

Impact of a Study Abroad Course on Students from 1862 and 1994 Land-Grant Institutions¹

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Abstract

Universities must prepare their students to work in an increasingly diverse and global workplace. However, minority students, particularly Native Americans, continue to be under-represented in agriculture and study abroad. Partnerships between tribal colleges and universities (TCUs) and predominately white institutions (PWIs) could provide substantial benefits to students at both types of institutions. Students from Purdue University and Haskell Indian Nations University (HINU) participated in a 15-day travel course to Costa Rica from 2010 to 2012. An online questionnaire was administered in 2013 to assess student perceptions at least one year after completing the course. Respondents at both universities indicated that the course increased their knowledge of agricultural production systems and tropical ecosystems as well as their understanding of cultural and ethnic diversity in Costa Rica. Respondents also indicated that their experience reinforced their commitment to studying a foreign language, enhanced their interest in academic study and encouraged them to explore other cultures. Open-ended responses suggest that students viewed interacting with indigenous groups in Costa Rica as the most memorable and engaging component of the course. This study suggests that study abroad programs can be developed and offered through partnerships between TCUs and PWIs that provide substantial benefits to participants.

Introduction

The percentage of people of color in the U.S. is expected to reach over 50% by 2050 (United States Census Bureau, 2012) and the need for colleges and universities to provide students with an international perspective has been noted by several organizations (Commission on the Abraham Lincoln Study Abroad Fellowship Program, 2005; American Council on Education, 2008; National Research Council 2009; APLU 2009). Thus, universities should prepare their students to work in an increasingly diverse and global workplace (Matveev and Miller, 2004; Zhai, 2004). Study abroad programs have been promoted as a mechanism to increase international understanding and to prepare students to compete in a global marketplace. Study abroad can have profound effects on participants including greater openness to cultural diversity, increased intercultural proficiency and communication skills, greater self-confidence, higher starting salaries after graduation and can affect subsequent educational and career choices (Paige et al., 2009; Clark et al., 2010; Preston, 2012). Sutton and Rubin (2004) found that undergraduates who participated in study abroad programs had higher graduation rates, grade point averages and better cultural competencies than undergraduates who did not study abroad. The findings were particularly pronounced for at-risk and minority students.

¹This study was deemed exempt by the Purdue University Institutional Review Board and was partially supported by USDA International Science Education Award #2009-51160-05466.

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Impact of a Study Abroad Course

Although the percentage of minority students participating in study abroad increased from 2002 to 2012, U.S. students attending study abroad programs in 2011-12 were disproportionately white (76.4%) and female (64.8%) (IIE, 2013a). Perdreau (2002) identified several barriers for ethnic minority students including a lack of funding, concern about their acceptance in other countries, the perception that study abroad programs do not provide culturally relevant experiences and the belief that study abroad is an unnecessary distraction from obtaining a degree. Similarly, Brux (2010) noted that barriers to the participation of minority students in study abroad can include “finances; family concerns and attitudes; fear of racism and discrimination; historical patterns, expectations and attitudes; institutional factors; and a lack of relevant study abroad programs” (p.515). Calhoun et al. (2003) suggested that Native Americans studying at Tribal Colleges and Universities (TCUs) might find it particularly difficult to access study abroad programs. Indeed, Native American students comprised only 0.5% of study abroad students in the U.S. in 2012, a statistic largely unchanged from 2002 (IIE, 2013a). Calhoun et al. (2003) argued that TCU faculty often carry substantial teaching loads that preclude organizing logistically challenging study abroad programs and that TCUs may lack the financial resources to support study abroad programs.

The National Resource Council (2009) noted that “academic programs in agriculture tend to exist in isolation” (p. 3) and recommended greater interactions among institutions. More specifically, they noted that pathways from TCUs to careers in agriculture have not been highly successful and recommended that institutional partnerships be developed with tribal colleges. Tribal colleges enroll approximately 19% of all Native American students (Harmon 2012) and, as land grant institutions with close ties to local tribal communities, have tremendous potential to engage students in agriculture. Thus partnering with a PWI with the necessary resources to fully support study abroad programs might be particularly beneficial for TCUs. Calhoun et al. (2003) recommended that study abroad programs which include “communities in which American Indian students share some common characteristics may help students from both communities self-assess their experiences as more meaningful to their educational goals” (p.48). The authors also emphasized the importance of culturally relevant programs to attract Native students. Tarant et al. (2013) examined the interaction of location (abroad or at home campus) and academic focus (sustainability or non-sustainability topics) on global citizenship scores for 286 students. They concluded that the combination of study abroad and a focus on studying sustainability through experiential learning resulted in the greatest increase in global citizenship scores.

