

## SITE Input to AMTE Mathematics Education TPACK Standards

Margaret L. Niess  
Oregon State University  
Corvallis, Oregon, USA  
[niessm@onid.orst.edu](mailto:niessm@onid.orst.edu)

Kathryn G. Shafer  
Bethel College  
Mishawaka, Indiana, USA  
[kshaferlax@aol.com](mailto:kshaferlax@aol.com)

**Abstract:** This panel continues a task started at the Association of Mathematics Teacher Educators' 2008 annual conference, in which the technology committee began work on the development of TPACK standards for mathematics education. The goal is a set of standards, which extend the *National Educational Technology Standards for Teachers: Preparing Teachers to Use Technology* specifically to mathematics content in order to support teaching with technology, pedagogy, and content knowledge (TPACK). This year's panel will describe and disseminate a working draft of the mathematics teacher standards and will solicit feedback and discussion from the audience. Mathematics educators are encouraged to attend.

*The National Educational Technology Standards (NETS): The Next Generation* delineates six standards for students in a digital world (International Society for Technology in Education (ISTE), 2007). These standards provide coherent goals for general technology use by K-12 students but do not address the specific content areas. Additionally, ISTE developed the NETS Teacher Standards (2002) that describe standards for all teachers to meet in order to guide students in learning in the spirit of the NETS Student standards. Again, these teacher standards provide coherent goals for all teachers but do not address specific content areas such as mathematics. In order to better guide the development of future mathematics teacher preparation, the Association of Mathematics Teacher Educators' (AMTE) Technology Committee set the goal of developing mathematics teacher technology standards during 2008. Technology standards specific to mathematics will then support the development of specific teacher education guidelines for mathematics pre-service and in-service education programs, a future goal of AMTE.

The National Council of Teachers of Mathematics (NCTM) summarizes the importance of technology in its guiding principles, stating that "Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning (2000, p. 24)." Berkas and Pattison (2007) comment on the present state of technology use in an article titled *Technology: The Unused Possibilities*. They observed substantial changes in many middle schools and high schools due to the use of handheld calculators but also noted that publishers continue to neglect incorporating calculators into the curricula. They also noted a lack of calculator use in elementary schools or as a tool for struggling students. These observations point to the fact that key players in the mathematics education community are still debating when and how to use calculators. Innovations in educational technology have moved far beyond the use of handheld calculators, but if we look at calculator use as a litmus test when observing current practice, much work is still required. This realization underscores a call for members of organizations like AMTE and SITE to work jointly on the development of specific technology standards that support the teaching and learning of mathematics from the thinking and reasoning of teachers' technology pedagogy and content knowledge, known as TPACK (previously called technological pedagogical content knowledge or TPCK).

### References:

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