

Math Anxiety and Dyscalculia

WHEREAS, Many Florida students are not performing well in math, especially when compared to all students in the United States. According to the National Assessment of Educational Progress (NAEP) 2022 exam, Florida's eighth graders ranked 32nd in the nation. That year, the College Board reported that only 31% of Florida's students who took the SAT exam met the math benchmarks; across the nation, 45% met the math benchmarks; and

WHEREAS, Math is a foundational skill consisting of logic, problem solving, and calculations, necessary for understanding other subjects in school, such as science, social studies, economics, art, and music. In addition, math skills are important for navigating everyday activities such as making change, managing finances, and understanding the news. Furthermore, math is crucial for success within science, technology, engineering, and math (STEM) careers; and

WHEREAS, Math anxiety is not a learning disorder; it is a negative emotional response to math which often leads to avoidance. Dyscalculia is a learning disorder similar to dyslexia, but for math instead of reading. Both math anxiety and dyscalculia may be correlated with poor math performance. Approximately 2 ½ million children have dyscalculia in the United States, but it is often undiagnosed, and the lack of knowledge about dyscalculia is notable. In addition, research suggests up to 68% of the population suffers from math anxiety with women reporting more math anxiety than men, while other research found that 80% of community college students struggle with math anxiety; and

WHEREAS, Math anxiety can be cyclical; math anxious parents and teachers are likely to pass their math anxiety to their children. Concerningly, the most math anxious college students are education majors. Yet, the Florida Department of Education does not include any resources regarding math anxiety or dyscalculia on their website, despite their common occurrence. Early diagnoses, interventions, and research-based programs can mitigate math anxiety and assist dyscalculic individuals. Project-based learning with a growth mindset often shifts students' attitudes about math and reduces anxiety while emphasizing logic and problem solving, key elements of a strong math education. Implementing these research-based solutions impacts not only the individuals involved, but they may stop the cycle for future generations; and

THEREFORE BE IT

RESOLVED, that Florida PTA and its constituent associations strongly urge the Florida Department of Education, school districts, schools, and community stakeholders to provide robust resources to families, education professionals, and community members regarding math anxiety and dyscalculia; and be it further

RESOLVED, that Florida PTA and its constituent associations advocate for research-based programs and policies which work to reduce math anxiety in students, parents, students' caregivers, school staff, and after/pre-school childcare staff; and be it further

RESOLVED, that Florida PTA and its constituent associations advocate for a universal screening of all students for dyscalculia to ensure that students' difficulties with math are not driven by an unidentified learning disability; and be it further

RESOLVED, that Florida PTA and its constituent associations urge teacher education programs to address math anxiety of teachers and teachers-to-be, to implement research-based programs to reduce math anxiety, and to provide information and resources for dyscalculia.

Rationale

When a child struggles, dislikes, or feels anxious about reading, we provide resources and examine the causes. We do this because reading is fundamental for a child's academic success and a necessary life skill.

However, when a child experiences those same problems in math, we do not provide the same support. Instead, we consider these to be normal. This normalization hinders and masks the need for diagnoses of math anxiety and dyscalculia, a math learning disability. We need to address math anxiety and dyscalculia from early childhood onwards as many of Florida's students perform poorly in math. Research shows that a child's future academic success can be predicted better by their kindergarten math skills than by early reading or attention skills.

We need research-based programs and policies which reduce math anxiety, especially as it can be cyclical where parents' and teachers' anxiety leads to their children's math anxiety. Math instruction focusing on reasoning and problem-solving reduces math anxiety while building necessary math skills, better than rote memorization and timed tests. We need universal screenings for dyscalculia to ensure that a child's math difficulties are not driven by an unidentified learning disability.

Math anxiety and dyscalculia stop children from making their potential a reality. Good math skills are essential for daily living and problem-solving. Math knowledge is necessary for many of the jobs of today and the work of tomorrow. Math is a social justice matter.

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