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Younggon Bae* (younggon.bae@utrgv.edu), **Zareen G. Rahman** (rahmanzx@jmu.edu) and **V. Rani Satyam** (vrsatyam@vcu.edu). *Virtual Group Work on a Shared Dynamic Geometry Task in an Online Synchronous Classroom Environment*. Preliminary report.

The goal of this study is to explore affordances and limitations of virtual group work on shared dynamic geometry activities via Zoom in support of preservice secondary mathematics teachers' active engagement with mathematics, technology, and group discourse in online synchronous classroom environments. In this study, three mathematics education professors collectively designed an instructional task to engage students with Euclidean transformations in a Desmos applet, followed by group discussion and presentation. The task design includes a technology tutorial for students and creation of group norms for productive collaboration in a virtual space. Groups in breakout sessions work on the task collaboratively thru screen-share in Zoom, exploring the different transformations and creating a Google presentation to report how they characterize and compare each rigid motion. We collect recordings of group discussion, presentation, and reflection on their virtual group work. In this presentation, we will share with the audience what we learned from this experience about students' challenges with engaging in this virtual collaboration on mathematical tasks and the instructor's role in task design and enactment to support students. (Received September 14, 2020)