

# THE SEEING MATH TELECOMMUNICATIONS PROJECT

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The greatest challenge created by the new standards is that effective implementation requires teachers to make fundamental changes in teaching practice, acquire a deeper understanding of content, and become familiar with technology. If the nation is to benefit from the increased student learning promised by the new standards, and for the standards to function as intended, an intensive teacher professional development effort is urgently needed for all teachers.

This new teacher knowledge is not easily acquired. A sustained program of teacher professional development is needed that uses excellent teaching strategies and provides flexibility and a wide range of specific information. The professional development must not only impart good teaching strategies, but should use and model them as well. Passive teleconferences and videos, lectures, abstract discussions of pedagogy divorced from content, and generic workshops are of little use. Teachers need to be actively engaged in their learning. They need opportunities to practice and reflect together. And they need content adapted to their interests and needs. The required professional development must be affordable, accessible, and applicable. For poorer schools, pricey workshops, expensive video libraries, and courses at distant institutions might as well not exist. The time constraints on teachers further require that effective teacher learning that efficiently addresses national and local content and teaching standards should be available anytime, anywhere.

The Seeing Math project is based on the premise that two new technologies—interactive video case studies and online seminars—used together, can make a significant contribution to the needed teacher professional development.

One key innovation of this project is the use of highly interactive online video case studies for teachers. Each case study will consist of approximately 30 minutes of video vignettes and narrative, and links to standards, student work, commentary, self-assessment tools, and other resources that can be delivered over the Internet.

To make full use of the case studies, they will be integrated into graduate level short courses or NetSeminars for teachers. Each NetSeminar will be based on a few case studies and address key standards-based teaching and content concepts. A NetSeminar will require 25 hours and carry two graduate credits. Each will be suitable for both online and face-to-face use and will feature opportunities for teachers to reflect, practice, and improve their teaching skills, content knowledge, and proficiency with technology. This combination of video case studies and NetSeminars will create a

highly interactive and reflective learning environment that is inexpensive and universally available.

We know that video case studies are a powerful foundation for teacher professional development. Yet, for all its impact and value to teacher professional development, video always has the danger of being a passive and inflexible medium that might be too fast for one teacher and too slow for another. This project will pioneer the wide-scale deployment of case studies that can avoid the passivity of the medium because they are interactive. These interactive case studies and the NetSeminars that use them will have far wider availability than most other case studies, being available 24 hours a day, every day, anywhere there is Internet connectivity. This represents a highly innovative approach to teacher professional development that can be effective, convenient, highly targeted, and inexpensive, with important implications for teacher development in all disciplines and at all levels.