Service-learning Benefits Gained by Agricultural Students in Costa Rica: A Case Study

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Abstract

The purpose of the study was to determine the benefits of engaging agricultural students on a service-learning program in Costa Rica. This study used qualitative methodology to collect and analyze data. The context of this study was an upper-level undergraduate course that evolved five-week in-class preparation and a twelve-day study abroad service-learning project in Costa Rica. A new partnership emerged between The Agroecotourism Association of La Argentina de Pocora, Tarleton State University, and EARTH University. Six students participated in the program and they wrote in total 72 journals. Upon returning to the U.S. students developed a website for the Agroecotourism Association of La Argentina de Pocora. An open coding process was used to recognize patterns and themes on students’ journals. Three independent reviewers read each journal and the content were categorized. Students gained knowledge, fulfillment, and gratitude from participating in the service-learning program. Students also gained knowledge regarding tropical agricultural, sustainable production, and organic foods. Short-term study abroad programs that have service-learning components help students acquire cultural awareness and gain greater worldviews. Service-learning within the international agricultural context is not widely studied and accomplished. This study abroad program was a unique teaching and learning experience that could be used as example by many other educators across the nation. However, results from this case study could not be generalized. Programs like this could be used to promote in-depth learning opportunities and engage students in meaningful activities that will help them make the transition from academics to communities.

Key words: Service-learning, study abroad, agricultural students, journals, and international development
Background

Study abroad programs are known for building confidence, increasing problem-solving skills, and creating global awareness with college graduates (Arker, 1999; Arker & Scanes, 1998; Kehl, 2005; Mamantova & Bruening, 2005; Navarro 2006; Zhai & Scheer, 2002). It also creates citizens that can appreciate ethnicity, religious, and cultural differences (Crabtree, 1998). Cultural competence and cultural acceptance are competitive advantages for many students and professionals around the globe (Brooks, Frick, & Bruening, 2006; Mamantova, 2005; Navarro, 2006). In a world interconnected it is crucial that American students are able to work with people from different backgrounds. Since the beginning of the 21st century, the interest of employees with a global outlook and the ability to perform in multiple contexts has been growing rapidly (Brooks, Frick, & Bruening, 2006; Navarro, 2006).

International programs can offer students a wide array of activities. However, the essence of programs that can make a life-long impact relies on providing students experiential learning opportunities (Bruening & Frick, 2004). Service-learning in international settings can provide students experiential learning, collaborative learning, and critical reflection opportunities while serving a community (Crabtree, 1998; Subotzky, 1999). Service-learning is a valuable teaching strategy that engages students in a deeper level with a community.

International development through community projects is a strategy that has been used to increase the likelihood of program success. Bridger & Luloff (1999) discussed that large community interventions require a large scale of changes that jeopardize the coordination and cooperation among stakeholders. When compared with small initiatives, these programs have fewer chances of becoming sustainable projects. Working at the local level, changes are easier identified and perceived. When projects involve community members, locals gain ownership and they will likely be empowered to continue the changes when the intervention fades out (Bridger & Luloff, 1999; Chambers, 2002). This study investigated the benefits that agricultural students could gain while participating in a community-based service-learning program in Costa Rica.

Theoretical Framework

Service-learning has become a teaching practice used to decrease emphasis on individualism, increase civic responsibility, and feelings of inclusion within a community in students. It naturally incorporates experiential learning, active learning, collaborative learning, and critical reflection (Crabtree, 1998). Experiential learning theory explains learning as a process where knowledge is created through the transformation of experiences (Kolb, 1984). Experiential learning requires students to participate in activities, observe their surroundings, reflect, and finally conceptualize their learning (Kolb, 1984; Wingenbach, Chmilewski, Smith, & Pina, 2006).

Service-learning within international settings may promote cultural awareness, worldviews awareness, and intercultural communication skills (Crabtree, 1998). During an international program students involved in hands-on activities increased critical thinking and problem solving skills (Bruening & Frick, 2004). Keen and Hall (2009) concluded that the extent of involvement with community members was critical for successful international service-learning experiences. Students serving a Portuguese-speaking community in New England became engaged with the community and gained cultural awareness (Pastre & Braga, 2005). A community based learning program in rural Guatemala schools, promoted global citizenship to its participants. Students’ journals were used to capture their individual reflections and learning. Students wrote that they gained a level of contentment when they understood that they could make a difference within in
their community regarding global awareness. Within the program students also became aware of the dependent relationship between developing and developed countries (Sanders, 2005). In this day and age, service-learning should be used to create global citizenry, interdependency and mutual responsibility among international communities (Crabtree, 1998).

