Hugo Rossi*, rossi@math.utah.edu, and Margarita Cummings. The Emergence of Essentiality from Educator-Mathematician interactions in context. Preliminary report.

Over the past three years, the speakers have led a group of teachers, educators and mathematicians in the creation of materials for a middle school curriculum in mathematics. Although the CCSS provides insights into essential structures and practices, we discovered through this experience, unexpected, but essential ways of viewing structure and practice, and the way they are intertwined. These discoveries came out of the interaction between mathematicians and educators, in particular, the complementarity (and often dissonance) between their perspectives. We will illustrate this through several specific examples taken from the middle school curriculum, in geometry, algebra and data analysis. We do not believe that our experience is unique, and hope to generate a conversation on how partnership in curriculum development can improve outcomes for students, help teachers and parents better understand the mathematics students are learning, and helps mathematicians better understand how children and adolescents learn. (Received September 02, 2015)