

## Section V: Teaching Philosophy

In the past five years, students and teachers have gone from teaching North Carolina Standard Course of Study to Common Core State Standards that promote depth versus breadth of knowledge and understanding. I embrace and thrive on the shift towards high-levels of learning among all students and believe, whole-heartedly that every child, regardless of any previous academic, behavioral or social struggles, can and will learn at high academic levels in my classroom! Rigorous and relevant lessons, activities, and assessments are consistently used within my classroom to transform the way a child thinks, learns and applies their depth of knowledge to the world around them. All students are expected to collaborate using appropriate math terminology, explore new content by synthesizing previously mastered concepts and apply the content to other curriculum areas and their community. The higher-ordered thinking skills developed through such lessons extend the growth of independent and critical thinkers. This philosophy translates into classroom strategies that produce success in every child.

Even in the most basic Common Core Standards like finding the volume of cylinders, cones and spheres, rigor and relevance are prevalent! Rather than provide students with formulas, I facilitate their discovery of relationships between cylinders, cones and spheres through the use of manipulatives. Students used solids to derive how many cones and spheres would fill a cylinder. Discoveries made were then used to help students derive the volume formulas through collaboration for cones and spheres, when the formula for a cylinder was provided. As a result, students easily retained the content! Even while studying for the EOG, students quickly retrieved the accurate formulas for the multiple solids since they discovered the information through active engagement and were in control of their own learning!

In addition, relevance among lessons requires students connect the content to authentic real-world problems and questions so that students can witness regularity, connections, and reasoning within the content. For example, while exploring systems of equations and what it

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means for two situations to be equal, students applied previously mastered content of linear functions to an authentic real-world problem. Students presented the task to destroy a hypothetical asteroid (yet entirely possible) that was heading towards Earth. There were three different launch points to deploy a missile, each with different rates of acceleration. Due to the fact that students were not provided prior knowledge as to what intersections mean, students were required to analyze, discuss and compare linear functions. In two short days, students discovered, through collaboration, the best way to destroy the asteroid! More importantly, students discovered what it meant for two situations to be equal in multiple representations. Even with a class comprised of 94% who did not pass the 7<sup>th</sup> grade math EOG, students were able to effectively communicate their reasoning. In my classes, all students can and do learn at rigorous levels, regardless are previous challenges!

Rigor and relevance that are consistently integrated in lessons proves to students that they really can understand math and why it works the way that it does! The confidence that students develop through exploratory lessons is unimpeachable! Students are less concerned about being right, and more concerned about working together to solve a problem. As we close another school year, teachers often find themselves comforting students who did not perform as well as they would have hoped on the EOG assessment. This year, I was not faced with tears; I was faced with students who had a sense of pride, accomplishment, and success! Students mastered the content, and they refused to let one test determine the memories and growth that they made in one year! After calculating the growth made in my three 8<sup>th</sup> grade math classes, one class grew an average of 3.12 scale score points, another grew 3.06 and the last grew 1.77 points! I am confident that students will move to high school with mathematical reasoning skills that will continue to develop the growth of each child!