

Dr. Pauline Mosley, Information Technology
Jupiter Robots Increase Critical Thinking Skills for Young Women

Gender differences in the choice of college major are quite dramatic. First-year female college students are far less likely than their male peers to plan to major in a STEM field. This pattern is consistent across race and ethnicity. In their survey of American freshman, researchers at the Higher Education Research Institute found that 29 percent of male first-year college students planned to declare a STEM major, compared to 15 percent of female first-year college students (Higher Education Research Institute, 2012). This imbalance is part of a broader trend in computer science and engineering. Although a previously existing gender gap in the overall *use* of computers has narrowed, there are still significant differences in *how* people use computers. This lack of participation is a cause for concern. There may not be one all-encompassing solution to STEM gender equity, but utilizing robotics combined with service-learning may be the pedagogical strategy that closes this gap. This proposed research explores the effects of robotic experiences on teaching and learning of young women enrolled in CIS 102Q Problem Solving Using Robotics, a undergraduate course, and how these women react and develop critical thinking skill sets when these strategies are implemented.