

# Meeting Special Needs

*By Linda Keane*

## Cognitive Disabilities

### The Problem With Labels

All too often, students with cognitive disabilities are labeled based on their learning disability profile. These labels do not help a teacher determine how best to help students achieve the goals set before them. The labels are short-sighted and often reflect stereotypical beliefs about disabilities. It is far more helpful to have a clear understanding of the barriers that prevent students from learning rather than simply identifying what their learning disabilities are as you prepare to teach.

Disabilities that interfere with learning—whether cognitive, emotional, or developmental—have features that undermine the students' learning. These features—including working memory, processing speed, auditory and language processing, and fluid reasoning—present barriers to achievement.

### ABOUT THE AUTHOR

Linda Keane has an MS in Literacy and Learning in the Content Areas from Walden University in Baltimore, Maryland. She received her bachelor's in Elementary Education and Education for the Visually Impaired from Kutztown University of Pennsylvania.

She is currently the Inclusionary Resource Teacher at Merrimack Middle School in Merrimack, New Hampshire. She has also taught in New York, Massachusetts, and Maine at the elementary and high school level.

She served on the Professional Development Committee and Individual Professional Development Committees for Merrimack School District for 19 years as a building representative, co-chairperson, and chairperson supporting her colleagues in developing their plans for professional growth. In addition, Linda has also sat on five Master Plan Revision Committees, chairing two of them.

## Working Memory

Working memory is defined as the ability to hold ideas and thoughts in memory along with the ability to manipulate them in order to collect functional pieces and create a response. An example of working memory is performing mental math. Students with compromised working memory will struggle with all tasks that involve manipulating numbers, algorithms, and teacher directions. Often, you will see students with working memory issues rush through work in order to get it done before they forget what they are thinking. It will appear they have purposely thrown ideas together for the sake of completion. In addition, you may see these students become frustrated when others are talking around them as they are trying to hold information in memory and think over the noise.

The best way to reduce the memory load is to have numerous visuals to support the information that students are trying to manipulate. Graphic organizers, highly structured notetaking templates, or a desk copy of notes are effective supports for these students. Providing lists, word banks, and mind maps help students retrieve information. Clearly defined, step-by-step directions written on the board or a handout will help the student focus on one step of a process at a time.

## Processing Speed

Processing speed is the rate at which students take in information, make sense of it, and formulate a response. Students with a slower processing speed will take longer to contemplate a thought, begin a task, take notes, and complete assigned work. Processing speed is not a factor of intelligence and skill; it is a factor of how quickly one's brain reacts. Students who need more time to respond to simple questions require additional time to complete their work. Like the students with working memory issues, these students will not be able to keep up with notetaking—not because they can't retain the information in memory—but because they work at one speed and may struggle to keep pace with instruction. However, unlike students struggling with working memory issues, these students typically complete their work correctly, but it may take them longer than their peers.

To help students with processing speed issues, reduce the number of questions they should answer. However, you should select questions that best assess whether the student has mastered the material. The speed of instruction should be reduced, and frequent reminders of next steps may also be needed.

## Fluid Reasoning

Fluid reasoning is the ability to use new information to create ideas and products. It requires logical and flexible thinking and problem-solving to approach new situations and create a solution despite having limited background knowledge. Students who naturally excel with fluid reasoning see new situations as a challenge to conquer, not fear. They are able to think critically, make inferences, and draw conclusions. Students with less developed fluid reasoning abilities may approach a new task with a high degree of anxiety because they don't know where to begin. These students will rely on other students to help them navigate the task effectively. They will struggle with making decisions, understanding connections between ideas, and making generalizations. "Big picture" learning will baffle them.

Students having difficulties with fluid reasoning should be taught problem-solving strategies. It is important to have peers and teachers orally reason the step-by-step process they use to solve a problem or reason an outcome. The use of graphic organizers can help these students categorize their problems by component. Visual and verbal teaching methods also benefit students.

## **Language Processing**

Language processing is another cognitive function that can interfere with learning outcomes. Often, this can present as a deficit in vocabulary, along with difficulties making associations with words and accessing similarities in word groups. These students will struggle to determine how two events are similar and effectively draw conclusions based on observation and information. They are often cognitively constrained when analyzing and synthesizing information.

Two types of processing can be impacted. The first type is receptive language, and the second is expressive language. Receptive language is the ability to hear words and assign them meaning without delays or supports. Students who have these issues are often accused of not listening. They are listening, but their ability to assign meaning to the language poses an obstacle to their learning. These students are best helped with a slower rate of speaking and paring down instruction. Teachers who add anecdotes and segues during instruction can easily lose these students, who may struggle with separating the needed information from the conversation. Outlines for notetaking, visual supports for the information presented orally, and repeating instructions regularly will help these students.

Expressive language processing is a disability in which students can't "find the words" they need easily. They tend to struggle with conversations, especially those requiring content knowledge. Frequently, they will speak in poorly structured speech patterns or, more likely, not speak at all. Written language is also highly impacted. Students with expressive language deficits tend to write in simple sentence patterns with as few words as possible. One of the most practical means of supporting expressive language deficits is to provide students with the words they can't retrieve. Word walls and word banks are helpful for these students. In addition, it is helpful to provide words that introduce and transition ideas when writing essays. Vocabulary should be expressly taught prior to lessons.

## Planning

### Reducing the Barriers to Learning

Once you understand the learning deficits of your students, you can begin to plan and create lesson plans to support them. You can analyze activities by asking yourself: “Where in this work will a student with working memory, processing speed, fluid reasoning, or language processing issues, struggle? Which cognitive processes are critical to this task? How can I modify the lesson plan to reduce any barriers to learning?”

Learning deficits require accommodations to your teaching to bring each student to the highest level of achievement. Fortunately, frustration for teachers and students can be eliminated by identifying the barriers to learning prior to beginning a task. By doing this, teachers will be prepared to offer accommodations that truly fit the needs of the students and allow students to achieve the highest possible learning outcomes.

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