

Announcing the Final Examination of Brian Zamarripa Roman for the degree of Doctor of Philosophy in Physics

Date: July 7th, 2021

Time: 11:00 a.m.

Zoom Link:

<https://ucf.zoom.us/j/96277518964?pwd=TINWeINtY00zOERmSUk4b3JDZHlQQT09>

Meeting ID: 962 7751 8964

Passcode: 326181

Dissertation title: Qualitative Reconceptualizations of Success in Physics from a Feminist Lens

Abstract: To address the critical issue of the underrepresentation of women in physics, the Physics Education Research community has focused on exploring the factors contributing to student success; however, few studies have explored what is the meaning of success in physics as seen by women and other marginalized populations. This study, guided by Feminist Standpoint Theory and Critical Race Nepantlera Methodologies, incorporates qualitative methods to explore the central question, “how do women in physics conceptualize the meaning of success in physics?”

We begin with an analysis of metaphors of success in physics constructed by nine women studying physics at a single institution, followed up with a supplementary poetic analysis elaborating on a single participant’s metaphor. These studies reveal a conceptualization of success in physics as a journey that incorporates the features of satisfactions, struggles, hope, and recognition while studying physics. After noticing a lack of representation of participants identifying as Latinas, we conducted complementary analysis of metaphors by 20 Latinas pursuing a degree in physics throughout the United States. The follow-up metaphor analysis expanded on the conceptualizations to include those of success in physics as building puzzles, overcoming gravity, peaceful landscapes, sports, and riding vehicles, among others, used to structure concepts such as learning and contributing knowledge, overcoming struggles with social perceptions, and achieving significant milestones. This metaphor analysis was followed up with a descriptive analysis of the goals mentioned by the Latina students in their discussions of success. The analysis revealed individual participants identifying a wide range of goals, with a noticeable prevalence of goals related to belonging, social responsibilities, resource provision, positive self-evaluation, self-determination, and happiness. In conclusion, this dissertation provides a wide range of conceptualizations to help guide and encourage educators engaging in discussions with students, especially those from marginalized backgrounds, about their success in physics with the consideration that success is a highly personal concept.

Outline of Studies:

Major: Physics

Educational Career:

M.S. University of Central Florida, Spring 2017

B.S. University of Texas at El Paso, Spring 2015

Committee in Charge:

Dr. Jacquelyn J. Chini (Chair)

Dr. Zhongzhou Chen

Dr. Talat Rahman
Dr. Idaykis Rodriguez
Dr. Amanda Koontz (External Committee Member)

Approved for distribution by Dr. Jacquelyn J. Chini, Committee Chair, on June 30, 2021.

The public is welcome to attend remotely.