

A Mathematics Teaching Framework and leveraging change: Possibilities and limits

Abstract

Over the past decade I have directed a research-informed mathematics professional development (PD) project focused at the lower secondary school level, particularly Grades 8 - 9. We have worked with teachers in poorly resourced school contexts serving low income communities and unsurprising widespread low attainment in mathematics. We have engaged the problematic of what and how to intervene in such contexts so as to lever change, in particular improved mathematics learning outcomes for students, through teacher professional development. Threading through this work has been an underlying starting assumption that leveraging change is a function of access to resources, and thus the teacher-resource relationship. We have built on a conceptualization of resources as including material, cultural (including language), social (Adler, 2000) and knowledge resources (Adler, 2012) as well as the notion of resource as both noun and verb. A key artefact emerging from the PD project is a Mathematics Teaching Framework, designed to enhance the teacher-curriculum resource relationship and mediate improved mathematical coherence in their teaching. In this seminar I will share key results from the project, linking these to the emerging theorization of the notion of *relational transparency* as key to understanding the teacher-resource relationship, particularly as it pertains to teachers' use of curriculum materials, and the contributory role of an artefact like a teaching