

## LIVE HOST INTRODUCTION:

More than half of deaf children in the US start the first day of preschool or kindergarten with a language delay.

That's because their parents either didn't use sign language, or didn't know enough to communicate effectively with their children.

WBUR's Edify reporter Carrie Jung looks at how that deprivation affects kids -- and learning.

## BEGIN RECORDED STORY:

JUNG: Jen Foundas learned her son William was deaf when he was just 6 weeks old.

FOUNDAS: The audiologist called me into the small room off the testing room. And she stepped out of the office and said I need to tell you that your son is deaf.

JUNG: Foundas and her family can hear. So the news took her by surprise.

FOUNDAS: It was not what I expected.

JUNG: But the audiologist was quick to follow up with reassurance.

FOUNDAS: Don't worry, everything's going to be fine but you need to learn American Sign Language.

JUNG: Still, it felt overwhelming. Because in addition to being a new mom who was still trying to get the hang of how to feed, soothe and clothe her brand new baby, now she needed to learn a new language.

FOUNDAS: And I looked out at William and thought what does this mean for him? How am I going to do this?

JUNG: But Foundas was determined. For the last 5 years she's been intensively studying American Sign Language or ASL. And today she's pretty proficient. According to the National Institute of Health more than 90% of deaf children are born to hearing parents like the Foundas family. But for a variety of reasons, a majority of those parents don't follow Foundas' same path. Many either don't learn sign language at all or they don't know enough ASL to sign to their kids in a meaningful way.

ROSENBERG: They're not included in conversation.

JUNG: Patrick Rosenberg is a researcher working with the Language Acquisition and Visual Attention Lab at Boston University. He explains that because deaf children can't hear, they're not automatically exposed to language like hearing kids are. And without access to a meaningful amount of language in the early years, kids can suffer from "language deprivation". He communicated through an ASL interpreter. We've used a voiceover for this story.

ROSENBURG: They're not able to process and experience and make use of language.

JUNG: Think about it. We rely on language for social interactions, reading, school work, even thinking.

ROSENBURG: Everything ultimately depends on our language capacity.

JUNG: And if you go long enough, the effects can last a lifetime.

ROSENBURG: Language deprivation can have an impact on memory development, on cognitive development, brain developments and cognitive capacity that make it harder for the child to retain, to understand things like mathematical representation, literacy.

JUNG: And we can see some of that play out in an achievement gap. Take the 3rd grade English Language Arts test on the MCAS. In 2014, 68% of deaf students in the 3rd grade scored as either needing improvement or failing. Statewide for all 3rd graders that year was 43%.

JUNG: Until somewhat recently there hasn't been a clear sense among parents and researchers of how and when the very youngest deaf kids fall behind. The main reason: it's been hard to measure ASL proficiency in babies and toddlers. Though Rosenberg is currently working with a research team to develop a tool to do just that.

ROSENBURG: With the appropriate tools we'll be able to be more responsive in terms of early intervention and providing the correct supports.

JUNG: Because language deprivation is so common among young deaf children today, it also poses a unique challenge for educators. Megan Malzkuhn is an ASL specialist at the Horace Mann School for the Deaf in Boston. She also spoke with us through an ASL interpreter. We're using a voiceover.

MALZKUHN: Most, if not all, of our students come in with little to no language.

JUNG: Malzkuhn explains, for those kids, a lot of time is dedicated to getting caught up in basic communication skills. Other traditional grade level goals, like starting to read, have to be put aside at first.

JUNG: But a relatively new approach to early childhood curriculum being used at two schools in Massachusetts is showing some promise in catching kids up. We'll be diving into how that works later today on All Things Considered.

For 90.9 WBUR, I'm Carrie Jung

#### LIVE HOST INTRODUCTION:

About two-thirds of deaf children come to school for the first time without much exposure to language. On Morning Edition today, WBUR's Carrie Jung [YOUNG] explored how that deprivation affects kids.

In the second part of her reporting, Jung [YOUNG] examines how schools are changing to help these kids overcome language delays AND learn just as much as their peers do.

#### BEGIN RECORDED STORY:

PROJWAL: When I was young, I went to a school where they didn't use sign language at all...It was only spoken language.

