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Studying Abroad?

HATIAN SUN AND PERUVIAN RUINS:

Service-Learning in International Development

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ABSTRACT

Development issues in growing nations can be seen and discussed in service-learning programs on Purdue's campus. Two international experiences in Haiti and Peru reveal a need for development strategies that can be universally applied in service-learning settings. Traveling with graduate students from Lima, Peru, to study animal connection in Peruvian society and teaching Haitian university students the basics of water quality and testing allow the exchange of ideas between cultures and profound learning for both parties. Connections like these change mindsets and inspire curiosity, thus strengthening human capacity. Challenges and barriers like integrating quantitative and qualitative data from community partners are overcome through communication and teamwork. Service-learning intimately relates classroom instruction with practical application, allowing students to realize their potential not only to share technical knowledge, but also to generate innovation within cultures vastly different than our own.

KEYWORDS

food insecurity, hunger, service-learning, water quality, animal connection, Haiti, Peru

INTRODUCTION

White light from my laptop mixes on the laminate surface of my dorm room desk with yellow from a suspended string of lights. I am checking social media at the day's conclusion, and I notice lush rainforest, ancient stone ruins, and pastel buildings scrolling past in the targeted advertisements on the right panel of the screen. "Backpacking with a purpose," they entice. "Discover yourself while making a difference." Aside from what these ads say about my personal search history, they capture the zeitgeist of the millennial generation as an increasing number seek to study, serve, and teach abroad. Motives range from the desire to develop global consciousness, to having an aesthetically pleasing Instagram feed, but the result is the same—we are actively seeking opportunities to cross borders, and many millennials do so with the goal of helping others. Service-learning

abroad is an approach to travel that rips the poverty curtain in half to open eyes to both global and local issues as students realize the injustices they witness are not really so far from home.

The United Nations Development Programme (UNDP) annually publishes a report monitoring and discussing a Human Development Index (HDI) ranking countries by a combination of their life expectancies, education systems, and standards of living. Emphasizing the importance of the HDI is the underlying understanding that the capabilities of a country's population are a more accurate metric of success than economic growth alone. Haiti and Peru, two countries in which I have international experience, rank 163 and 87 of 188 countries by HDI in the 2016 report, marking them as countries of low and high human development, respectively (UNDP, 2016). Peru, a developing country on the rise, advanced two places

Figure 1. A woman and young girl sit before a valley that doubles as a soccer field and a pasture for the villagers' collective livestock in rural Cachora, Peru.

over its standing last year—a deceptive improvement. Approximately 10 million of its 30 million population live in Lima, its capital city, and enjoy modern luxuries; however, rural inhabitants earn approximately 21 times less than their urban counterparts (Arana, 2013). Observable disparity results from rapid growth that often leaves minority and fringe groups behind, a trend the UNDP (2016) acknowledges with its report titled “Human Development for Everyone,” as inclusive solutions are sought. Haiti, desperate for growth of its own, would benefit from knowledge of other nations’ mistakes and triumphs in bettering populations as they seek to better themselves. A thorough comparison of my Peruvian and Haitian experiences highlights the differences and similarities between the two and exemplifies the need for universalism in the formation of global development strategies.

DESCRIPTION

A minor in global engineering—collaboration across cultures, understanding of global trade, and improved international technology—led me to spend spring break 2016 studying abroad in Peru and to spend time in a classroom during the 2016–2017 academic year planning an agricultural symposium for university students in Haiti. The course HONR 299, entitled “Explorations in Human Cultural Diversity: Humans and Animals in Peru,” explored connections between people and their animals across cultural differences between America and Peru and within Peruvian society itself. The course YDAE 491, “Engagement Methods for International Food Security in Haiti,” is an opportunity for students to work with Haitian partners to address hands-on, real-world, identified challenges to learn the principles of

extension methodology and sustainable community development. Classes are composed of about 20 students of varying—mostly agriculturally focused—majors broken into more closely knit teams of a handful. Drs. Elizabeth Brite and Mark Russell led the adventure to Peru, and I had the opportunity to work with Dr. Russell again in developing curricula for a presentation in Haiti. Both professors were essential in encouraging critical thinking and self-reflection, maximizing the value of the experiences.

