



Examining the impacts of a graduate course on sustainable development using ecological footprint analysis

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Program Profile	
Program Description:	The graduate course on sustainable development examined for this article was taught at Texas A & M University during spring of 2004. The course used a problem based learning approach in which students had the opportunity to apply what they were learning to realistic problems. The course covered a range of sustainable planning and development topics including designing a sustainable community and addressing adverse effects of a subdivision development.
Program Goals:	The course objectives are for students to: <ul style="list-style-type: none"> • <i>Understand the principles of sustainable planning and development at and between a variety of scales and settings;</i> • <i>Critically examine the challenges and opportunities to build, plan for, and direct sustainable communities;</i> • <i>Apply the principles of sustainable planning and development to real-world problem domains, working alone and in groups; and</i> • <i>Develop individual and collective student expertise on a topic related to sustainability to enhance professional development and increase effectiveness in the workplace after graduation.</i>
Program Funding:	There were no external sources of funding.
Program Links:	Epsru.tamu.edu
Evaluation Profile	
Evaluation Goals & Questions:	The goal of the evaluation was to determine the “degree to which graduate-level coursework on the topic of sustainable development transforms the perceptions and behavior of class participants.” The research questions were: <ol style="list-style-type: none"> 1. <i>Does graduate education on sustainable approaches to development significantly impact sustainable behavior patterns?</i> 2. <i>What are the major factors contributing to a change in individual levels of</i>

	<i>sustainability?</i>
Evaluation Methods:	This study used quantitative methods. A pre-/post- survey design compares the ecological footprints of students in the sustainable development course to a control group of students from a different course at Texas A & M University not focusing on sustainability. The ecological footprint survey was given to participants at the beginning and end of the semester. Results of the ecological footprint surveys were analyzed using paired tests of means to assess pre-post changes for both the study and control groups. In addition, multiple regression analyses were used to identify the most influential factors contributing to participants' ecological footprint changes. Independent variables examined in the multiple regression analyses included group (study or control), gender, age, income, environmental awareness and distance between home and work.
Evaluation Instruments:	Evaluation instrument are available at end of Environmental Education Research article.
How were results used?	To improve teaching the sustainable development course in subsequent years
Evaluation Cost:	Other than time, there were no costs to this study as treatment and control groups were naturally provided.
Evaluation Insights:	<p>What worked well? Proven measurement tool that could be systematically applied across multiple classes; easily implemented quasi-experimental design.</p> <p>What were important evaluation “lessons learned”?</p> <p>What could have been done differently? With funding, could have increased sample sizes, studied learning over multiple years.</p>
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