

Chaos, control, and need: Success and sustainability of professional development in problem solving

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Abstract: There is much research into what makes for a successful program of professional development (PD) in mathematics education, but considerably less information about the sustainability of these programmes. I will present some results of my Fondecyt post-doctorate research into the experiences of teachers in the 18 months after their completion of a program of PD in teaching collaborative, non-routine problem solving. Fifteen teachers who completed the course in 2015 volunteered to participate in the research which involved responding to a series of reflective emails throughout 2016, a semi-structured interview in 2017 and two classroom observations. In particular, I will present the case of one teacher who initially demonstrated very good application of the problem solving activity and overcame many contextual constraints articulated by other teachers. She performed a professional identity and was willing to change her practice. However, in a subsequent observation her teaching was dramatically different, incorporating instead an alternative program of PD. I will discuss the contrasts and conflicts between *chaos* and *control* in the teaching of problem solving and the role that teachers *needs* play in PD.