

**VALIDATIONS AND REASONING IN MATHEMATICS: THE ROLE OF ANTICIPATION AS A  
FRAMEWORK FOR TEACHER INTERVENTIONS**

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Research in mathematics education is often interested in studying conditions for the development of experiences that comprise new ways of thinking the teaching. In this scenario the design of a teaching program is usually part of the question and appropriate methodologies are often qualitative. As noted by Artigue (2015), "the results take the form of existence theorems in their positive ways." My purpose in this talk is to present and analyze the characteristics of a device, I will call it "El Taller", developed to generate good conditions among teachers participating in a research project in which teachers themselves - their activities, their classroom management - were part of the study object.

Research on teaching and teachers and their practices are not supported, in general, by an important work with teachers (Roditi, 2015). This research (Duarte, 2011) intended, on the contrary, sustaining a long and intense period of work (of eight months) in which a collaborative study group was established between teachers and researchers and didactic-mathematical content was collectively produced.

"El Taller" was indeed a parallel field to the field "Teachers classes" during the investigation. It was, first, a research tool: the purpose of problematize the teaching as well as anticipate scenarios of class was central; but at the same time, it became a research object: we wanted to study the role of anticipations as a framework for teacher interventions. The question we want to set here is: what is needed to be considered as essential or appropriate for this device in order to constitute a powerful tool for both teaching and research?

I propose to reflect on the establishment of a common frame of reference between teachers and researchers, the role played by "theoretical working phases" where theoretical questions took our attention through study of educational issues related to teaching, and the role of other "practice working phases" where the practice was privileged through the design of math problems and the relate of "classroom stories" of each teacher. This latest activity was essential to reveal the personal project of the participant teachers (Sadovsky, 2005). This device promoted a special intended teacher and this fact will be at the center of this lecture.

**References**

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