PROJECTS

Edited by Kristin Povlitz-Frang, kfrang@phm.k12.in.us, Penn High School, Mishawaka, IN 56545

Tools for Understanding

The mathematics education community is continuously examining different ways to incorporate computer technologies into classroom instruction. The impact of calculators on the curriculum is well documented, particularly at the secondary level. The uses of common office-suite software such as spreadsheets and word-processing programs generally receive less consideration in the instructional literature.

The Tools for Understanding Project was created in conjunction with a grant from the U.S. Department of Education, Office of Special Education Programs, and with assistance from Microsoft Corporation. The central intent of Tools for Understanding is to move students toward varied but integrated experiences with the kinds of literacies required for success in the current and future workforce. Materials available on the Web site function as a supplementary curriculum that enables students to see how mathematical concepts are applied in ordinary contexts. Teachers can use spreadsheets to enhance student understanding of mathematics concepts, as well as pose school-based problems that require them to use a spreadsheet for data analysis. Tools for Understanding provides a number of exemplary lessons that take teachers through the necessary steps of introducing complex problems, setting a direction for data gathering and analyses, structuring a summary of the analyses, and using a word processor to communicate the findings to an authentic audience, for example, in a memo or brief written report.

A final component of the Web site is designed for teachers with little experience with (or access to) technology. The purpose of this strand—math journaling—is to increase students' reflections and discussions in the classroom. The strand contains explicit guides for using math journals on a daily basis. In the pilot efforts, students worked individually or in pairs on problems. They can then use their journals to make notes or drawings or to write brief explanations. These uses of journals can lead to substantive changes in teacher-student interactions, since they can become "talking points" in classroom discussions.

Feedback from teachers around the country suggests that not only do the materials on the Tools for Understanding Web site (www.ups.edu/community/tofu) help them incorporate readily available technology in school labs into their mathematics instruction but the journaling ideas on the site provide a useful method for increasing class discussions and conceptual understanding.

For further information, contact the project directors, John Woodward, School of Education, University of Puget Sound, Tacoma, WA 98416; or Juliet Baxter, College of Education, University of Oregon, Eugene, OR 97405. ∞