

Math Disability: An Overview

Recently, increased attention has focused on students who demonstrate challenges learning mathematics skills and concepts that are taught in school across the grade levels. Beginning as early as preschool, parents, educators, and researchers are noticing that some students seem perplexed learning simple math skills that many take for granted. For example, some young children have difficulty learning number names, counting, and recognizing how many items are in a group. Some of these children continue to demonstrate problems learning math as they proceed through school. In fact, we know that that 5% to 8% of school-age children are identified as having a math disability.¹

Research on understanding more completely what a math disability means and what we can do about it in school has lagged behind similar work being done in the area of reading disabilities. Compared to the research base in early reading difficulties, early difficulties in mathematics and the identification of math disability in later years are less researched and understood.² Fortunately, attention is now being directed to helping students who struggle learning basic mathematics skills, mastering more advance mathematics (e.g., algebra), and solving math problems. This article will explain in detail what a math disability is, the sources that cause such a disability, and how a math disability impacts students at different grade levels.

What is a Math Disability?

A learning disability in mathematics is characterized by an unexpected learning problem after a classroom teacher or other trained professional (e.g., a tutor) has provided a child with appropriate learning experiences over a period of time. Appropriate learning experiences refer to practices that are supported by sound research and that are implemented in the way in which they were designed to be used. The time period refers to the duration of time that is needed to help the child learn the skills and concepts, which are challenging for the child to learn. Typically, the child with a math disability has difficulty making sufficient school progress in mathematics similar to that of her peer group despite the implementation of effective teaching practices over time. Studies have shown that some students with a math disability also have a reading disability or Attention-Deficit/Hyperactivity Disorder (AD/HD). Other studies have identified a group of children who have only a math disability.

Dyscalculia is a term that has been used for many years when talking about a math disability.

Dyscalculia means "a severe or complete inability to calculate".³ Some people use the term dyscalculia to describe a child who has problems learning mathematics skills and concepts. However, the terms **learning disabilities in mathematics** and **math disability** are used more widely today.

Several Sources of Math Disability

When a child is identified as having a math disability, his difficulty may stem from problems in one or more of the following areas: memory, cognitive development, and visual-spatial ability.^{4, 5, 6, 7}

Memory

Memory problems may affect a child's math performance in several ways. Here are some examples:

- A child might have memory problems that interfere with his ability to retrieve (remember) basic arithmetic facts quickly.^{8, 9}
- In the upper grades, memory problems may influence a child's ability to recall the steps needed to solve more difficult word problems,¹⁰ to recall the steps in solving algebraic equations, or to remember what specific symbols (e.g., \hat{a} , s , π , \geq) mean.
- Your child's teacher may say, "He knew the math facts yesterday but can't seem to remember them today."

