Teach the Language of Math

WITH ANN DECHENNE

Class Objectives

OBJECTIVE 3

Students will familiarize themselves with academic language and how it supports learning.

Academic Language

There could be courses and more courses on academic langauge. For the purposes of this course we limit our discussion to a brief overview and how academic language plays out in the math classroom.

Academic Language Defined

Academic language is a set of words, grammer, and organizational strategies used to describe comples ideas, high order thinking processes and abstract concepts.

Academic Language

Academic vocabulary & academic langague is an important aspect of students comprehension. Students in math classes may be able to do math programs perfectly in the praical lessons but the minute the problems are moved towards application involving more langauge students continued to struggle.

Academic Language

There was a time when the belief was to simplify language to help students learn however that doesn't serve the students. Students need to learn the langauge of math. Amplify not simplify.

Academic Language

Teach the language. The lessons need to be comprehensible; if students undedrstand the words, truly learning the skills will be easy. Providing them with a solid langauge base will help them in future classes as well.

Academic Language

Simply modeling how to do the math problem on the white board and then having students work on problems or avoiding using mathematical terms, does more harm in the long run.

Academic Language

Many texts use a lot of synonyms. Take a look at your lesson adn be aware of your speech. A conversation abut synonyms may be beneficial.

Academic Language

According to Jeff Zwiers, math can be more challenging than any other subject. There is less overlap with vocabulary concepts and theories used in different fields of study. There are specific vocabulary words used solely in math.

Academic Language

A student has to develop the ability to read and use a variety of symbols. In problems, a variety of symbols, numbers, letters, images, and words are frequently combined.

Academic Language

In math, students also need to read left to right, right to left, up and down, along with symbols. Sentences are made up of more than words from the alphabet. Graphs and tables need to be read and understood as well.

Academic Language

Math texts feature a higher concentration of abstract ideas than other academic texts. The brain has to work with more concepts in each sentence. Each word or phrase in a math texts must be understood since the texts are interconnected.

Academic Language

learning is best when it hits the four domains: reading, writing, speaking, and listening. Many time speaking and listening are overlooked by teachers, presenters, and textbook companies. Both are vital to comprehension and memory.

Academic Language

Hint: to help students use or expand their speaking or writing, provide them with short scripts or sentence starters. This will help reinforce and solidify their language knoweledge but it will help them speak as well.

Class Recap

POINT 1 🔍

Math langauge is complex but not impossible for students to learn

POINT 2 🔍

Focus on language helps build knowledge for future courses.

POINT 3 🔍

Students need to use the langauge to effectively learn it.

Homework

Please write a reflection (1-2) pages on what you have learned, anything that may have been a surprise, and your thoughts on what this may mean for your teaching. This is an excellent place to pose questions you haven't expressed, things you wonder about or maybe need clarification on. Questions will help me make the course better.
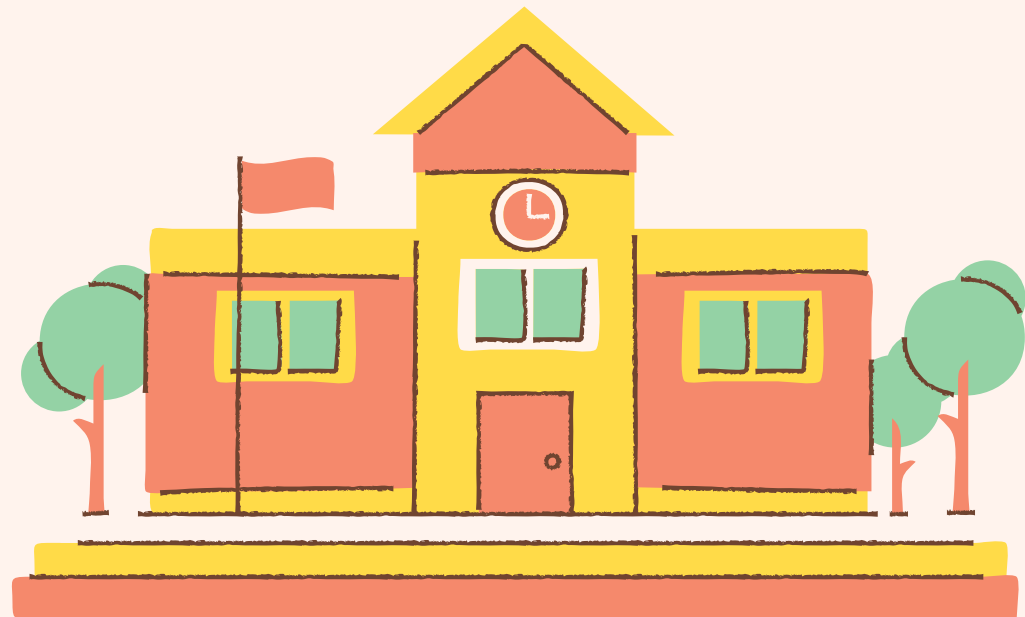
Additional Resources

Scarcella, R. (2003). Academic English: A Conceptual Framework.https://escholarship.org/uc/item/6pd08

Zwiers, J. (2013). Building academic language: Essential practices for content classrooms, grades 5-12. John Wiley & Sons

Thank You

IF YOU HAVE ANY QUESTIONS PLEASE
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