and effective participation of children who are dual language learners and their families. It's available on ECLKC and again, in your resource list.

Beth: We also have an IPD course that focuses on understanding equity and creating, strengthening equitable learning spaces. The IPD courses are available through this link here. They offer certificates with successful course completion that can be used for both PD and CDA certifications.

Marley: Also, Dual Language Learner Celebration Week is coming up the end of February. We hope you'll join our colleagues at NCECDTL as they dive into this year's theme, which is advancing belonging one word at a time. Thank you so much again for your time and your attention and of course for all that you do on behalf of children.

Beth: Have a great afternoon and we hope to see you next time.