

270-5 - CO-OPERATIVE GAMEPLAY OUTCOMES IN OUTREACH: CHANGING STUDENT PERCEPTIONS OF GEOSCIENCE

Wednesday, 12 October 2022
2:00 PM - 6:00 PM

• *Exhibit Hall F (Colorado Convention Center)*

Booth No. 90

Abstract

Geoscientists often cite job benefits such as high income, working outdoors, and travel as reasons to pursue a career in geoscience, but these may not be as appealing to the next generation of scientists. Rather, for students entering college, altruism ranks highly as a desired aspect of a future career. Problematically, few students perceived geoscience careers as altruistic when compared to biology or engineering, and even fewer expressed an understanding of the potential career paths in geoscience. These student perceptions of geoscience may be linked to declining major enrollment. This research tests the effectiveness of an alternative form of outreach and recruitment that highlights geoscientists' roles in renewable energy, environmental remediation, and studying climate change in altering students' perceptions of geoscientists. To accomplish this, a co-operative game was developed to compliment a carbon cycle simulation by Ryan Hollister. The co-operative game adds player roles, including geoscientist, where students actively intervene in the carbon cycle with the learning goal to demonstrate that by pursuing a career in geoscience, they can work to address modern challenges, such as climate change. The co-operative game addition will be tested as an alternative outreach tool. This research is currently underway, and data will be collected at middle school, high school, early college, and community events during the 2022–2023 school year.

Surveys on student perception of geoscience will be implemented in conjunction with the game, are used to evaluate the effectiveness of alternate outreach approaches. Before-game surveys target student views on STEM disciplines' involvement with environmental and climate change challenges as well as perceptions of altruism and respect for the disciplines. After-game surveys target student perceptions of geoscience specifically. These data will be used to improve outreach strategies at NDSU and increase declared geology majors. The easy implementation of the game and survey tool without the presence of a subject matter expert or researchers also provides an opportunity for the expanded game to be used as a classroom activity and potential recruitment tool by other universities and K-12 teachers.

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