



Thank you

FOR YOUR
INTEREST IN
CORWIN

Please enjoy this complimentary excerpt from Transform Your Math Class Using Asset-Based Teaching for Grades 6-12.

[LEARN MORE](#) about this title!

WHAT'S THE ROLE MATH CONTENT PLAYS IN FOSTERING ASSET-BASED LANGUAGE?

As we saw in the opening of this section, the language that we use as teachers and the language students use in talking with us and their peers can foster more asset- or deficit-based perspectives in our classrooms. The words we use, how we use them, and when we use them can position students as capable of knowing and doing mathematics. The what, how, and when of language can potentially make students feel like they should have known a particular idea, that they've described a mathematical idea in an incorrect or improper way, or that they should have remembered something in the moment that they did not. All of these examples can result in students developing a deficit-based perspective.

And our responsibilities as teachers goes beyond the language that we personally might use. Students might use mathematical language in ways that can foster deficit perspectives. This might be intentional at times, such as when a student might correct another with a more mathematical term to appear smart or exert interpersonal leverage. But more commonly these experiences are likely to be unintentional. In using mathematical language that is natural to them but may not be shared by others, a student can unintentionally create a *big rock* situation that shuts down further engagement. As teachers, we need to be thoughtful about how to navigate, and sometimes even disrupt, mathematical language that surfaces in conversation to ensure that each and every learner sees a path forward for themselves to develop new understandings.

Let's look at asset-based mathematical language in the following three ways:

1. Let's think about how we as teachers can position math vocabulary and terminology in our classrooms. This includes the situations directly under our control (*how* we use math terms and *when*) and those that are not (how we respond when students do—and do not—use mathematical language).
2. Let's think about how we handle language when math ideas get more complicated and the terms become increasingly dense and complex. This generally happens as we move into middle and high school, but there are lessons about this idea for every grade level.
3. We'll bring these first two ideas together to help us think about specific teaching actions that allow students to leverage assets. The end goal will be to think about what we want students to walk away with in terms of mathematical language and how we can best facilitate that goal with understanding behind that language.

Throughout this chapter, we're going to pay special attention to multilanguage learners as this population has a particular intersection with the idea of developing academic language. The approaches and tips we share here will benefit all learners, but we also highlight ways in which strategies will be particularly helpful for multilanguage learners. We also provide some additional discussion in the Digging Deeper section. Math terms and math talk have special implications for these groups, and we'll think together about particular actions that work well to support their learning.

But first, a word about our use of language going forward. Already in this chapter, we've talked about math content words and phrases as:

- vocabulary,
- terminology, and
- academic (or mathematical) language.

Sometimes we use these flexibly and interchangeably in our everyday talk, and that's fine! For the purposes of this chapter and book, we'd like to share the key distinctions between these ideas so that *we* have a shared understanding and the terms can help us focus on aspects of language in our classroom and how they can support us in leveraging assets (see Table 2.1).

TABLE 2.1 Understanding the Words We Use to Talk About Math

MATH CONTENT WORDS	DEFINITION	EXAMPLE OF USAGE
Vocabulary	the words used in a particular context	We frequently use vocabulary to connote unfamiliar or new words.
Terminology	terms with a specific technical meaning in a field of study	This is an important distinction in math—we have some words specific to the domain, like <i>hypotenuse</i> , and others that have both mathematical and nonmathematical meanings, like <i>function</i> .
Academic language	the language needed by students to be successful in schools , including oral, written, gestural, and visual representations and the customs and norms of a discipline (Halliday & Webster, 2003)	Vocabulary and terminology are a part of academic language, but it's so much more! In mathematics, it includes the grammar and syntax we use to communicate about math and the culture of how mathematics is discussed and represented. It's important to note that gesture and visuals are important parts of academic language, too.

When we discuss language in this chapter and throughout the book, we'll most commonly be referring to *academic language*. This term is inclusive of both the particular words we use and how and when we use them. The broader context and the explicit inclusion of gestures and representations will help us think as broadly as possible about asset-based approaches to language. Academic language, as you notice, is also inclusive of vocabulary and terminology. When we use those words, we'll be using them in the specific ways they're defined above. We know these two ideas are important too—students need to learn how to use math-specific terminology and vocabulary, particularly for words that have meanings in both colloquial language and math that may be different.

© Corwin, 2024