English-language learners may be over-represented in learning disabilities category

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For years, minorities have been disproportionately placed in special education classes, and figures available indicate the complexity of this issue for one group. National estimates reveal that English-language learners may be over-represented in the learning disabilities category due to the fact that neither a method for accurate identification nor a consistent definition of learning disabilities across states exists. This underscores the need for better tools and methods for accurate identification of those with special needs.

A new study co-authored by a University of Kansas professor shows the development of accurate and stable assessment tools for the identification of learning disabilities in English-language learner children and documentation of the rate of cognitive, language and reading growth as a function of instructional practice.

Researchers in the study conducted bilingual assessments (English/Spanish) with 450 English-language learners in the southwest United States. They administered a series of bilingual tests with students in first, second and third grades to determine who were at risk of reading disability. The tests were repeated one and two years later, with the findings showing a connection between important executive functions related to working memory, language and reading comprehension.

Michael Orosco, associate professor of special education, said the findings are important, as they can help schools differentiate English-language learners with reading disabilities from those who are simply struggling with learning in a second language. Misdiagnosis commonly happens when students start learning to read in the first and second grades, and as English-language learners continue through the grade levels, the demand for the application of such executive control processes such as working memory and language increases as reading comprehension requirements become more complex. By the time they reach third grade, English-language learners may begin to struggle with a more challenging reading curriculum, and because of this, their school may examine them more closely for comprehension challenges and may eventually refer them to the school's special education team for a learning disability diagnosis in their second language without fully assessing them in their native language.

As with English-speaking peers, distinguishing between learners with limited English proficiency and those who also have a learning disability is critical because special education law requires the distinction. Identification of a specific learning disability is based on determination of the following Individual with Disabilities Education Improvement Act (IDEA): The child does not achieve commensurate with his/her age and ability levels in one or more of the seven areas (oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculations or mathematical reasoning) when provided with learning experiences appropriate for the child's age and ability levels. In addition, learning difficulties must not be explained by environmental variables, such as limited English proficiency or cultural differences. This underscores the need for better tools and methods for accurate identification of English language learners with learning disabilities.

The seminal study, authored by H. Lee Swanson and Milagros Kudo of the University of California-Riverside, and Orosco, examined working memory, part of executive function in the brain. The findings were published in the Journal of Learning Disabilities. The journal is internationally recognized as the oldest and most authoritative journal in the area of learning disabilities. Working memory is part of executive function and has three major components: phonological awareness, visual/spatial and central executive function:

- Phonological awareness is the ability to

identify and manipulate sounds using oral language. It gives a student the ability to look at a word such as "cat" and sound it out, a vital key in learning to read. Students learning to read in a second language are presented with challenges, however, when they encounter certain words. For example, with the word "shoes," the "sh" sound doesn't exist in Spanish. That can lead to challenges in understanding how a child is developing in a second language and conclusions that the child is pronouncing the word wrong due to a language processing deficit, which in turn can be a precursor to a disability diagnosis.

- Visual/spatial is the ability to hear or read a word and capture how you see it through sensory to remember it. With the word "shoes," students can picture those they are wearing, going to a store to buy them and similar examples.
- Central executive function is processing the information from the first two and coordinating them into comprehensible words and visual imagery into long-term memory.

Students with reading disabilities struggle with phonological and visual/spatial processing. School assessment teams rarely consider bilingual cognitive functioning such as working memory into their diagnostic procedures.

"In addition, we're finding that diagnosing reading difficulties with these kids is challenging because we're trying to pinpoint how much impact instruction has on them," Orosco said. "Instead of just teaching to fit the curriculum, we need to look at how instruction is impacting they're cognitive development."

Seeing that a student is not reading at the same level as his or her peers and automatically assuming they have reading difficulties is akin to a doctor taking a patient's blood pressure and telling them they have cancer, Orosco said. Without thorough assessments, such as blood tests or cancer screenings, such a diagnosis would be premature and would likely be wrong. Similarly, many reading difficulty diagnoses for students learning in a second language don't go far enough to determine if a student simply hasn't received quality instruction.

The findings suggest that growth in English-language reading was tied to growth in the executive system of working memory. In addition, bilingual students who displayed a growth in the components of working memory also showed growth in language and reading comprehension. That supports the notion that improved instruction and assessment that takes bilingual cognitive function into account, not just curricular data, is important.

"What we learned is the measurements in schools aren't doing rigorous enough assessments in bilingual learners," Orosco said. "We also need to be able to correctly interpret the results of assessments. And a key implication is the reading instruction these students received may not have been of high quality."

A further understanding of cognitive development in young students, Orosco said, both by researchers and educators working with English-language learners, could ultimately lead to better reading instruction for all students, improved measurement processes and fewer students unnecessarily being placed in special education classes. The research builds a cognitive bridge between the practical and applied in addressing minority disproportionality in public education by improving the learning disabilities definition for culturally and linguistically diverse students.

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