Edith Aurora Graf*. Geometric transformations as functions: A qualitative analysis of student responses.

The work we will discuss in this talk represents a collaborative effort among four organizations: Educational Testing Service, The Algebra Project, The Young People’s Project, and Southern Illinois University Edwardsville. The goal of the project is to validate the interpretation of a learning progression-based assessment for the concept of function. A learning progression (LP) is a theory of how student thinking evolves from more intuitive ideas to more in-depth and nuanced understanding. The LP that provides the guiding theory for the design of the assessment tasks consists of three strands: the traditional strand, the finite-to-finite strand, and the geometry strand. As the lead developer of the Algebra Project’s Symmetry, Shape, and Groups curriculum module, David played a key role in the conceptualization of the LP and the review of the tasks. He believed strongly in the importance of attending to student thinking in task design. Cognitive interviews were conducted with students as they solved geometry strand tasks. In May 2019, project staff met for a working meeting to analyze student responses to these tasks. Highlights from the meeting, which honor David’s legacy of attending to student thinking in the development of learning theory and tasks, will be discussed. (Received September 17, 2019)