HOW FEMALE STUDENTS’ STEM EXPERIENCES AFFECT THEIR INTEREST IN STEM SUBJECTS AND CAREERS

Chair: Richard Sawyer

The overall purpose of the study was to contribute to the literature regarding how STEM experiences affect preadolescent female students. More specifically, the purpose was to better understand the experience of 250 female fourth, fifth, and sixth grade students at a summer STEM camp and how those experiences might impact their interest in STEM subjects and careers. The study asked, how did 4th and 5th grade female elementary students experience a summer one- to four-week STEM camp? How did their self-perception change in relation to STEM subjects and careers as they attend a summer STEM camp and shortly following?

This study used a qualitative design utilizing an interpretive perspective with the view that knowledge is socially constructed from our unique vantage points based on our prior histories, interactions, and experiences. Multiple instruments were used including interviews, observation, and surveys. Six female primary student-participants were interviewed twice and observed once. Four female secondary study-participant instructors were interviewed once, and all camp student-participants were surveyed three times. Data from these instruments were explored and analyzed through a Social Cognitive Career Theory and Culturally Relevant Teaching conceptual framework. A convergent-parallel mixed method was employed in order to provide a comprehensive analysis of the research problems. Results indicated female participants had an interest in STEM subjects and careers, although less so than their male counterparts. Female participants attending camp for the first time showed the most significant growth when compared to both new and returning males and returning female participants and results maintained 6-8 weeks after the conclusion of the camp experience.