
WHEN CHALLENGE
AND ENGAGEMENT
GO HAND-IN-HAND

ART OF PROBLEM
SOLVING
CASE STUDY



AoPS *Beast*
ACADEMY

INFO@BEASTACADEMY.COM | BEASTACADEMY.COM
10865 RANCHO BERNARDO RD., STE. 100 SAN DIEGO, CA 92127

OVERVIEW & APPROACH

Beast Academy for accelerated mathematics

TVT Community Day School in Irvine, California uses Beast Academy, developed by Art of Problem Solving (AoPS), as its primary curriculum for accelerated math students in second through fifth grade. The school introduced the curriculum to teach in-depth problem solving and increase the level of rigor in its math instruction.

“We made the decision to use Beast Academy after some parents began demanding that we offer a more rigorous math curriculum. We then encountered some initial resistance during the first few months since parents were not familiar with the approach, but by the spring of our first year, they had completely turned around. They saw their kids really enjoying and engaging with it and that sold them on it,” said Lindsay Melia,

elementary math teacher at TVT.

TVT students in third through fifth grade began using the curriculum in 2017-18, and after experiencing strong results, the school introduced it for second graders the following year. Participating students use the curriculum for their entire daily math block. From Melia’s perspective, the main benefits of Beast Academy are that it teaches abstract thinking and includes highly engaging materials.

“Our students want the challenge in order to make math interesting. They love the comic book style of the course materials, too. Beast Academy problems present a challenge, often in the form of a puzzle. The open-ended approach is very appealing,” said Melia.



IMPACT

By using Beast Academy, TVT students are learning very early on that it is okay to struggle in math and that it is, in fact, expected that they will attempt problems multiple times before arriving at a solution. Students who have been high achievers throughout their school careers may not often have the opportunity to work through productive struggle, but through Beast Academy they develop the perseverance and problem solving skills to overcome difficult challenges. These then become skills they can apply to any area of study.

“We’re really teaching those advanced kids who normally just get the easy ‘A’, or can just show up and figure out the problem on their own, that there is still something for them to learn even at the second grade math level, and how to go about that,” said Melia.

Melia further explains that many students struggle with behavior throughout the day, but not during math class because Beast Academy provides a challenge that keeps their minds engaged. “They come to this math class and they don’t [struggle with behavior anymore] because they’re getting that challenge that they crave; and they come in and they just want to get to work. They want to find the hardest problem.”

The classroom culture in these math courses involves open discussion that creates a collaborative environment for learning. There is a freedom to the process that helps students exercise problem solving skills in a variety of ways. Melia tells the students that there are many options to the learning process, but points to the main areas to accomplish.



As she explains, “You might see one group of kids working on a computer. You might see another group of kids on the whiteboard solving problems or kids on the ground doing their math packet. Because they have a choice, there’s a lot of buy-in, and kids work at their pace.”

FUTURE OUTLOOK

Student ownership of learning and teacher buy-in

As active participants in a creative approach to math learning, students take on more ownership of their learning, and Melia finds herself caught up in the excitement. As she explains, "I feel like I have a dream job. I get to come in every day and teach t

his fun curriculum that has a comic book. We get to know the characters, and they joke with us. The kids love it. I honestly feel lucky every day to get to do it. I love doing puzzles and problems as much as the kids. I'm very honored to be a part of it."



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