

Student Engagement While Establishing Classroom Mathematical Practices

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There is a significant connection between student engagement and performance achievement. Klem and Connell write, “student engagement has been found to be one of the most robust predictors of student achievement and behavior in school, a conclusion which holds regardless of whether students come from families that are relatively advantaged or disadvantaged economically or socially” (2004, p. 5). However, student engagement is complex, and currently relationships to outcomes such as mathematical understanding and learning are elusive (Fredricks, Blumenfeld, & Paris, 2004; Middleton, Jansen, & Goldin, 2017). This study investigates student engagement while learning through use of an app that collected student engagement reported by participants during a classroom teaching experiment. This paper discusses preliminary results on students’ engagement in the process of learning. Though not anticipated, we observed differences between male and female students’ engagement while working in mixed-pairs worthy of investigation. In particular, we observed differences between male and female students’ engagement while working in mixed-pairs surrounding important mathematical contributions from female partners. Female students described situations in which they perceived of male partners overlooking valuable contributions towards completing tasks, resulting in dips in engagement. With regards to data collection, the app and survey effectively gathered information on student engagement, which was triangulated by students’ descriptions in recall interviews.