Bumpy bus rides along twisting, turning, climbing, and descending Peruvian roads with no guardrails served as a setting for some of my favorite discussions with the class’s Spanish-speaking traveling companions. Joined by graduate students from the Universidad Nacional Agraria (UNA)—La Molina in Lima, we worked together in small teams to conduct ethnographic studies exploring cultural factors that influence human practices in settings like a corporate dairy farm, village homesteads with mixed domestic farming, a vicuña preserve, and an elite horse-training center. UNA—La Molina educates its students in agricultural fields, furthering development of the country with creativity and professionalism. While the purpose of this adventure was not explicitly service-learning, the opportunity to closely interact with these Peruvian students facilitated the open exchange of information and ideas. For example, I know that our computer engineer guide quit his day job and opened a salsa-dancing studio in Cusco, and he knows that the thought of hiking Machu Picchu helped me through months of physical therapy recovering from ACL reconstructive surgery.

Haiti presents a different set of opportunities as we work with the Université Anténor Firmin (UNAF) in Cap-Haïtien, Haiti, a university on a mission to complete research and educate its students for the advancement of Haitian development. About 70% of Haitians live on less than two dollars per day, and 96% of the workforce is involved in agriculture or works in the informal sector (Konbit Sante, n.d.). Developing human capacity and technological systems would allow a greater portion of the population to pursue advanced training for other industries outside of agriculture, expanding and diversifying trade and employment opportunities. Purdue students are able to serve by inspiring, engaging, and teaching Haitian peers the technical agricultural, business, and sustainability knowledge we gain from our classes in West Lafayette, specifically lecturing and giving interactive demonstrations on topics requested by instructors at UNAF.

Only about half of the Haitian population has access to clean drinking water (Konbit Sante, n.d.), a problem my

team addressed by proposing a low-cost solution testing for contamination by coliforms like *E. coli*. We developed a violet red bile agar (VRBA) selective media assay, generating petri dishes filled with a growth media that would only grow coliforms after a two-day incubation period if they were present in a water sample spread on its surface. The goals of our time in Haiti were to communicate the procedure and testing methodology, discuss good laboratory citizenship, and instill an understanding of what a positive or negative result might mean. While I did not travel to Haiti, I actively contributed to building a lesson plan for both a lecture and demonstration, creating an instructive poster to leave in Haiti, generating handouts and water quality survey questions, and assembling basic laboratory equipment to donate for students at UNAF to repeat the assay themselves. This upcoming academic year (2017–2018), I will be continuing my work in water quality, treating water for coliform contamination as a response to potentially positive VRBA testing results.

COMMUNITY IMPACT

Assessing community needs in determining ideal project specifications proved a difficult undertaking, as we sought to blend data-driven analysis with qualitative requests from the UNAF site. For example, what does “cheap” mean? Here, five dollars is a coffee, but in a country where the average daily income is enough to purchase only half of a Starbucks drink, a cost-effective solution must be less than a dollar per test. The project’s

original goal was to provide the University with the means to commercialize its own testing center, becoming a laboratory where the surrounding community could test water samples for a fee of pennies on the dollar. While this is still an ideal scenario and one in which UNAF staff explicitly demonstrated interest, it may not be a practical one, as reports from the Purdue team returning from Haiti indicated an insufficient laboratory space at the school. Upon realizing this, the team derived its sense of purpose from the opportunity to educate students about water quality—something they had not considered before as a cause of illness—and inspire them to pursue a solution to this problem that may be better suited to fit their needs. In the future, measurable impact data may be collected by surveying attending students to gauge who managed to complete independent testing or who continued to pursue the issue of water quality in Cap-Haitien.

As a direct result of Purdue’s involvement, students from Haiti and Peru are seeking educational opportunities in the United States. By sharing our ideas and speaking openly about Purdue, we sparked an interest and opened a door they might otherwise have considered closed. Students’ excitement and curiosity reminded my classmates and me that we should not take for granted the incredible opportunity we have to study as Boilermakers.

STUDENT AUTHOR IMPACT

The margins of my notebook for a seminar pre- and post-departure for the Haiti service-learning class are filled

Figure 2. Twelve weeks after knee surgery, I climbed the steps of Machu Picchu and took in the view from above the clouds. Courtesy of Brooke Beale.

with questions and ramblings that might begin in water quality issues and end in the cultural implications of foreign street art. Unlike questions and thoughts on my statistics or differential equations notes, these are often deeply thought provoking: “What motivates people?” and “What are the metrics of ‘best’ in another country?” are a couple from last semester. I write furiously to capture not just information, but also the meaningful narrative intertwined with it, making this notebook different from every other.

