

Exploration and Design: Understanding the implications of gamification on women computer science students' engagement and women-CS fit

Jasmine Batten

November 15, 2018

Mentor: Dr. Monique Ross

Abstract

SEP-CyLE is an online learning tool created at FIU as a part of an NSF IUSE Design and Development 2 project. Its goal is to determine the impact of online learning and engagement strategies on student learning, and in this study, the impact of role identity, self-efficacy beliefs, and the effect of gamification on women. Previous studies have reported mixed results of the impact of gamification on women, however, many studies have reported a positive impact of gamification in academic performance and engagement. Investigating the role of gamification on women in computer science is important to improving the representation and retention of women in computer science, a statistic that has seen a stark decline in the past few decades. The qualitative study will consist of two interviews with women participants in SEP-CyLE courses. The initial interview will be conducted at the beginning of the course to assess expectations and exploration of computer science identity and self-efficacy beliefs. Mid-semester usage patterns will be collected to explore the participants' interaction with the tool. The second interview will be conducted at the end of the semester to explore changes to identity and self-efficacy beliefs along with the perceptions of the tool's effectiveness and specific gamification elements. The interview protocol will be developed based on prior literature about identity development. Analysis of the data will consist of inductive and deductive coding through collaborative coding and triangulation between collaborators. Results will drive future iterations of SEP-CyLE to improve the effectiveness of gamification in engaging women computer science students.