Providing Virtual International Experiences for Undergraduates

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Abstract
We live in a global society. Many researchers have suggested that undergraduate agriculture students be prepared to enter this global workforce. Study abroad and international travel have been suggested as ways for students to gain international experience, but these methods are expensive and limited to only a few students. The purpose of this study was to examine the feasibility and effectiveness of a virtual international experience for students in the college of agriculture. Eighty-three students completed an online simulation that placed them in the role of the owner of a small banana farm in rural Peru. Students who completed the assignment reflected that this was an “eye-opening” experience that gave them insight to the struggles for survival faced by people in developing countries. Students gained a new point-of-view regarding other cultures, as well as a greater appreciation for the privileges they enjoy living in a developed country. Students, who previously had not understood why the U.S. participated in development activities, are now advocates for helping developing nations overcome poverty.

Keywords: International, Agriculture, Undergraduates, Simulations, Virtual

Introduction
We cannot deny that we live in a global society. The Internet and television bring the world into our living rooms and offices on a daily basis. Products from around the globe line the shelves of department stores and supermarkets. However, few Americans understand how international cooperation and development programs impact the U.S. and developing countries. Nassar (2004) describes Friedman’s philosophy that “globalization is not a passing phenomenon, but rather the definitive world system” (p. 7).

As a result, there is a pressing need to help Americans understand the U.S.’s role in global cooperation and development, and the domestic benefits that accrue as a result of international involvement. The International Programs office of the
Cooperative State Research, Education and Extension Service describes the benefits of U.S. international involvement as including, but not limited to,

Opening up new markets for American farms and businesses, ensuring food safety, cooperating on the eradication of human and animal diseases, preserving environmental resources, and promoting world peace. Promoting growing economies, peaceful democracies, and healthy families helps to improve the quality of life both at home and abroad. (CSREES/USDA, 2004, para. 4)

There is a need for a globally educated workforce. The Globalizing Agricultural, Science, and Education Programs for America Committee (GASEPA) envisions “globally competent stakeholders, faculty and students in the U.S. food, agriculture, and natural resource sectors who live, compete, and work well in an ever dynamic and interdependent world community” (CSREES/USDA, 2004, para. 6). Bobby D. Moser, Chairman of GASEPA, states that higher education must play a role in developing globally educated citizens:

As we position U.S. agriculture for the 21st century, we are cognizant that higher education, research, and outreach programs at our land-grant and similar universities will need to address global issues more than in the past. We urgently need to find ways to increase the level of engagement of our resident teaching faculty, research scientists, and extension agents in addressing global dimensions of food and fiber industries, and the natural resource base on which they rely. Only in this way will we adequately serve the needs of the citizens of our respective states. (para. 7)

Recent research reveals that higher education, especially colleges of agriculture, are doing a poor job of educating students for their role in a global society. Wingenbach, et al. (2003) discovered that agricultural education undergraduate students knew very little about agricultural policies, products, peoples, and cultures. This study supported earlier research (RoperASW, 2002) that found most 18-24 year-olds did not have an understanding of global events and the impact of those events on their lives. Other studies (Sammons & Martin, 1997; Duffy, Toness, & Christiansen, 1998) also revealed the lack of progress in increasing post-secondary students’ knowledge of global agriculture, despite specific efforts to do so. The lack of international knowledge is not limited to undergraduates. Lindner and Dooley (2002) found that doctoral students’ knowledge of international agriculture was low upon entering the graduate program and only “average” upon graduation.

Wingenbach, et al. (2003) suggested that “out-of-country” learning experiences be used to increase agricultural student’s knowledge about agricultural policies, products, peoples, and cultures. Such experiences might include international foreign youth exchanges, travel abroad or study abroad, and international internships with global organizations. These methods are expensive and available to a limited number of students. How can agricultural educators bring international experiences to a greater number of students? Virtual international experiences may offer an alternative to expensive study abroad classes and serve as a way to integrate international experiences into the broader agricultural curriculum.

Boyle noted the effectiveness of using simulations in the classroom, “One of the most powerful uses of multimedia is to immerse the user in a learning environment” (1997, p. 35). Boyd and Murphrey (2002) discovered that simulation activities delivered via the World Wide Web were an effective tool for teaching leadership skills. Can such an activity simulate an international experience as well?
Purpose and Objectives

The purpose of this study was to determine if an asynchronously delivered simulation could provide agricultural education students with a viable experience in international agricultural development. The specific objective was to document student’s perceptions of the online activity, Experience Five Minutes in a Third-World, using a reflective writing assignment.