**Purpose and Objectives**

The purpose of the study was to determine the benefits of engaging agricultural students in a service-learning program in Costa Rica. The objectives of the study were: 1. Explain how students benefited by participating in an international course that featured a service learning component, and 2. Explain how an international agricultural course in Costa Rica broadened students’ worldviews.

**Methods**

*Study Context* - The context of this study was an upper-level undergraduate course that evolved five-week in-class preparation and twelve-day study abroad service-learning project in Guapiles, Costa Rica during summer 2008. A partnership was developed between EARTH University and Tarleton State University to provide a service for a local Agroecotourism Association of La Argentina de Pocora (AALADP).

The Agroecotourism Association of La Argentina de Pocora is a farmers’ association created with the help of EARTH University in Costa Rica. The university helped farmers to get organized and taught them sustainable agricultural practices and the benefits of agroecotourism. Today there are seven farms in the association. For the past eight years farmers have been improving their infrastructure and land so they could receive tourists and improve their income. Agrotourism has proven to be a good source of extra income for families and farmers who are interested in expanding this source of income. However, farmers in the association still rely on EARTH personnel to market tourist visits and stays (C. Picado, personal communication, summer, 2008).

Prior to travel to Costa Rica, students enrolled in a three-credit course at Tarleton State University. The pre-travel topics taught included: Costa Rican culture, agricultural productions systems and ecotourism concepts. In order to practice for data collection, students conducted a mock interview with a Texan farmer that had limited English language skills. In Costa Rica, students worked for the association of farmers in order to help them increase their ecotourism income. Students were responsible for interviewing farmers, taking photographs, and collecting video footage in order to develop a website for the Agroecotourism Association of La Argentina de Pocora. In the field, students took turns collecting various forms of data that could be used in the association website.

Students spent six days visiting local farmers and spent one night in two of the farms. During the farm stay, students were arranged in two groups: one group of students stayed on a farm where the owner had limited English language skills and within the second group one of the Tarleton State University students was fluent in Spanish. This experience helped the students understand what it would be like to participate in agroecotourism and it helped to create a bond between the students and the association owners.

Upon returning to the U.S. students participated in discussions regarding their experiences and were asked to write a final reflection piece on their experience. Students were given two weeks to complete the development of the website and they had access to translator and community project leader in Costa Rica.
Research Protocol and Analysis

This study used qualitative methodology to collect and analyze data (Creswell, 2005; Schmuck, 2006). Six students participated in the program and they wrote in total 72 journals. Students turned in journals daily and were asked to not discuss their writings with each other. An open coding process was used to recognize patterns and themes (Creswell, 2005; Strauss, 1987). Three independent reviewers read each journal and the content were categorized. This coding methodology provides inter-rater reliability of the data analysis (Creswell, 2005). Abrahamson (1983) recommended that researchers understand the context of the documents to be able to identify themes and categories when analyzing reflective texts. Thus, these three researchers have had considerable prior experience with international programs.

Results and Discussion

The purpose of collecting daily journals in Costa Rica was to explore students’ expectations regarding the international experience, perceptions about culture, and their daily learning. Writing journals has helped students conceptualize their experiences, record their experience, facilitate learning, develop critical thinking, and increase active involvement in an ownership of learning (Keen & Hall, 2009; Moon, 2006). Journals are also a recognized means of assessment in formal educator (Creswell, 2005; Moon, 2006). Writing journals help students project their personal thoughts by avoiding peer pressure and criticism. It was assumed that analyzing and discussing these journals among researchers would help comprehend the value of the international service-learning experience for students.

Students and prior international experiences. Pre-trip discussions and introductions were conducted in order to better understand the cohort of students. Four students were graduate students and two were undergraduate students. Out of the six students, two had prior international experiences: one had traveled to Costa Rica for a week on vacation and the other student had toured Europe. Two students had never been on an airplane and two students had never been outside of Texas. This course was not a required course for any of the students.

Objective 1. Explain how students benefited by participating in an international course that featured a service-learning component. Students gained knowledge, fulfillment, and gratitude from participating in the service-learning program. Nineteen excerpts were extracted from students’ journals. The following selected excerpts represent unique dimensions of the impact of service-learning on students.

A student stated, “I got to hold a rabbit and ended up teaching [the farmer] a calming trick on the animals. I got A LOT out of that. It is nice to give back instead of just take all of time.”

Another student mentioned, “These farmers want people to come into their own home and experience what they do... The farmers are educators themselves.”

Students mentioned their learning experiences through interaction with local farmers. Through service-learning students were able to comprehend the magnitude of their community project and the dynamics of international development in terms of time and effort. This type of awakening is mentioned by Sanders (2005) where students who participated in community
service-learning in Guatemala were able to relate to locals and learn the importance of helping
others. The service-learning experience in Costa Rica created knowledge for students and
farmers. This finding is supported by Cabtree (1998), who argued that empowerment is a two
way process where the people of a developing country empower students to act as more
responsible in their country of origin and locals gain ownership for community projects.

