



OMSC's Statement on the National Council of Teachers of Mathematics Principles and Standards for School Mathematics

The Ohio Mathematics and Science Coalition sees the National Council of Teachers of Mathematics (NCTM) “Principles and Standards for School Mathematics” (PSSM) as complementing the forthcoming OMSC Vision document. Neither document prescribes a detailed curriculum or course of study, but both offer a vision of mathematics education in which content, pedagogy, assessment, technology, teacher preparation, school policies, and public support are aligned, with a focus on providing the best possible conditions for student learning.

Some particular strengths to be noted in PSSM include:

- The openness of the process by which it was created. Input was received from more than a dozen review groups, representing a broad spectrum of mathematical scientists and educators. NCTM received and considered 650 individual reactions and 70 group reactions to a 1998 draft of PSSM. The Standards 2000 Writing Group included professional mathematicians, mathematics educators, administrators, and classroom teachers.
- The constancy of the six principles, five content standards, and five process standards across all grade bands helps to promote an articulated pre-K to 12 curriculum, similar to what is envisioned in the Ohio Model Competency-Based Mathematics Program.
- The narrowing of grade bands to create more appropriate developmental breaks and the inclusion of pre-Kindergarten to make four bands: PreK-2, 3-5, 6-8, and 9-12.
- Suggesting benchmarks and making explicit the expectation that students should possess certain understandings by the end of a particular grade band and be ready to “move on.”

- **The insistence that conceptual understanding and procedural fluency (algorithmic competence) are equally important and go hand-in-hand. The interweaving of content and process standards.**
- **The interweaving of content with specific implications for teaching and the teacher’s role in student learning.**
- **PSSM has been informed by recent research in mathematics education, such as TIMSS, the Liping Ma study, and “The Teaching Gap.”**
- **NCTM has produced or is developing additional resources to complement and support PSSM. Among them are: E-Standards, Illuminations (including investigations, reflections, resources, and lesson plans), an Outreach Kit, and the NCTM Academy for Professional Development.**

Any document as long and as comprehensive as PSSM is bound to have its detractors. In particular, we may hear complaints about:

- **The emphasis on appropriate use of technology (calculators and computers);**
- **The inclusion of strands formerly associated with higher grades (e.g. algebra, geometry, and probability) even in the lowest grade bands;**
- **The expanded vision of “basics” to include much more than algorithmic proficiency;**
- **The lack of specificity as to lists of topics to be included in each grade;**
- **The insistence that the goals of mathematics education include more than correct answers.**

The Ohio Mathematics and Science Coalition supports this document in principle and welcomes it as another resource to guide the work to create a shared vision and a coordinated plan for continuous improvement of mathematics and science education in Ohio.

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