



Work In Progress: The Effect of Time on Student Attitudes and Interests Regarding Global Health Following an International Field Experience

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Abstract

A new global health course was recently developed and implemented at Western New England University. The course combines a traditional lecture component with a unique field experience that exposes students to healthcare challenges facing a foreign country. In order to assess the long-term impact of the new course on student attitudes and interests regarding global health, a set of surveys was administered to students at the completion of the course and one year post-course. The results from analysis of the surveys showed no statistically significant changes between student responses on the post-course and one year survey regarding knowledge, confidence in developing solutions, and interest in pursuing further studies or careers in global health. Additionally, student comments on the one year survey reflected high levels of enthusiasm for the subject and provided insight into the impact of the experience on the students over the period of one year.

Background

Recently, there has been significant interest amongst engineering programs regarding opportunities that develop and enhance the global perspectives of undergraduate students. This interest is in part to address ABET student outcomes criteria 3h (the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context) and 3j (a knowledge of contemporary issues).¹ The interest also reflects a response to the growing need for engineers that are able to develop solutions in a range of unfamiliar environments, including foreign countries and cultures. Experiential learning opportunities have been shown to impact student learning and attitudes in a variety of subject areas, including global perspectives.²⁻⁴ However, limited information exists as to whether the learning experience has an impact on the student over a long period of time. For example, do students maintain the same levels of interest in subject matter over the period of one year following an experience? Or does the initial increase in interest quickly disappear as students return to their daily lives, academic programs, and professional pursuits?

In this work, we report preliminary results from a long-term study of students who participated in an experiential learning opportunity involving global health. The students in this study (N = 13) were enrolled in ILP 296 – Global Health & Technology, which was offered at Western New England University during the Spring 2011 semester. This course introduces students to a variety of concepts related to global health, including major diseases, socioeconomics, and emerging technologies for diagnosis and treatment. At the end of the semester, the students

completed a 12 day field experience in Guatemala, which allowed them to investigate healthcare in the region through visits to medical facilities. During these visits, the students completed a needs assessment for the healthcare facilities, with the eventual goal of developing projects to be implemented through the engineering senior design curriculum. Upon finishing the field experience, the students completed a post-course survey that was designed to measure their interests and attitudes regarding global health issues. When compared with responses on a pre-course survey, the findings showed that the course and field experience resulted in increased student knowledge in global health issues, confidence in developing solutions to global health problems, and interest in pursuing further studies and careers in this area.^{3,4}

Present Study

In order to measure whether student attitudes changed over time following completion of the course, an identical set of post-course survey questions was administered one year after the completion of the field experience. The surveys, which were approved by the Institutional Review Board (IRB) at Western New England University, consisted of 5-choice Likert questions that were analyzed using a two-tailed, unpaired t-test with a significance level of 0.05. Students also had the opportunity to comment on the impact the course had on them at the academic, professional, and/or personal level through a free response question.

The results from the analysis are shown in Figure 1. The results from the surveys completed one year after the field experience showed no statistically significant changes in student reported knowledge ($p=0.09$), confidence in developing solutions ($p=0.473$), and interest in pursuing further studies ($p=0.505$) or careers in global health ($p=0.233$).