Methods

The methodology used in this study borrows from the methods used in an earlier study (Dooley & Lindner, 2002). The population consisted of 1300 undergraduate students in the Department of Agricultural Education at a major land grant institution. The sample consisted of 250 undergraduates in a course entitled Leadership and Issues in Agricultural Education. The upper-level course is an introductory course designed to expose agricultural education students to the knowledge bases and contexts in which agricultural educators work. International agricultural development is among the contexts taught.

As a part of the unit on international agricultural development, students were asked to view a simulation called, Experience Five Minutes in a Third-World. The simulation was developed by Wendy Folsom and David Barker, international development workers with Food for the Hungry International (FHI). The simulation resides on FHI’s Web site (http://www.fhi.net/fhiperu/).

In the simulation, students assumed the role of a banana farmer in Peru with a family of four. This family is very poor, surviving mostly on the bananas produced on the farm. This simulation asked students to make decisions that Peruvian farmers must make everyday. The activity involved a decision-making tree where at every turn there were different outcomes. At each stage of the simulation, students made a decision between two alternatives with the goal of improving the lives of the farmer’s family.

Examples of decisions the students were asked to make included whether to stay on the farm or sell it and move to the city to find work; whether or not to have more children; and whether to send their children to school or send them to beg in the streets for additional income.

Students were asked to complete the simulation several times, changing their responses each time to achieve different outcomes. Upon completion of the simulation, learners were asked to write a one-page reflection paper to describe their reaction to this experience. Eighty-three students completed this voluntary assignment and each paper was numerically coded to ensure confidentiality. This study was approved by the Institutional Review Board.

This study is grounded in the qualitative research paradigm. The general characteristics of this qualitative study reflect those identified by Fraenkel and Wallen (1999) as professionally acceptable and appropriate methods for studying a phenomenon when: The natural setting is the direct source of data (qualitative) versus a “snapshot” in time (quantitative); data are collected holistically from a participant’s perspective (qualitative) versus relying on a participant’s quantitative response (quantitative); the process (qualitative) as well as the variables of interest (quantitative) are considered; data are analyzed inductively (qualitative) versus deductively (quantitative); and data attempts to capture concern for a participant’s behavior, attitude, reason, or motive (qualitative).

Activities to increase credibility for this study included triangulation of sources and investigators, and peer debriefing. The narrative descriptions of the data constructs and themes provided sufficient detail so interpretations and transferability decisions can be made by the reader. An audit trail including initial data analysis and compilation of units was kept with each coded writing sample to ensure
dependability and confirmability (Lincoln & Guba, 1985).

The natural setting and prolonged engagement for this study was two sections of a 15-week undergraduate course. Two of the researchers were instructors for the course, while the other served as a peer debriefer, methodologist, and data interpreter.

Content analysis techniques were used by the researchers to analyze students’ reflections and reactions to the simulation. “Content analysis is a technique that enables researchers to study human behavior in an indirect way, through an analysis of their communications” (Fraenkel & Wallen, 1999, p. 405).

The constant comparative method was used for data analysis (Lincoln & Guba, 1985). This method includes four stages: 1) comparing incidents applicable to each category, 2) integrating categories and their properties, 3) delimiting the construction, and 4) writing the construction. Each reflective paper was read and highlighted individually to determine initial category formulation in the first stage of the content analysis. Inter-rater reliability among the authors was achieved through a process of individual category identification and reconciliation of differences by consensus during a peer debriefing in stage two. Representative quotes were used to provide narrative descriptions of the constructs in the findings.

Findings

Content analysis of the students’ reflection papers yielded five constructs: 1) A western viewpoint in decision-making, 2) Life is very difficult in developing countries with few choices for improving peoples’ lives, 3) The realization that life is very different from what most students know ("eye-opening experience"), 4) Students feel grateful to live in the U.S. and are more appreciative of the privileges and prosperity that they enjoy, and 5) Students were motivated to want to help those in developing nations.