Why go abroad to receive this kind of interactive education? This question demonstrates the answer—we do not receive an education; rather, we receive the opportunity to earn one. Citizens of developing countries, popular outreach destinations, are often not afforded this luxury. Hopping aboard a plane deposits students from industrialized nations on foreign soil, setting the scene for a high-dissonance experience that quickly penetrates layers of expectations, beliefs, and societal norms. The psychology of cognitive dissonance demands the alteration of either one’s convictions or one’s actions to resolve the internal dilemma. “Culture shock” may be a colloquial expression of this chasmic divide between perceptions and reality as the student struggles to shift existing views and habits before reality is made real. This complete disconnect from “normal” allows space for reflection—a situation difficult to simulate in comfort.

Figure 3. A city street in Abancay, Peru where one of the city’s many stray dogs hides in the shadows.

Service-learning is a distinct travel experience because it is intended to be mutually beneficial for sojourner and host. The symbiotic relationship fosters understanding by allowing travelers to work alongside their temporary community members. A profound level of empathy is deepened with every interaction, as dirt is worn into the wrinkles of hands, silverware clatters onto the table beside a home-cooked meal, and words about more than the beautiful scenery float through the air. Assumptions are scrubbed away by meaningful interactions with people as eager to learn as they are to share, proving our common humanity. This empathy fostered abroad can be woven into the fabric of home as students return with a fresh perspective, seeking to maintain the open-mindedness they embraced after discovering brains do not fall out, nor do they have an absorption limit despite sponge analogies.

CONCLUSION

A memory of study abroad in Lima, Peru, illustrates the newfound awareness of service-learning and travel—a glittering, newly constructed string of mansions atop a hill with a rusty, tin-roofed shanty in the dirt at its base. Juxtaposition of the beautiful against the unsightly magnifies each of their qualities. The romantic notion that they exist in harmony is false—war, political unrest, and disagreement are as human as the issues they encompass. But good is not made evil by the fact that evil exists. The dissonance-inducing act of travel is a catalyst in developing a more complete realization of the meanings of privilege and opportunity and their uneven distribution. Once realized, it is our responsibility as fellow humans to help each other reach a state of equilibrium. What better way to start than with our neighbors?

In multidisciplinary engineering, my experiences in service-learning and abroad bring questions of a solution’s versatility for a large, diverse population to the forefront of my mind when considering potential innovations. They have also highlighted the importance of communication in making technology accessible and practical for the masses—advancements in devices and systems are less valuable if their human operators are not improved, as well. From this experience, I developed a strengthened interest in public health, which I now intend to pursue as an application of my multidisciplinary engineering degree. The basis of comparison obtained from completing multiple international experiences has allowed me to observe the same trends across multiple cultures, elucidating humanity’s commonalities and confirming their universality.

Haiti and Peru are, of course, different. One speaks a French-derived language, and the other speaks Spanish. One is an island, and the other contains a piece of a continent-spanning mountain range. Religious, ethnic, and indigenous traditions are different, but for both, the wisest investment for their futures may be in human capital. The ideas, capabilities, and dreams of a country's people are some of the strongest factors in its future success, and the communication of useful skills and ideas is an endeavor we can further. As a Purdue student, the instruction I receive in a classroom can be shared in the field to inspire development—procedures are not taught with the expectation that they will be followed explicitly, but, rather, we give the tools to innovate further by sharing our expertise. The future is bright for Haiti and Peru, vibrant countries with people energized to make a difference, with the implementation and iteration of current development strategies.

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AUTHOR BIO SKETCH

Paige Rudin is a junior in multidisciplinary engineering at Purdue University. She is significantly involved in undergraduate research, working in synthetic biology and veterinary paralysis research laboratories. In the future, she plans to attend veterinary school to pursue a career in public health, combining her interests in biotechnology, animals, and service. Rudin has contributed to the Haiti service-learning program through preplanning and post-travel discussion phases during the 2016–2017 academic year; she looks forward to traveling to Haiti with the program over winter break in the 2017–2018 academic year.

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