
Transcending disciplines: Engaging college students in interdisciplinary research, integrated STE and partnerships

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Abstract

An authentic, interdisciplinary, research and problem-based integrated science, technology, engineering mathematics (STEM) project may be ideal for encouraging scientific inquiry and developing teamwork : undergraduate students, but it also presents challenges. The authors describe how two interdisciplinary teams (n undergraduate college students built integrated STEM projects in a research based internship setting, and collaboratively brought the project to fruition to include designing lessons and activities shared with K-12 stud a classroom setting. Each three person undergraduate team consisted of two STEM majors and one Education The Education majors are a special focus for this study. Interviews, field observations, and lesson plan a collected from the undergraduate college students were analyzed according to authenticity factors, the au scientific inquiry instrument, and an integrated STEM instrument. The authors highlight areas of strengt weakness for both teams and explore how preservice teachers contributed to integrated STEM products and l Teacher educators might apply recommendations for teacher preparation and professional development facilitating authentic scientific inquiry and integrated STEM topics with both STEM and non-STEM edu Undergraduate college students were challenged to fully integrate the STEM disciplines, transitions between the: the spaces between them where multiple disciplines existed. By describing the challenges of integrating the between STEM, the authors offer a description of the undergraduate college students' experiences in an ef: expand the common message beyond a *flat* approach of *try this activity because it works*, to a more robust message *this type of engagement and purposefully organize for maximum results*.