One student stated “every little bit counts and helps. If we work to pass
on the valuable information and tools we were given we could make a
difference.”

Another student wrote “It is our job now to let people know about this
association, to help preserve their environment and to bring income to
these families and farms.” “This website can present many opportunities
for these people. It will just be a small way to repay this experience for so
many memories it has given us.”

One student reflects on the farmers’ association and their role in helping
to develop agrotourism in their farms “Even with a website, I really don’t
want to feel bad if the website doesn’t help the farmers in the end. I was
thinking that in order to have successfully detached the association from
Earth [University], that there is still much work to do besides the actual
website... But like in many cases, only time will tell.”

Students became engaged and gained ownership by serving the association of farmers.
Students characterized their participation as meaningful and essential for local farmers. This type
of involvement is critical for the development of a community and for successful international
experience and service-learning (Crabtree, 1998).

Students also gained a sense of fulfillment and amazement by serving farmers in Costa
Rica as one student wrote:

“We had an interview with her it was amazing how excited she seemed to
be over us being there and helping them improve their lives.”

“I went to bed to try to sleep but I was still wired and couldn’t stop
thinking about what all the people had to say about the country and how
happy [farmers] were to hear we were trying to help.”

Crabtree (1998) suggested that cultural shock is essential for personal growth and
development of intercultural knowledge. When abroad, a person challenges his or hers cultural
values with an unknown set of norms and rules. This confrontation of values promotes personal
growth. However, the nature of this growth depends on individual differences such as gender,
country of origin, and host country (Becker, 1968; Crabtree, 1998). Students were moved by the
Gratitude from farmers and their excitement regarding the construction of a website. Other
service-learning programs have had similar impact on students and locals (Keen & Hall, 2009;
Pastre’ & Braga, 2005; Sotello & Raskoff, 1994).
Objective 2. Explain how an international agricultural course in Costa Rica broadened students’ worldviews. Students were able to see coffee, coco, pineapple, bananas and to see biogas agricultural production systems. In total, one hundred and fifty five excerpts were extracted from students’ journals.

On agricultural production systems, 42 excerpts were identified. Clearly these production systems are vastly different than what students typically see in their home environments as illustrated in the following comments.

One student wrote, “I have learned very much about the difference Costa Ricans are trying to make. I really had never heard of an integrated farm. I like the way the farms, as well as [EARTH] are using everything, even waste to better serve the environment.”

Another student reflected, “Prior to visiting Costa Rica I thought I was a conservative, and energy conscious person. After returning I have gained knowledge of ways to better my daily practices [and] to help the environment. I gained knowledge of simple techniques that can be implemented daily to make a more positive impact on earth.”

One student mentioned “There is a difference between organic and non-organic foods, who would have known that there were so many different things in the food you buy from the grocery store.”

Students gained knowledge regarding tropical agricultural, sustainable production, and organic foods. Students who participated in the program were able to compare agricultural practices and conservational strategies between Costa Rica and the United States. By visiting the farms and learning about their mission to becoming energy independent and applying ecofriendly production techniques, students became aware that more sustainable farming practices could be a success. Students learned the differences between organic and non-organic pineapple production and its impact on the environment as noted in the following students comment.

“One key difference given was that on organic farms you can see grass and weeds growing in between the plants, because herbicides and chemicals aren’t used.”

Students increased their connection with food and how it is produced in a tropical environment. Students experienced the entire production system for coco, pineapple, and coffee. This is a unique experience that would not be possible to replicate in their home country as noted in the following students comments.

One student wrote “...The cocoa fruit was a cool fruit. You sucked the seeds and it fermented and you take it to be dried, grinded, and then you make out chocolate. I loved the chocolate milk.”

Another student wrote “I always thought that [pineapples] were always yellow. Who would have known they change the color with a chemical because they know the market would sale more because of the beautiful color.” Another student mentioned “We actually ate pineapple straight
from the field that was amazing and once in a life time experience. “I love it!”

These statements also demonstrate how little students knew about their own food production system. Student knowledge gain as a result of study abroad programs can be observed in various other programs. In field day demonstrations in Mexico, Wingenbach et al. (2006) noted that students learned about Mexican research processes and agricultural businesses. In a needs assessment exercise with limited resource farmers in Brazil, students learned agricultural practices such as irrigation, production techniques, and farmers needs (Kelling & Bruening, 2006). Learning about international production systems allow students to reflect on agricultural practices used in their home country. This could be extremely important for the creation and adaptation of new technology and more sustainable practices in the U.S.