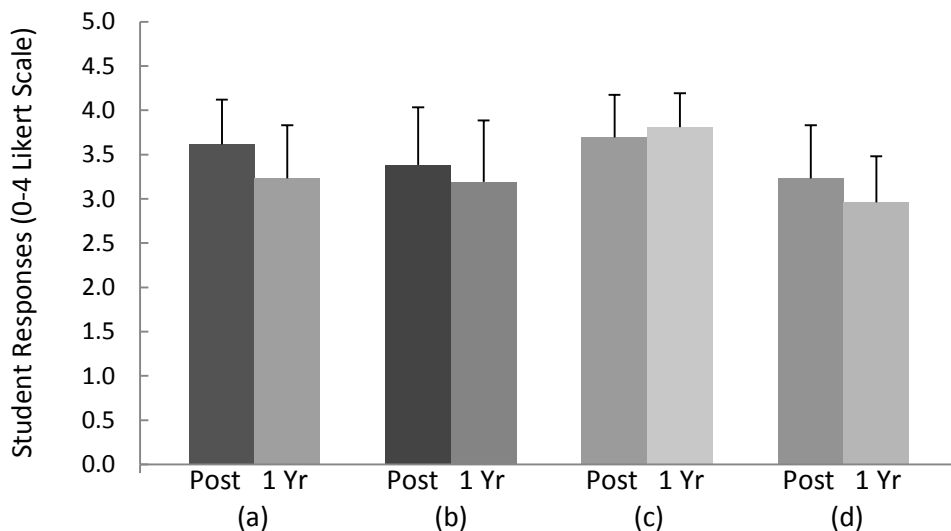


Figure 1. Results from student surveys (Likert scale 0-4) comparing responses on post-course and one year survey: (a) student level of knowledge regarding global health issues; (b) student confidence in their ability to develop solutions to global health issues; (c) student level of interest in pursuing further studies/training regarding global health issues; and (d) student likelihood in pursuing a career in the area of global health.

Qualitative information obtained from student written responses on the one year survey included several comments about the impact of the course on career goals as well as academic progress. Examples of student comments are included below:

It has COMPLETELY changed my future professional career goals and interest. I always was interested but never thought that I would actually pursue a career in global health. After taking the course, I now want to become a part of associations such as Doctors without Borders, etc. This is something I never considered before taking the course.

I was very moved by my experiences in Guatemala. The things I had heard and read became reality...I hope to learn more about global health and to make some improvements however possible.

This course made me aware of global health, and got me very interested in looking for jobs in this area.

I now have a deeper understanding of the health issues of foreign countries, and know of some ways to help. Wish I could learn more, plan to do so.

It was an experience that is hard to explain and is better experienced. Learning about different healthcare systems makes me see the healthcare of the U.S. differently...I find myself sometimes looking at problems and not only finding complex, expensive, modern technology solutions, but also less complex fix for developing nations.

This course definitely solidified my interest in global health and has made me more determined to find a job that works towards helping developing/underdeveloped countries. Realistically, I know I may not get that job right away but it is definitely something to pursue.

The impact of this course for me was huge. In the academic and professional settings I am just a much more knowledgeable person. I believe that this makes me a much better-rounded student...Going to Guatemala has changed my perspective on many things in life and I am so glad that I did it.

It made me appreciate everything that I have. This trip also made me realize that I want to travel the world and help other people in the world.

This course has an extreme personal impact on me. It gave me a chance to see a third world country in need of some help. I feel this course expanded both my academic and

professional knowledge. The biggest areas were global health problems as well as exposure to extreme cultures that will better my practice as a pharmacist one day.

This class is probably one of my favorite classes I have ever taken. It definitely opened my eyes to what third world countries are like and how much improvement could be done. I now definitely want to help with global health issues after graduation and I would like to go back to Guatemala soon!

Discussion

The preliminary results of the study indicate that student attitudes and interests did not significantly change during the one year following the completion of an international field experience. Differences in student responses to Likert questions on the post-course and one year survey were not statistically significant. Additionally, student feedback on the free response question indicated students maintained their global perspectives as well as a desire to learn more about global health issues. The latter outcome aligns with ABET student outcomes criterion 3i (a recognition for, and an ability to engage in life-long learning).¹ Several students commented on the impact of the course on their professional goals, including interest in jobs in the area of global health. At the time the survey was completed, all 13 students were still enrolled in undergraduate and professional programs at Western New England University, thus no data is yet available for tracking career involvement in global health. The same cohort of students will be surveyed in subsequent years to investigate whether any students were successful in pursuing careers in global health. Additionally, the results from subsequent surveys will be analyzed to determine whether attitudes remain consistent over longer periods of time, thus elucidating the long-term impact of healthcare-based international field experiences on students.

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