

# Language impairment affects school performance

13 March 2018



Postdoctoral researcher Maura Curran (left) teaches a child about sound.

Language impairment is one of the most common childhood disorders that you've never heard of. It affects seven out of every 100 U.S. children, delaying mastery of language skills in children.

In school, children with [developmental language disorder](#) are at risk for failure in academically relevant [language skills](#). So, looking at a typical elementary school classroom, two students will have a [language](#) impairment. These students go on to have academic problems and are less likely to graduate from high school and college. University of Delaware Communication Sciences & Disorders associate professor Amanda Owen Van Horne said she believes that improved treatments for language impairment can change these children's trajectories.

"These kids don't have good support because there isn't concrete evidence on what really works," said Owen Van Horne. "There are good hunches. Educators and speech-language pathologists are trying their best, but we really need evidence to find the best intervention."

And that's what the Treatment Efficacy &

Language Learning (TELL) Lab is working to uncover. Through a research study funded by National Science Foundation, Owen Van Horne, postdoctoral researcher Maura Curran and collaborator Karla McGregor (Boys Town National Research Hospital) are investigating three types of interventions—focused on vocabulary, grammar and phonological awareness—to see what intervention has the biggest impact on academic performance.

"We know good techniques for teaching kids how to read, vocabulary and grammar," Owen Van Horne said. "But, as a speech-language pathologist with a typical caseload, you don't have the luxury of time to teach all three techniques to every child, so you are forced to pick."

## Impact on STEM

When many people think of the popular science, technology, engineering and mathematics (STEM) curriculum in American schools, they aren't thinking about linguistic skills. Communication is as critical piece for success in these courses. Students that can't understand and speak the language of science—words like hypothesize, prediction, experiment, discover and measure—run the great risk of quickly falling behind. They also have to use these words in sentences that are longer and more complicated than typical conversation. And these topics are discussed as early as the first-grade curriculum.

"To be successful in school these days, you have to be good at speaking," Owen Van Horne said. "The next generation science standards—part of the common core—ask things like, 'Make an argument using evidence for why your hypothesis is correct.' Well, if you have to make an argument and use evidence, you need to communicate using the spoken and written word. These STEM subjects all include complex sentences. Without vocabulary and grammar, it's extremely hard to succeed."

So for children who are language impaired, it's very easy to fall behind.

"We think of these words and grammatical forms as late developing, but they aren't," Owen Van Horne said. "If students fall behind as early as first grade, what happens by the time they get to fifth grade?"

### **Who has a language impairment?**

To complicate matters, children with language impairment are often not identified and referred. Teachers pay attention for speech sound mistakes. However, kids with [language impairment](#) may produce all sounds normally, yet appear inattentive when having trouble understanding what's happening in class.

"These children don't understand what the teacher says, so they can't follow the directions," Owen Van Horne said. "A teacher might think a child is checked out, has behavior problems, or doesn't care about school. Really, what's happening is that the child doesn't understand what they've been asked to do. The child doesn't know how to participate or can't participate fast enough."

One of the biggest challenges is using the same term. As children get older, developmental language disorder gradually transforms—at least in name. Young children are called late talkers. The term developmental delay or expressive/receptive communication delay then applies to ages 4 to 9. By age 10, it's dyslexia, reading disorder or learning disorder related to language.

"Language impairment gets lost because the name used for two-year-olds is different than ten-year-olds," Owen Van Horne said. "If you look at a disorder like autism, families are much more organized; there's a name that everyone agrees on. Parents of [children](#) with language [disorders](#) are not as well organized, not because they don't advocate for their kids, but because they don't know how to plug in to a group already doing this kind of work."

Provided by University of Delaware

APA citation: Language impairment affects school performance (2018, March 13) retrieved 22 October 2020 from <https://medicalxpress.com/news/2018-03-language-impairment-affects-school.html>

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