HOW CAN YOU TEACH TO REACH THEM?

**Try:** Gamification
The evolution and expansion of educational software with game-like protocols and rewards capture the imagination and drive persistence.

"Neuroscientists say that the teenage brain is pretty weird; our prefrontal cortex is underdeveloped, but we actually have more neurons than adults, which is why we can be so creative, and impulsive, and moody, and get bummed out."
—13-year-old Logan LaPlante in his TED Talk, Hack Schooling Makes Me Happy

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<tr>
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HOW DO THEY LEARN?

Be aware of and learn to temper extremes. They often “love” or “hate” and are “good at” or “bad at” everything—including math. They are nervous and trying to cope with changes.

Nurturing a growth mindset and connecting math to real life helps offset “all or nothing” attitudes.

INDEPENDENT
Make math part of being “in with the in crowd.” It’s all about being a valued part of the group. Engaging with peers and cultivating relationships in learning experiences helps create a true community of mathematicians.

EMOTIONAL
An awareness of and access to support. They then “love” or “hate” and are “smart” or “stupid” everything—living off a scale. They are in need of help and lacking in comfort, understanding, and a sense of autonomy.

SOCIAL
Help each other “all or nothing” group.

INDIVIDUALLY
Let them work at their own pace and learning style and take ownership of their learning.

TECHNOLOGICALLY
Leverage blended learning that takes advantage of new interfaces which encourage students to explore new ideas.

ENGAGEMENT
Try: Identification
The need for and organized educational systems to continuously and permanently capture the imagination and raw performance.

CONNECTEDNESS
Try: Community Engagement
Evaluate opportunities that students engage challenges and problems on their own.

MOTIVATION
Try: Challenging with Difficult Problems
Provide unique challenges that are purposeful, personalized, and thought provoking. Build confidence by making sure every student’s needs are met.

INDEPENDENCE
Try: Adaptive Program
Build ownership while providing a supportive platform for direction. Goal setting and progress monitoring support independent learning pathways and a sense of accomplishment.

ONLY 35% OF 8TH GRADE STUDENTS ARE PROFICIENT IN MATH:

HOW CAN WE CHANGE THAT STATISTIC?

By building middle school mathematicians who are:

1. Critical thinkers with a growth mindset that enables them to tackle complex problems in unique and effective ways.
2. Students who are given learning opportunities for authentic engagement with content, development of conceptual understanding, and achievement of procedural fluency.
3. Curious, self-directed learners who persist through even the most challenging problems.

"The Bermuda triangle of education … Hormones are flying all over the place."
—Former Louisiana Superintendent of Schools Cecil Picard’s description of middle schools

Of 100 middle school students, 93 want to go to college
Of those, 70 graduate from high school
Of the high school graduates, only 44 enroll in college
Of those enrolled in college, only 26 will successfully earn a college degree

Educational Policy Improvement Center

ONLY 7% OF STUDENTS TELL THEIR MATH TEACHER THAT THEY LIKED THE CLASS THIS WEEK:

HOW CAN YOU REACH THEM?

**Try:** Blended Learning and Community Conversations
A valuable approach for students to express challenges and problem solve together.

Students’ Personal Access to Mobile Devices
Grades 6-8

**How can you teach to reach them?**

**Engagement**

**Identification**

**Community Engagement**

**Motivation**

**Challenging with Difficult Problems**

**Independence**

**Adaptive Program**

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