

CHANGING PROSPECTIVE MATHEMATICS TEACHERS' CONCEPTIONS ON ASSESSMENT: A TEACHER TRAINING STRATEGY

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We present a strategy for training prospective Secondary mathematics teachers which is based on a socioconstructivist view of teaching and learning mathematics and of teacher training. The strategy consists of four stages: posing a professional problem to students (contextualization stage); asking them to take a stance on the problem (positioning stage); confronting different positions within the class community (internal confrontation stage); confronting students' positions with theoretical and curricular approaches (external confrontation stage); and reconsideration of initial stances (reconstruction stage).

Following this strategy, we proposed our students to design assessment tasks for their future pupils by means of which they could value their degree of understanding in two mathematical topics: numbers and area measurement. The development of the strategy allowed us to detect students' conceptions on mathematics assessment, to characterize their evolution along the implementation of the strategy, and to identify some factors that can influence that evolution.

From the analysis of four students' cases we can advance some results. The first assessment tasks that students design respond to traditional parameters: mechanical processes, short answers, non-contextualization or connexion to real life, non-reference to attitudinal elements. Our students consider that in order to assess their pupils' understanding they must check whether they master facts, concepts and arithmetic skills. At the final stage of the strategy, students evolve to consider open tasks that allow pupils to show personal solving processes, are more connected to real contexts and incorporate attitudinal elements. This is more evident in the topic of area measurement. Among the factors that could have influence the students' evolution we can mention: their attitude towards new approaches in mathematical education, the training strategy (mainly the theoretical instruments provided in the fourth stage), and their previous didactical and mathematical training.

References:

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