Methods and Materials

The primary goal of this study was to assess the self-perceived value of a travel course in Costa Rica for

students at least one year after the completion of the course. Students from Haskell Indian Nations University (HINU) in Lawrence, KS and Purdue University (Purdue) in West Lafayette, IN participated in the course. We were interested in knowing if student perceptions of the course would vary by institution and in suggestions students might have for improving future courses.

Institutions

Although HINU and Purdue are both land grant institutions, they differ substantially in student enrollment and demographics, course offerings, number of majors and support for study abroad. HINU has an average yearly enrollment of approximately 1000 undergraduate students who are members of federally recognized tribes across the United States. Purdue is a PWI with an annual enrollment of approximately 30,000 undergraduate students, primarily from within the state of Indiana. Students at Purdue have access to many majors with the College of Agriculture and to dozens of majors in STEM disciplines. However, HINU does not offer courses in agriculture and the only STEM undergraduate degree at HINU is in Environmental Science. HINU lacks a formal study abroad program; Purdue offers dozens of study abroad courses each year. HINU and Purdue partnered with CATIE (Centro Agronomico Tropical de Investigacion y Ensenanza). CATIE is located in Turrialba, Costa Rica but serves member countries throughout Latin America and offers graduate degrees (undergraduate degrees are not offered) to students interested in the sustainable use of natural resources and agriculture. CATIE students did not participate in the travel course, but CATIE facilities and faculty were integral to this endeavor.

Course Preparation

A mandatory three-credit preparatory course entitled “Multicultural Perspectives on Sustainable Agriculture” was team-taught by four instructors (two from Purdue, one from HINU and one from CATIE) and offered during spring semester in 2010, 2011 and 2012 (Gibson et al., 2014). Classes were held twice each week (each lecture was 75 minutes) using Adobe® Connect, a web-based communication platform. We addressed five main topics each semester: (1) perspectives on the sustainability of U.S. agriculture, (2) an indigenous perspective on land use and agriculture, (3) biodiversity and tropical ecosystems, (4) Costa Rica history and culture and (5) tropical crops. Preparations for safe international travel, including logistics related to travel to and in Costa Rica, were also addressed. Students and faculty met in-person during visits to the partner institution (Gibson et al. 2014). Forty-six students (25 from HINU, 21 from Purdue) took the preparatory course and 33 students (14 from HINU, 19 from Purdue) went on the travel course from 2010 to 2012.

Differences in travel course participation between the universities can be attributed to two primary factors. First, Purdue students enrolled in the preparatory course primarily because it was a prerequisite for the

travel course. Several HINU students, however, enrolled in the preparatory course because it allowed them to study a topic not offered at HINU. Second, although Purdue students typically used their own funds to pay for the travel course (some funds were available through the university to offset expenses), no HINU students participated in the travel course that were not fully supported by external funds. Thus it is likely that funding limited HINU student participation. Course expenses, which included airfare, lodging, food, transportation in Costa Rica and fees associated with in-country tours, varied among years but were generally < \$2800.

Travel Course

The 15-day travel course incorporated elements of a previous Purdue travel course (Gibson et al., 2012) that focused on biodiversity in Costa Rica and that included tours of key agricultural systems (coffee, cacao, banana, rice, fish and cattle) led by farmers or ranchers and of natural systems (lowland rainforest, humid montane forest and dry forest). However, visits to three indigenous villages were added to the new course and a greater emphasis was placed on cultural perspectives of sustainability than in previous years. Students were encouraged to record their daily experiences in a journal and were required to write short essays reflecting on their experiences. The essays were read and critiqued by course instructors. Evening conversations, facilitated by instructors or by pairs of students, were held every three or four days to allow students to discuss and reflect on their experiences and on assigned topics as a group. This process followed Kolb’s “learning cycle” model in which students experience an environment, reflect on their experience and then analyze the experience (Montrose, 2002). Aside from a brief orientation meeting during the first day of each course, students were not in classrooms during the course. Most activities were structured and led by instructors; however, the course typically included two “free days” when students could plan their own activities and 2 to 3 half-days when students were unsupervised but engaged in semi-structured activity such as making specific purchases in marketplaces.

