

SITUATIONS PROJECT

A collaborative project of the Mid-Atlantic Center for Mathematics Teaching and Learning and the Center for Proficiency in Teaching Mathematics

Introduction

The situations project is an attempt to characterize Mathematical Knowledge for Teaching (MKT) at the secondary school level. In doing so, we begin with examining episodes of classroom practice and develop the MKT from discussing the mathematics relevant to those episodes.

Definitions

Prompt: The prompt sets the stage for the mathematics of the situation by briefly describing an event from teaching practice. Teaching practice includes preparing, implementing, and reflecting on classroom instruction. The instruction can be either in secondary mathematics or in the preparation and professional development of secondary teachers.

Commentary: The commentary serves as an advance organizer for the collection of foci; it highlights mathematical ideas important for situating and addressing the prompt. It serves as a bridge between the prompt and the foci in the context of a broader understanding of mathematics.

Focus: A focus presents a particular aspect of mathematical knowledge for teaching at the secondary level that is relevant to the prompt. Mathematical knowledge for teaching includes concepts, processes, representations, solution methods, interpretations, types of reasoning, properties of mathematical objects, and definitions. Each focus starts with an *italicized statement* that captures the major mathematical idea underlying the focus.

Set of Foci: A set of foci provides examples of the range and depth of mathematical ideas associated with the prompt.

Tentative Guidelines for foci:

- Each focus should bring in something different;
- It is acceptable for foci to have overlapping ideas;
- The foci should communicate to someone in our audience—someone who has a minimum of mathematics background equivalent to that of someone with an undergraduate degree in mathematics or mathematics education;
- The foci could possibly include cross-references to other foci in other situations;
- The foci can “unpack” the ideas to make explicit relevant mathematical knowledge and draw attention to mathematical ideas that are implicit in the prompt;
- The goal is to try to emphasize mathematics relevant to the prompt as distinct from what the teacher might do in response to it.

Situation: The situation includes all parts, including the prompt, the commentary, the collection of foci with italicized statements, and sometimes a post-commentary.