

Service Learning in the S.T.E.M. Classroom

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The National Science Board recommended “bold changes” to the current STEM pedagogies to increase retention and achievement of students in S.T.E.M. fields. The objectives of this work were to determine if service learning in a STEM class had an impact on student engagement in the classroom, determine if service learning in STEM class had an impact on student awareness of social issues related to course curriculum. Students participating in two different service-learning based S.T.E.M. courses were assessed using both qualitative and quantitative methods in a tool that was applied before and after student participation in a service-learning activity. It is evident from the student survey results that the service learning experience enhanced the students overall classroom experience. Student survey responses improved significantly in both the social awareness category and student engagement category following a service learning experience. Following a STEM service learning experience students were more aware of civic responsibilities, more likely to recognize their role in solving social problems, more likely to recognize the value of their STEM course to their lives, more likely to self-identify as “engaged” in a STEM class and more confident in their abilities to succeed in STEM courses. Current work is focused on assessment and development of effective S.T.E.M. service-learning models.

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