

A TEACHER EMPOWERMENT PROGRAM- A MODEL OF TEACHING

Ronith Klein, Ronit Bassan-Cincinatus , Malka Sheffet

Kibbutzim college of Education, Israel

A new curriculum for teaching elementary school mathematics is being developed in Israel. The new curriculum stresses (in light of the NCTM 2000 standards) inquiry and investigation in learning mathematics, learning for understanding, using connections among mathematical ideas, applying a variety of appropriate strategies for problem solving and developing number sense.

The ministry of education requires that from now on all mathematics teachers be specializing in mathematics (mathematics being the main subject they are teaching) starting already at the first grade of elementary school.

In light of all the above, a broad in-service program for the empowerment of elementary teachers is being processed aimed at disseminating the reform. In a former PME paper, Becker (2001) pointed out that there is little information available about the design features of in-service programs which maximize changes in teacher practices.

A model for enhancing teacher development was designed for the in-service program. In our short oral presentation we will describe this teaching model that we use throughout the in-service program for each teaching unit. This model will be demonstrated on a specific unit dealing with numbers and operations. A task (of an inquiry type) will be presented. We will describe the mathematical objectives and content and its suitability to the various goals of the new curriculum.

The process the teachers underwent will be described, starting with working on the given task, finding various appropriate strategies for solving it, using different types of reasoning, methods of proof and documentation, recognizing and making connections among mathematical ideas and reflecting upon the process of problem solving. Then, adapting the problem to their class level, presenting it in class, evaluating students' work and documentation, promoting students' discourse and monitoring students' discussions and debates.

Teachers' activities as well as students' work will be presented and linked to the knowledge required for teaching (Shulman, 1986).

References

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Shulman, L. (1986). Those who understand: Knowledge Growth in Teaching. Educational Researcher, 15 (2), pp 4-14.
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