

TEACHERS' PRACTICE AS A PROBLEM SOLVING ACTIVITY

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This presentation, based in a larger investigation (Santos, 2000), focus on the professional problems posed by mathematics teachers in a process of curricular change. Many authors have proposed to regard professional practice as a problem solving activity. Dewey (1910/1997), associated thinking to problem solving, Schön (1991), spoke about professional problems and their ill-structured nature. In this study, I tried to understand more deeply the characteristics of the problems that teachers daily face and solve in individual and collaborative contexts of practice.

The study methodology stands on an interpretative approach, using case studies. A secondary school was selected where three teachers planned to work collaboratively, applying for the first time a new mathematics program in their 11h grade classes. Data was gathered by observing collaborative work and each teacher's classes, carrying out reflective sessions concerning these classes and in interviews.

Results strongly suggest that professional problems are ill-formulated and ill-defined. They are progressively reconstructed and understood by teachers along their work. In the collaborative context, the problems are range over a great variety of contents (mathematics; didactics, organizational) and are marked by their global character — normalization is valued. Their starting point is the curriculum and the end point is the practice; some of them enter in the public domain. In the individual context we find that problems are centered on the didactical knowledge. They are very specific and particular — singularity is valued —, starting and ending in practice, while curriculum has a guiding role, and they belong to the private domain. The main processes used are analysis, consultation and “living with the problem”. The extent to which problems identified in the collective working context are solved much greater than that found regarding the individual context.

References

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