Self-evaluation of learning can be an important measure of teaching effectiveness (Bruening et al., 2002). An invitation to complete a 24-question online survey was sent by email to former students in fall 2013, approximately 1 to 3 years after participation in the travel course. Eight questions were used to collect information on student demographics and to determine if students had traveled abroad after participating in the travel course. We used 10 Likert-type questions to deter-

mine if the course affected key learning outcomes and personal growth and 6 open-ended questions to elicit further comments on their experience (Table 1). Thirty-three students (19 from Purdue, 14 from HINU) went on the study abroad course from 2010 to 2012. Seventeen of the 19 Purdue students (89.4%) and 8 of the 14 HINU students (57.1%) provided usable surveys. A majority of responses were received within three days of posting the survey; additional emails were sent every four days and the survey was closed after no new surveys had been received for 5 days. Fisher’s exact test was used to identify significant differences between institutions for participant ratings of categorical variables, i.e., statements used to assess learning outcomes and personal growth.

Results and Discussion

HINU respondents were older than the Purdue students (the mean age of HINU and Purdue respondents in 2013 was 26.6 +/- 1.1 SE and 23.2 +/- 0.5 SE, respectively) and a majority of HINU respondents (63%) were female (Table 2). TCUs typically have older student populations than PWIs (Institute for Higher Education Policy, 2006) and a majority of undergraduates studying abroad are female (IIE, 2013b). However, men and women were equally represented among Purdue respondents (Table 2). Most students were in their junior or senior year when they took the preparatory course (Gibson et al., 2014) and a majority of respondents (71% of Purdue respondents and 63% of HINU respondents) had graduated at the time of the survey (Table 2). This corresponds to national enrollment patterns; juniors and seniors comprise 60% of study abroad students in the U.S. (IIE, 2013b). Four Purdue students and two HINU students were enrolled in graduate school when they completed the questionnaire. A majority of HINU

Table 1. Open-ended questions used to assess the self-perceived value and impacts of a two-week travel course in Costa Rica course and suggestions for course improvement. Haskell Indian Nations University and Purdue University students participated in the course from 2010 to 2102. Survey data were collected in fall 2013.

1. When you think about the course, what comes to mind first?
2. What experience made you feel the most immersed in the country?
3. Students on the trip varied in their ethnic, cultural, and socioeconomic backgrounds. How do you think that affected group dynamics and your personal experience?
4. Did the course affect how you viewed your studies or career upon your return? Please explain.
5. If you had the opportunity to go on a similar course or trip, would you do anything different to prepare? Would you do anything differently during the course?
6. What would have improved the experience for you?

Table 2. Current educational status, number who traveled abroad either before or after the travel course, and age¹ of students from Haskell Indian Nations University (HINU) and Purdue University (PU) who completed an online questionnaire in fall 2013. Respondents participated in a two-week travel course in Costa Rica offered from 2010-2012.

	Respondents			Current educational status			Travel status ³	
	Male	Female	Total	Undergraduate	Alumni ²	Other	Traveled abroad before the course	Traveled abroad after the course
HINU	3	5	8	1	5	2	3	2
PU	9	8	17	4	12	1	5	9

¹Mean age for HINU and PU students was 26.6 +/- 1.1 SE and 23.2 +/- 0.5 SE, respectively, in 2013.

²Four Purdue and two Haskell students were enrolled in graduate school in 2013.

³50% of Purdue students and 40% of HINU students who had never traveled abroad before the course reported traveling abroad after the course.

Impact of a Study Abroad Course

(62%) and Purdue (71%) respondents had not traveled abroad before the course. More than half of the Purdue respondents but only a quarter of the HINU respondents traveled abroad after the course (Table 2). Of the respondents who did not travel abroad after the course, one indicated that he or she was traveling within the United States by choice and the remaining respondents indicated that a lack of funding or conflicts with work or school limited their ability to travel abroad.

Learning Outcomes and Personal Growth

Ratings (> 4 for all learning outcome statements on a scale from 1 to 5) suggest that respondents at both universities believed that the course increased their knowledge of agricultural production systems and tropical ecosystems as well as their understanding of cultural and ethnic diversity in Costa Rica and of how culture affects land use practices (Table 3). Study abroad can be a catalyst for personal growth. Dwyer (2004) surveyed 3700 alumni of study abroad programs offered by the Institute for the International Education of Students (IES) between 1950 and 1999. IES respondents (>80%) indicated that their experience reinforced their commitment to studying a foreign language and enhanced their interest in academic study. The respondents also indicated that their experience increased their interest in travel, boosted their self-confidence and encouraged them to explore other cultures. Similarly, ratings (>3.9 for all personal growth statements) in our study suggest that respondents at both HINU and Purdue agreed that the course increased their interest in and comfort level with people from other cultures as well as their interest in improving their foreign language skills and confidence to travel abroad (Table 3). They also agreed that the course increased their interest in purchasing food that was produced sustainably (Table 3). Differences in ratings between the universities were not detected for any learning outcomes or personal growth statements.