Many of the students exhibited a western viewpoint when making decisions during the initial stages of the simulation. In the simulation, the farmer has a wife and three children. The small banana farm barely produces enough to sustain life. Most nights, the family goes to bed hungry. When faced with the decision of whether to have more children, 29 students opted to not have more children because “I can barely feed the children that I have” (student code #17). Another student stated that, “My way of thinking is, the more children I have, the more mouths to feed and more bodies to clothe” (38). After completing the activity several times, students realized that having more children, while initially difficult, secured a better life for the family later on. More children meant more labor available on the farm, enabling the farmer to grow and harvest more bananas. Children in developing countries are also expected to take care of the parents in their old age. One student made this point very succinctly, “I soon realized I was totally looking at his family as if they were living in the U.S. I did not take into consideration that their beliefs and family structure are completely different” (2). Another “western” assumption was that if you work hard enough at something, you will succeed. Students discovered that hard work cannot overcome many barriers that people in developing countries face, such as low prices and lack of markets for crops, or lack of jobs in areas other than subsistence farming. Despite the farmer’s hard work in the simulation, it was difficult to get ahead. One student’s comments are indicative of this thought process, “I have been taught that hard work will be rewarded and it seems that in these situations, these people continue to work hard and still receive no rewards” (30).

Another construct that emerged from the data was that life in developing countries is very difficult and that most decisions mean life or death to the families making those decisions. Students were themselves...
discouraged because, in their view, there were few choices that led to a “happy” outcome for the farmer and his family. One student stated, “This (activity) was very discouraging to me because every decision you had to make was really not going to help out matters” (102). This student learned, “Their decisions could mean life or death for them and their family” (3). Another student reflected that the activity “…caused me to sit back and think about the harsh realities of everyday life in some parts of our world. Everyday, people fight and work long hours for simple food and shelter” (109).

Most students had no concept of the realities of life in developing countries. Many stated that even television doesn’t portray life in developing countries as well as the simulation. The simulation immersed the students in the lives of a family living in a developing country. Twenty-seven students described the simulation as an “eye-opening” experience. “This ‘trip’ was extremely eye-opening. Most Americans know about developing countries and the need there for aid. After doing this assignment, I however feel like I have experienced it myself” (6). This student realized, “…that while I’m a ‘poor college student,’ a lot of people in these developing countries are living their entire lives barely able to afford to eat with no hope of any improvement any time in their lives” (10). Student 26 noted that others need this experience, “Now, I have an awareness of these countries and I see what kind of decisions they face, but how many other people have the awareness that I have?”

Twenty-seven students noted that the simulation reminded them of the benefits and privileges that they enjoy in the United States. These statements are representative of what most of the students said about the simulation, “It helped me appreciate what I have in my life” (15), or “We (Americans) take everything for granted” (18). This student went on to comment that, “I wish there was something that I could do that was not out of my reach to help the countries that are starving” (18). Students commented that both individuals and the U.S. should be involved in international agricultural development. “We should help these people improve their living conditions and farming practices. We need to share our technology and advancements with them” (28).

Two students found the simulation hard to grasp because it was so far from anything they had ever experienced. “I found it very hard to relate to the given situations. The decisions they were asking me to make were very out of my experience base” (30). Another noted that, “When I think of poor, I don’t even think of being that poor” (35).

Conclusions, Recommendations, and Implications

Asynchronous simulations were found to be an effective means to provide students with an international experience without leaving the comforts of their homes or classrooms. Students gained insight to the challenges faced by families in developing countries and an appreciation for the bounty that they enjoy in the United States. Students also gained some understanding of another culture and how that culture affects the person’s decisions. This student sums the impact of participation in this activity, “In closing, this article helps me see the world outside of my little bubble that I live in. I see the hardships and the tragedies people face, living in a developing country. It makes me appreciate the things I have and makes me more charitable to those who are without” (41).

The need for international education is well documented. This study has demonstrated that it is feasible to provide agricultural students with a realistic international experience using an asynchronous simulation. Most international experiences, such as study-abroad, focus on small groups. While simulations cannot be compared to study abroad courses, they can provide students in large classrooms with a
reasonably realistic experience. Although we support authentic international experiences, many students cannot afford the time or expense to travel abroad; therefore, simulations can provide a more efficient alternative.

If the goal is to internationalize the agricultural curriculum, then simulation activities may prove to be part of the answer. It is recommended that additional simulations be developed to help students cultivate an understanding of globalization.

We also observed instructional benefits with the use of simulations in general. Decision-making, problem-solving, critical thinking, reflection, meta-cognition, and writing skills are important in many content areas. Further research is needed to comprehend the benefits of simulation for higher-order thinking.

References


