

## A TEACHER'S TESTS CAN CHANGE

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In this paper I want show how one teacher's tests changed over a period of four years. This case study is part of my doctorate, in which I wanted to show that if elementary school mathematics teachers were provided with good assessment tasks and were taught how to analyze their students' work on such tasks, then their mathematics teaching would improve. (Albert, 1999) I collected data on their teaching by questionnaires, interviews, and samples of assignments and tests.

This teacher was involved in an in-service project which put emphasis on changing the teachers' vision of mathematics. Mathematics assessment was not a part of this project. I had decided that School-based Assessment would be introduced first to the principals, and then to all mathematics teachers - not just the leading ones participating in the weekly workshops. In December, 1996 a workshop was held for the elementary school principals where they solved a mathematics investigation task, discussed its characteristics, and were introduced to other tasks and samples of student work. They were shown how these tasks enable teachers to assess students' mathematical achievements in a broader way than is possible with single-answer tests. During the spring term, I ran three workshops for **all** fourth through sixth grade mathematics teachers.

On the first questionnaire of this workshop, this teacher who I will call Sarah gave an example of an assignment which required students to explore fractions and use manipulatives to do this. Compared to other teachers not participating in the project, this task showed Sarah was teaching more in the direction of reform mathematics. Yet the test I collected from her that spring was extremely conventional, with twenty-six short exercises and two standard word problems. Thus there was no correlation between the way she was teaching and the way she was testing.

Four years later, the test Sarah brought me was radically different. It included different types of mathematical processes, not just calculations. It not just permitted the students to use manipulatives, but encouraged their use, and required generalizations based on this use. There were also questions requiring verbalizations and justifications. The way Sarah talked was different too. Her explanations of the test questions showed understandings she had not previously applied in her assessment tasks.

Albert, J. (1999). Motivating teachers to use alternative assessment.  
In O. Zaslavsky (Ed.). *Proceedings of the 23<sup>rd</sup> PME Conference*, Vol. 1, p. 337,  
Haifa, Israel.