Open-ended Questions

Most responses to the question “When you think about the course, what comes to mind first?” could be placed into one of three categories: people and

culture, farming systems and the natural beauty of the environment (Figure 1). Other responses were food and recreation (snorkeling and white water rafting). A majority of respondents (71%) identified the visits to indigenous communities as the activity that made them feel the most immersed in the country (Figure 2). The visits included short presentations by community leaders during which they discussed the history of the community and current efforts to build sustainable businesses. A common theme discussed by each indigenous community, which particularly resonated with HINU students, was their efforts to retain or rebuild their language and culture under difficult circumstances. The visits also included service learning opportunities, such as assisting with banana vinegar production or with planting crops and recreational opportunities, including an impromptu game of baseball with children using improvised equipment and bases, to interact with a range of community members. We believe that the visits to indigenous villages were particularly powerful because they were culturally relevant for HINU students and because they provided all students with a more encompassing view of community life than was possible with the more focused visits to farms and forests. However, it is possible that this simply reflects the relative amount of time spent in the communities. We spent a full day at each indigenous community (we spent the night at one community in 2010 and 2011) while tours of farms and forests typically lasted no more than a half-day.

Increasing the participation of students from under-represented groups in study abroad has potential benefits for both majority and minority culture students (Brux, 2010). We asked if participants in the course thought that the diverse ethnic, cultural and socioeconomic backgrounds of their fellow students affected their personal experience. None of the respondents indicated that the diversity of student backgrounds negatively impacted their personal experience and several indicated that their experience was enhanced because of the diversity. One respondent wrote “*I think it enriched the experience and made it more worthwhile. Due to the fact that we were all from different backgrounds, we tended to have different viewpoints on different subjects, which made*

Table 3. Mean ratings¹ related to self-perceived learning outcomes and personal growth for students from Haskell Indian Nations University (HINU) and Purdue University (PU) who completed an online questionnaire in fall 2013. Respondents participated in a two-week travel course in Costa Rica offered yearly from 2010-2012. No differences in ratings were detected between universities, according to Fisher’s exact test. Parentheses enclose standard errors.

	HINU	PU
Learning Outcomes		
The course increased my knowledge of Costa Rica’s agricultural production systems	4.9 (0.1)	4.6 (0.1)
The course increased my knowledge of tropical ecosystems	4.8 (0.2)	4.5 (0.2)
The course increased my knowledge about how food is produced	4.5 (0.2)	4.2 (0.2)
The course increased my understanding of how culture affects land use practices	4.4 (0.3)	4.4 (0.2)
The course increased my understanding of cultural and ethnic diversity in Costa Rica	4.9 (0.1)	4.6 (.01)
Personal Growth		
The course helped me to become more comfortable interacting with people from other cultures	4.3 (0.3)	3.9 (0.2)
The course increased my interest in interacting with people from other cultures	4.3 (0.1)	4.0 (0.1)
The course increased my motivation to learn another language or to improve my Spanish	4.3 (0.2)	4.0 (0.2)
The course increased my confidence to travel abroad	4.4 (0.2)	4.1 (.03)
The course increased my interest in purchasing food that was produced sustainably	4.5 (0.2)	4.1 (0.2)

¹Ratings are based on a 5-point scale where 1 point = strongly disagree and 5 points =strongly agree.

group discussions a learning experience.” Another student wrote “*To my surprise, even though students varied in ethnic, cultural and socioeconomic backgrounds, we all could relate fairly close to one another through personal experiences, thoughts, ideas, etc.”* However, some respondents noticed that students tended to interact more with students from their own institution and that there was

Figure 1. Percentage of responses when asked what came to mind first when respondents thought about the course.

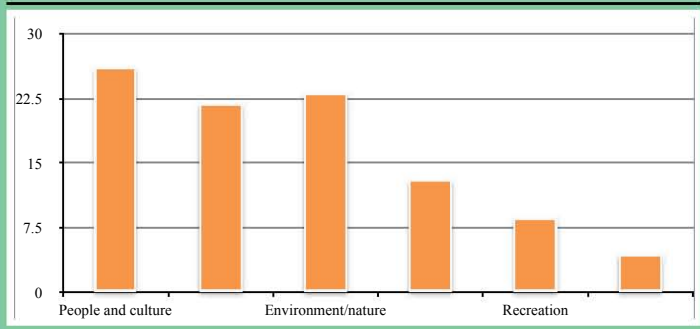
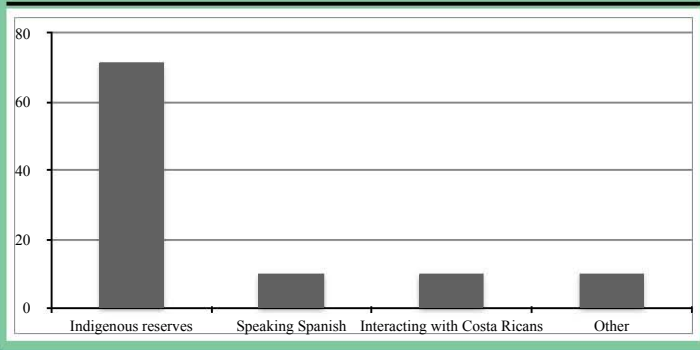