JUNG: Projwal is 20 years old. He was born in Nepal and he's profoundly deaf. Through an interpreter he tells me that for much of his childhood, he had little and sometimes no access to formal language.

PROJWAL: I had no language. So I didn't understand anything, even in sign language.

JUNG: That finally changed when his parents moved to Massachusetts and he started going to The Learning Center for the Deaf in Framingham, a private school that accepts public school students from districts around the state. For Projwal, having language is changing how he sees and understands the world.

PROJWAL: I'm learning so much more about what's going on. How to express myself...I'm just learning so much about everything.

JUNG: Most kids in the U.S. don't go as long as Projwal did without language. For children here, intervention comes much earlier... around age 3 or 4 when they get to school. Megan Malzkuhn is an American Sign Language or ASL specialist with the Horace Mann School for the Deaf in Boston. Through an interpreter, she says most if not all of their kindergarteners come in with little to no language. We're using a voiceover.

MALZKUHN: Imagine you're a 1st or 2nd grade teacher and you're trying to teach someone who doesn't know how to read and still doesn't even know their own name, the colors, the numbers, anything. How are you supposed to teach them the curriculum?

JUNG: Malzkuhn explains in most cases, learning those things has to be put aside at first. This kind of language delay is believed to contribute to a significant achievement gap. On standardized tests like the Northwest Evaluation Association reading assessment, deaf students who don't have strong language skills score about 37% lower than their hearing peers.

JUNG: But a new pilot program being implemented at two schools in Massachusetts is showing some promise in closing that disparity. Like Mike Olivier's 2nd Grade classroom at The Learning Center.

JUNG: In this lesson he's standing in front of about 7 second graders who have been paired up into 3 teams.

OLIVIER: Nouns?

STUDENTS: Nouns for 2. That's the only one left in the nouns category.

JUNG: Projected on the white board behind him is a massive grid – like a Jeopardy! game board. There are 4 grammar categories. Interpreter Erin McCarthy helps me understand what Olivier and the kids are signing.

OLIVIER: And see how many nouns you see. One, two or maybe more.

JUNG: The class watches a clip of a woman signing a sentence. The kids also see it written in English.

OLIVIER: The mouse was eating some cheese. Let's watch it again.

JUNG: The team has to count the nouns. The two boys huddle behind their desks, signing furiously. McCarthy interprets the quick interaction between students and teacher.

STUDENTS: Two. You saw two nouns?

OLIVIER: So what were the two nouns that you saw?

STUDENTS: Cheese and mouse.

OLIVIER: Good!

JUNG: This game is part of a new curriculum being developed by a team at Boston University. It's a different approach to traditional language arts because it teaches kids the grammar rules of ASL first. Then it connects those concepts to the rules of written English. Teacher Mike Olivier explains it treats ASL more like an academic subject, rather than simply the language of instruction. Again, we're using a voiceover.

OLIVIER: The kids are so much more proud of their native language as ASL. They recognize that ASL has rules and has a structure. I mean you can just see that light bulb has gone off.

JUNG: One of the researchers developing this program, Todd Czubek, adds this curriculum seems to be working better because it assumes most kids in a class had a late start to learning language.

CZUBEK: For the first 5 years of their life, largely because the world has been inaccessible, kids don't have the same foundation

JUNG: He explains it's essentially meeting more children where they are linguistically when they get to school.

CZUBEK: Our assumptions are based on what's real for deaf kids.

JUNG: Here in Massachusetts, schools that are trying this are just one year in, so it's still too early for results. But the School for the Deaf in Scranton Pennsylvania has been using it for 5 years. Standardized test data there show deaf kids who were born to hearing parents are scoring just as high as their hearing peers in reading.

JUNG: In some ways this approach is part of a larger a shift in how the research and medical community think about language development. Previously a lot of people thought introducing both American Sign Language and English to their kids would confuse them. But Naomi Caselli, an assistant professor in deaf education at Boston University, says today that seems to be changing.

CASELLI: The goal is to get language to a child and whatever means to make that happen is the way to do it.

JUNG: Because, she says, when a child has language they have access to the world. For 90.9 WBUR, I'm Carrie Jung