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Education Sciences

Are there any evidence-based professional learning models, products, or tools that support effective and equitable mathematics instruction?



Evidence-Based Recommendations

- The Regional Educational Laboratories (RELs) have released [several reports, webinars, infographics, and other resources](#) on mathematics instruction. REL Midwest also recently [gathered a variety of resources related to equity](#) that can complement these mathematics resources.
- [The Launch Years](#) at the University of Texas at Austin supports the development of engaging middle school math activities and alternative math pathways in high school that enable new opportunities for student learning and success in college and career. [Just Equations](#), a project of Community Partners, focuses on re-conceptualizing the role of math to ensure equal education opportunities for students. The program's [resource page](#) includes reports and webinars on math pathways for equity.
- The National Council of Teachers of Mathematics (NCTM) compiled a [research brief](#) outlining classroom practices that support equity-based mathematics teaching. NCTM encourages three broad actions: reflecting, noticing, and engaging in the community.
- A [2014 study of student-centered math teaching](#) demonstrates positive engagement and interest in math content and problem-solving skills when teachers support students to build the knowledge and skills important to their success inside and outside of the classroom.
- Research on the use of a mixed-ability "[mathematics for equity](#)" approach rather than using tracking and traditional teaching methods has shown both [increases in achievement levels](#) and the [development of respectful relationships](#).



Additional Resources



In the *Journal of Mathematics Teacher Education*, authors Vogler and Prediger [recommend using video-based professional development](#) to sensitize teachers to students' diverse perceptions of mathematics class discussions.



The NCTM's [Catalyzing Change](#) series "looks at policies, practices, and issues that impact mathematics education at every level to support the critical conversations and actions need[ed] to create positive change." The website includes three free webinars about this series and other resources such as research briefs and position statements to support math educators.



This [School Science and Mathematics article](#) describes a framework to help math teachers modify their language when presenting math problems for intermediate English learners without modifying the math content.