Figure 2. Percent of responses indicating the experience that made the respondents feel the most immersed in the country.



some tension among the groups at times. One respondent wrote that “the Haskell and Purdue students tended to stay in separate groups” and another noted that there were “some culturally insensitive actions” but also that there was “growth and exchange between our two groups as we both grew in our experiences.” One respondent questioned the importance of student backgrounds, noting that “personalities were more of an issue than background. Too many strong personalities in one tiny bus made for a little tension.” Since one of the goals of the course was to increase interaction among Purdue and Haskell students, we were encouraged by a student who wrote “I thought the diverse group ended up bonding very well with each other. A number of us even met after the trip almost a year later to catch up. Most of us are connected through social networks which has allowed us to keep in touch with one another.”

Respondents were asked if the course affected how they viewed their studies or career upon their return. Only one respondent indicated that the course had no effect. The remaining respondents indicated that they felt more motivated to do well in their studies and to pursue opportunities in their chosen career. One respondent wrote “having that experience helped make what I was learning in the classroom feel more relevant. When learning about sustainability in the class room I could think about the sustaining farming methods we viewed first hand in Costa Rica.” Another respondent wrote, “I realized that most systems have problems and instead of always trying to find something better, my time would be better spent trying to improve a system that I know, in Indiana.” Several Haskell students wrote that it increased their interest in working with tribes. “I felt more focused on merging indigenous studies with the

environmental sciences. I transferred to a school where I could do an interdisciplinary of the two.” Another student commented, “Upon finishing the course, I felt a lot of fire through me to ... help with my own culture. In my home state there is one problem that stands out above the rest and that is water quality and in general water itself. Since the course, I have landed a job working with water quality.” Three respondents indicated a new or renewed interest in working internationally.

We believe that the positive views of the course expressed by the respondents reflect three key strategies employed by the instructors. First, we focused our examination of sustainability on the perceptions of stakeholders (farmers, land managers, community members), including students and their friends and families. This included presentations by the students during the preparatory course in which they interviewed friends and family about agriculture and sustainability and provided their own perspectives and information on their backgrounds (Gibson et al., 2014). During the travel course, the instructors facilitated discussions that allowed students to express their perspectives on how culture affects views of sustainability. Second, we integrated indigenous perspectives in both the preparatory and travel course to address concerns that study abroad courses can be culturally irrelevant to Native American students (Calhoun et al., 2003). Finally, the three-credit preparatory course covered material in sufficient depth that students spent no time in classrooms during the travel course; this maximized the time students spent interacting with a diversity of Costa Ricans and the physical environment. The preparatory course also allowed students to interact and develop friendships before the travel course.

Suggested Course Improvements

Eight students (four from HINU, four from Purdue) indicated that they would not do anything differently to prepare for or during the course. Three Purdue students and four HINU students indicated that they would work harder on their Spanish and two Purdue students wrote that they would gather additional information on the country. Comments to improve the course focused on providing more free time and spreading events more evenly across the two weeks. The course typically included two days in which activities were not scheduled and two to three half-days when students were unsupervised but engaged in semi-structured activities such as a making a specific purchase in grocery stores. Three Purdue entomology students wanted a greater emphasis on insects and additional opportunities to collect specimens. Several students suggested that the instructors provide opportunities during the pre-trip preparatory course for students to work on their Spanish.

Summary

Respondents were interviewed one to three years after completing the travel course. Both HINU and Purdue students indicated that the course increased

Impact of a Study Abroad Course

their knowledge of key topics and contributed to personal growth. Positive responses to both open and close-ended questions suggest a lasting impact of the course on participants. Despite differences in age and ethnicity, the HINU and PU students did not differ in their positive assessment of the course and written comments suggest that respondents believed that the multicultural composition of students and faculty enhanced their experience. This study suggests that study abroad programs can be developed and offered through partnerships between TCUs and PWIs that provide substantial benefits to students at both institutions.

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