

1145-J5-2578

Younhee Lee* (yu1182@psu.edu), 420 McAllister, State College, PA 16803. *Developing an advanced viewpoint on school mathematics in the learning of collegiate mathematics: Through the lens of a transformative transition framework.*

This report will present the result of a study investigating the question of “how might university students come to see school mathematics from an advanced viewpoint in their learning of collegiate mathematics?” The research design involved developing a categorical framework of transformative transition, which includes four categories of growth in one’s mathematical understandings—namely, extending, deepening, unifying, and strengthening. The framework built on Piaget and Garcia’s triad and the APOS theory. A set of teaching interviews was designed to provide a setting for participants’ building on what they had previously known about factorization and polynomial equations in order to construct the unique factorization theorem for polynomials. Data collection included conducting a total of 40 interviews with six mathematics-intensive majors. This report will focus on an empirical elaboration of the categorical framework and discuss how participants enriched their prior understandings of factorization and polynomial equations by reexamining their previous assumptions and norms that seemingly had been exercised and established in their school mathematics. (Received September 25, 2018)