

Beliefs about access and equity in mathematics

Unproductive beliefs	Productive beliefs
Students possess different innate levels of ability in mathematics, and these cannot be changed by instruction. Certain groups or individuals have it while others do not.	Mathematics ability is a function of opportunity, experience, and effort—not of innate intelligence. Mathematics teaching and learning cultivate mathematics abilities. All students are capable of participating and achieving in mathematics, and all deserve support to achieve at the highest levels.
Equity is the same as equality. All students need to receive the same learning opportunities so that they can achieve the same academic outcomes.	Equity is attained when students receive the differentiated supports (e.g., time, instruction, curricular materials, programs) necessary to ensure that all students are mathematically successful.
Equity is only an issue for schools with racial and ethnic diversity or significant numbers of low-income students.	Equity—ensuring that all students have access to high-quality curriculum, instruction, and the supports that they need to be successful—applies to all settings.
Students who are not fluent in the English language are less able to learn mathematics and therefore must be in a separate track for English language learners (ELLs).	Students who are not fluent in English can learn the language of mathematics at grade level or beyond at the same time that they are learning English when appropriate instructional strategies are used.
Mathematics learning is independent of students' culture, conditions, and language, and teachers do not need to consider any of these factors to be effective.	Effective mathematics instruction leverages students' culture, conditions, and language to support and enhance mathematics learning.
Students living in poverty lack the cognitive, emotional, and behavioral characteristics to participate and achieve in mathematics.	Effective teaching practices (e.g., engaging students with challenging tasks, discourse, and open-ended problem solving) have the potential to open up greater opportunities for higher-order thinking and for raising the mathematics achievement of all students, including poor and low-income students.

Beliefs about access and equity in mathematics, *continued*

Unproductive beliefs	Productive beliefs
Tracking promotes students' achievement by allowing students to be placed in "homogeneous" classes and groups where they can make the greatest learning gains.	The practice of isolating low-achieving students in low-level or slower-paced mathematics groups should be eliminated.
Only high-achieving or gifted students can reason about, make sense of, and persevere in solving challenging mathematics problems.	All students are capable of making sense of and persevering in solving challenging mathematics problems and should be expected to do so. Many more students, regardless of gender, ethnicity, and socioeconomic status, need to be given the support, confidence, and opportunities to reach much higher levels of mathematical success and interest.