Students became aware of cultural differences and gained greater world perspective. Fifty-six excerpts were indentified on cultural awareness and greater world perspectives. This experience opened their minds to different values, and priorities as noted in the following students’ comments:

A student mentioned, “…our ‘American/US’ perception of distance is completely different as compared to that of Costa Ricans. So the so-called short drive was actually a very bumpy and winding road”.

Another student mentioned, “Even though they live without many of the so-called luxuries that we have in the U.S. these people live such full and amazing lives, each and every single day.

“The school is very interesting they do not have cars around the campus to help the air. They really enjoy what they are doing. They are the hardest workers. I know students back home would not work this hard.”

One student wrote “I was hesitant [about the home stay] at first due to language barrier. However it did not take long for me to relax and enjoy this warm and happy family.”

Students who participated in the program were able to overcome the major barriers to studying abroad such as language, cost of the trip, fear of the unknown, and length of the trip. (Mamantova & Bruening, 2005; Place, Irani, Friedel, & Lundy, 2004). However, students were still hesitant about their interactions with locals and their environment in Costa Rica. This reinforces the value of personal interaction with farmers and the importance of the students staying at the homes of the farmers. Students gained a better understanding of their culture as they discuss how different Costa Rican students are.

Students also broadened their perspectives and worldviews by participating in the program as they gained awareness of immigration, wages, and agricultural production chains as found in the following students’ comments.

“I am starting to realize most of the jobs in Costa Rica are based on tourism.”
“I really never saw [banana paper] in stores in the U.S., but I had also never paid much attention... The only setback to the production of this [banana] paper was that the price was higher than normal white paper. So in America people would still go for the cheapest product available.”

“It was most interesting to me to hear the price of the chocolate out of production. The price is very cheap compared to the prices the finished product is sold as “Godiva” in the U.S.”

“It is interesting on the numbers [large number of people] and [low] wages they [Costa Ricans] have to pay to have Nicaraguans come up and do their [farm] work for them.”

Students noted that immigration and wage problems exist in other parts of the world and they were able to acknowledge one of the main areas of employment in Costa Rica. These results are validated by other program results where students start becoming global citizens (Crabtree, 1998; Pastre & Braga, 2005) and increase awareness of their surroundings.

Forty excerpts were indentified on Costa Rican way of life and people. Students had the opportunity to get to know farmers in a different and more meaningful matter as exemplified in the excerpts below:

One student mentioned “The best thing to me about this farm was the people’s hospitality. They were so thrilled to have us there and treated us like family. Once the tour of the farm was over Chepita, the owner, cried. It was very touching to see someone so caring and hospitable.”

Another student stated, “…pura vida is not just something they say but rather something they live. These people were so happy and laid back. Their lives were so simple it was really enlightening.

“The farm owners were really nice.” “She was the nicest and most caring person ever. She was so kind and heart warming she reminded me of my grandmother.”

“The interaction with locals was great because everyone and I mean everyone has a friendly greeting to give.”

Students established a close connection with farmers and locals as they interacted. Students were extremely moved by locals’ hospitality, their way of life, and existence. This illustrates the welcoming feelings that students perceived when working in Costa Rica. The positive experience helps students decrease their fear of the unknown and other cultures.

Other themes identified during the coding process were: appreciation for their own life (with seven excerpts); motivation to learn Spanish (five excerpts); increased confidence (three excerpts), and first time experiences such as the beach and airplane flights (two excerpts).
Recommendations and Educational Importance

Short-term study abroad programs that have service-learning components helped these students acquire cultural awareness and gain greater worldviews. The results from this study are supported in the following studies: (Cabtree, 1998; Kenn & Hall, 2009; Pastre & Braga; 2005; Sanders, 2005) where students gained life lessons by serving others. When students are out of their comfort zone they become more aware of their surroundings and more sensitive to the environment. Students gained fulfillment and pride by helping farmers. In addition, the Agroecotourism Association of La Argentina de Pocora gained their own promotional website. At the same time, the association became more independent from EARTH University.

Mutual empowerment occurred as farmers and students became educators. This was possible because students were engaged and became responsible for helping that community. Cabtree (1998) suggested that the higher the engagement with locals the more mutual empowerment takes place. International programs that engage students in experiential learning with a variety of activities and responsibilities promote valuable real life lessons. Students are able to overcome fears and reflect on their own values.

Service-learning within the international agricultural context is not widely studied and accomplished. Thus, only few studies were found in the literature. Communications barriers, development of effective partnerships, and opportunities are the main obstacles to prevent others from replicating this type of program. This study abroad program was a unique teaching and learning experience that could be used as example by many other educators across the country. However, results from this experience could not be generalized to other communities and programs.

Programs like this could be used to promote in-depth learning opportunities and engage students in meaningful activities that will help them make the transition from academics to communities. Local communities benefit from students skills and knowledge and students learn from these interactions.

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