

Analysis of Initial Entry-Level Technology Course Impacts on STEM Major Selection

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Abstract : This research seeks to answer whether first-year courses at institutions of higher learning can impact STEM major selection. Unlike many universities, an entry-level technology course (often referred to as CS0) is required for all United States Military Academy (USMA) students-regardless of major-in their first year of attendance. Students at the academy choose their major at the end of their first year of studies. Through student responses to a multi-semester survey, this paper identifies a number of factors that potentially influence STEM major selection. Student demographic data, pre-existing exposure and access to technology, perceptions of STEM subjects, and initial desire for a STEM major are captured before and after taking a CS0 course. An analysis of factors that contribute to student perception of STEM and major selection are presented. This work provides recommendations and suggestions for institutions currently providing or looking to provide CS0-like courses to their students.

Keywords : education, STEM, pedagogy, digital literacy

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