

TITLE:

Joint reflection in pre-service primary school mathematics teacher training

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Abstract: The thesis focuses on the potential of development of pre-service and in-service teachers' self-reflection as one of the ways leading to development of pedagogical content knowledge. The thesis starts with definitions of the background concepts (teacher competences, pedagogical content knowledge, reflection, self-reflection, joint reflection). Also, as the experiments were carried out in the environment of fraction, the introductory part discusses issues related to interpretation and representation of fractions and sources of problems with fractions, their interpretation and representation. The first aim of the research was to monitor the quality of teachers' reflections. The subsequent goal was, on the basis of findings of this monitoring, to look for ways leading to refinement of this reflection. When monitoring and developing reflections, the main method used was the method of joint reflection of a video recording of a lesson. However, other methods were employed simultaneously (observation, group interview). Materials collected in the experiments (students' production, students' statements, personal notes from the course of the experiments etc.) were analyzed using the techniques of grounded theory modified for the research purposes. The progress of joint reflections was modified during the experiment in order to pinpoint the conditions of joint reflection of a video recording under which phenomena signalling conscious and intentional self-reflection of one's own activity could be discerned in the participants. The result of the research is the identification of these conditions and on the basis of these conditions proposition of the sequence of steps of implementation of joint reflections. In the concluding part the author considers the use of the proposed steps in pre-service teacher training.

Keywords: teacher competence, pedagogical content knowledge, self-reflection, joint reflection