

In Sec. ??, I wrote about the challenges in introductory math instruction. I would love to help improve results in introductory math courses, I have chosen to focus an internal DEI grant on introductory courses I teach personally. I can control the pedagogy, and polish and test the central ideas within the proposal. The inclusion and diversity committee (IDC) ultimately gave its blessing to my DEI grant. The objective is to develop a mobile application infused with machine-learning that will boost inclusion and belonging in foundational physics courses. Based on examples developed at other institutions, we will create a customized tool that will strengthen our students' skills and abilities. Diverse undergraduate experts in digital storytelling and design will drive and shape the digital presentation of content. Our application will include the voices, narrative themes, and imagery of the diverse students actually attending foundational physics courses. The result will be an open educational resource (OER) comparable to the language learning application DuoLingo, but for physics.

According to our institutional research, 25% of all white male Whittier College students select major in STEM disciplines, but represent just 10% of STEM majors at Whittier College (data selected for the period of 2019-2022). White men accounted for just 18% of all majors in disciplines tied to engineering, 10% of all KNS majors, and just 6.3% of all biology majors. Introductory physics students are mostly biology and biochemistry majors who plan to attend medical school, KNS majors who plan to attend physical therapy school, and engineering students. Bolstering student success in these courses is intrinsically anti-racist, because this large group of students is on the pathway to join and diversify fields in medicine, biotechnology, and engineering.