Comparing Secondary Teachers’ MKT for Geometry Exposed in Video and Written Representations of Practice

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The MODULE(S2) RAC is developing both video and written simulation of practice activities as one aspect of the materials being created to develop mathematical knowledge for teaching in upper-level mathematics content courses. These simulation of practice assignments engage prospective teachers in responding to mathematical thinking that is grounded in K–12 classroom practice through classroom vignettes and K–12 student work and are designed to expose the mathematical knowledge for teaching that prospective teachers hold. We have observed that differently designed activities (whether prospective teachers’ responses are in video or written form) may give teacher educators different views on prospective teachers’ assets and how to build on them. As an initial step in understanding these differences, we draw from data on 36 representations of secondary geometry teaching practice generated by prospective teachers, and address the question: In what ways do video and written representations of practice expose different aspects of prospective teachers’ mathematical knowledge for teaching? We argue that attending to potential differences in video and written representations is critical to developing prospective teachers’ mathematical knowledge for teaching from an asset-based perspective.