

Why Writing about Mathematics Matters in the College Classroom



Ingrid Peterson, University of Kansas; 785-864-7319; ipete@ku.edu
Susan Gay, University of Kansas; 785-864-9676; sgay@ku.edu



Recommendations from the National Council of Teachers of Mathematics (NCTM), the Mathematical Association of America (MAA), and the Common Core State Standards (CCSS) emphasize the need for students to be able to communicate mathematical ideas in oral and written form. In particular, when students communicate in writing about mathematical ideas, they make “their mathematical thinking visible” (Whitin & Whitin, 2000, p. 2) to others.

In our college algebra classes and mathematics classes for elementary and middle school preservice teachers, we use various types of purposeful writing about mathematical ideas. The responses provide valuable insight into our students’ mathematical thinking about concepts.

Example writing assignment in a mathematics course for elementary and middle school preservice teachers:

- Consider a right circular cylinder and a right rectangular prism. Compare and contrast these two shapes by describing aspects they have in common and ways they are different. Be thorough by including at least three commonalities and at least two differences.

Example writing assignment in a college algebra course:

- Does the following statement make sense? Explain your answer: Every line in the rectangular coordinate system has an equation that can be expressed in slope-intercept form.

Types and settings for our writing tasks

1. Compare and contrast.
2. Analyze correct or incorrect fictitious student work.
3. Justify whether a claim makes sense or does not make sense.
4. Create a personal concept definition.
5. Summarize the main ideas in a unit.
6. Create a word problem using given information.
7. Describe a mathematical object.
8. Self-monitor or self-reflection.

Whitin, P. and D. J. Whitin 2000. *Math Is Language Too: Talking and Writing in the Mathematics Classroom*. Urbana, IL: National Council of Teachers of English.