

A University-Based Summer Camp to Promote Construction Technology Career for High School Students by Armando Carrasquillo | Nipesh Pradhananga | Mario Eraso

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This presentation reports on high school students' deep learning of fundamental concepts in programming during a pilot summer program organized to promote construction-related careers, especially construction technology careers, to high school students. The program introduced concepts from programming, virtual reality, and construction disciplines to students who had little to no experience in these fields. The two-week long program utilized a project-based learning approach to increase relevance and deep learning, in addition to exposing students to learning concepts using hands-on experiences. The program brought about interest in taking an interdisciplinary approach to solving problems in the field of construction. The project succeeded in informing and enticing the students of the possibilities of using technology to solving problems in other fields. Completion of a project was the focus of the program, and required the students to design and construct a building in a virtual environment using a programming language. To construct this building as specified in the project requirements, the students had to learn programming, use proficiently a virtual reality software, utilize their spatial visualization prior knowledge, and collaborate with each other. The objective of the program was to entice a new generation of tech-savvy students towards construction. By adding more technologically fluent minds in the field of construction, these minds will eventually expedite technological adaptations in the construction industry.