Abstract

In this presentation, we explore new materialist ontologies in mathematics education, mapping these approaches onto theories of the body in/of mathematics. We argue that learners’ bodies are always in the process of becoming assemblages of diverse and dynamic materialities. We draw from the work of philosopher Gilles Châtelet to rethink the ways mathematical embodiment is constituted through the gesture/diagram relationship. We extend Châtelet’s ideas to the context of the contemporary mathematics classroom, and show how these ideas fundamentally alter our reading of mathematics teaching and learning. In addition, following the work of the historian of science Karen Barad, we argue that mathematical concepts and entities must be considered dynamic material, and we suggest a “pedagogy of the concept” that animates mathematics as both logical and ontological. In so doing, we grapple with the entanglement of mathematics and matter as a way of studying mathematics learning. Using video data of an elementary mathematics classroom, we will exemplify the way in which our approach offers a means of analyzing students’ material practices of doing mathematics—be it diagramming, gesturing, speaking, etc—as inventive or creative acts by which “immovable mathematics” comes to be seen as a deeply material enterprise.