Park Record (Park City, UT)

July 11, 2006
Section: Education

Math is elementary for Deborah Ball

Dale Thompson, Of the Record staff

Eager fifth-graders plus Deborah Ball equals the Elementary Mathematics Teaching Lab at this year's annual Park City Mathematics Institute summer session. Ball, Dean of the School of Education at the University of Michigan, is interested to learn what teaching approaches are most effective when it comes to elementary math instruction.

In an effort to do this, 21 fifth-graders from around the Park City School District volunteered to participate in her Elementary Mathematics Teaching Lab. Over the course of this week they will work out problems she assigns to them as professors and graduate students from around the country observe her work.

"It's like a laboratory and we're trying to see what the central mathematics issues are," said PCMI Director Herb Clemens said. "It's kind of a discovery through doing."

During the 2-hour class, students work a variety of problems and volunteer to explain how they reached their solutions. Sometimes they work alone or collaborate. Ball said the latter helps them view problems from a perspective they might not have considered before.

The session is taped and later discussed by those who observed her class. Effective practices and potential mistakes are pointed out along with the level of student comprehension. The tapes will be used later as teaching tools for instructors.

Students do their work in journals, which are also reviewed. In the evening they are given homework assignments designed to look at areas of understanding. For example, when Ball wants to see how much the students are learning as individuals, their homework assignments will specify they should do a particular problem with no outside help.

Sometimes the students are allowed to collaborate in an online chat room that has been set up for them to use.

"I'm experimenting, what are some things to do to engage students in these activities," Ball said.

They include hands-on work and even a problem Ball assigned that has no solution.

"They're edging up on being able to prove they can't solve it," she said adding it is a huge accomplishment because they will be able demonstrate how they reached that conclusion.

A lot of emphasis has been placed on the process students work through and their ability to explain it, said head of the Colby School and participant Amy Fehlberg.

"It's a pretty neat opportunity for these kids, these are top notch teachers from all over the world," Fehlburg said.

For her, Fehlburg said, the conference is a wonderful opportunity to share ideas about the best approaches to teaching math.

"For me, (it brings) more clarity about asking better questions," she said.

Shari Ann Reed from Penn State was there observing, and hoped to walk away with tricks of the trade from Ball.

"I am really focused on Deborah's moves as far as teaching," she said.

Reed added that many people believe teaching math at the elementary level is a fairly simple task, but it requires teachers to have a broad understanding of the subject so they can address student questions from all angles.

"Kids do stuff differently from grown-ups, you have to keep on your feet," Ball said.

Darrell Earnest, a graduate student from UC Berkeley is here for another reason. He is observing Ball's lab to learn more about the way ideas travel in a classroom.

"It provides us an opportunity to think about what's being picked up on, what isn't, and why," Earnest said. "We're really trying to get a better understanding of student thinking and teaching practices."

As he observes the students, all at differing levels of understanding in fifth-grade math, he will focus particularly on how well they grasp fractions.

With the variety of people attending the conference Reed noted it is a wonderful networking opportunity where math students and professionals can share ideas.

(c) 2006 Park Record. All rights reserved. Reproduced with the permission of Media NewsGroup, Inc. by NewsBank, Inc.