

ABSTRACT

This qualitative study examined what grouping methods, heterogeneous or homogeneous, motivate students the most while participating in challenging mathematics problem solving activities using cooperative learning. This study was completed at an elementary school in eastern Pennsylvania that is part of a suburban school district with a student population of approximately 3,100 students. The study involved a fourth grade inclusive classroom consisting of twenty-two students. For the purpose of grouping, the students were identified as gifted, high ability, on-level, or approaching level. All groups consisted of three to five students, and homogeneous groups were composed of a mix of gifted and high ability as one group, or on-level and approaching level students as another group. Heterogeneous groups were compiled using a mix of various levels of students. Data gathering methods consisted of participant observations, reflective memos, student surveys/questionnaires, student work, and student interviews. All data was kept in a researcher log. Over the course of four months students participated in equal numbers of heterogeneous and homogeneous activities. When students work in heterogeneous groups, student scaffolding allowed everyone to work on the same challenging open-ended problems, but when working in homogeneous groups, all students were challenged with problems differentiated to meet the needs of the varied student populations. The study documents the strengths and weaknesses of the distinctive groups, revealing the necessity of the teacher's role to be attentive to the student's needs, as students' attitudes, abilities, relationships, and social skills all affected the collaborative experience. The findings suggest while there are benefits to both grouping methods, with a slightly more favorable preference for homogeneous grouping, utilizing a mix of grouping methods may be the preferred choice as student motivation is enhanced by both.