Chapter 8

Global Service-Learning on a Continuum:
Shallow and Deep Service-Learning in Rwanda

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ABSTRACT

This book chapter explores student learning and growth after participating in the Science, Society, and Service-Learning in Rwanda study abroad program. The students participated in what the authors define as deep service-learning, one experience that took place over a few days, allowing for more meaning-ful engagement, and shallow service-learning, two separate experiences that each occurred over a few hours, allowing for less interaction. The authors used Likert-scale and open-ended post-trip questions to assess the students in three categories: 1) global competency and cultural awareness, 2) personal growth and development, and 3) communication and teamwork. The students rated the first category the highest. The authors also assess the effectiveness of the service-learning experiences by including the perspectives of the Rwandan community partners.

Over a decade ago, in 2012, the University of Central Arkansas (UCA) in the United States launched a service-learning study abroad program to Rwanda, focusing on the intersections of science, society, and service-learning. *Science, Society, and Service-Learning in Rwanda* was originally developed in collaboration with Rwandan Presidential Scholars attending UCA to promote science education outreach into primary schools in an attempt to introduce hands-on science activities based on the Rwanda primary

school science curriculum guidelines. Prior to departing the United States, faculty and students spent considerable time studying common Western misconceptions about the African continent, the history and geography of Rwanda, the 1994 Genocide Against the Tutsi, the governmental policy of Unity and Reconciliation, basic Kinyarwanda (the native language of Rwanda), and Rwandan cultural norms. Faculty leaders worked with in-country partners to develop an itinerary that blended important cultural and historical sites, ecotourism experiences, and multiple opportunities for various forms of service-learning.

The emphasis of the program has shifted over the years and now focuses primarily on service-learning in a rural village in northwest Rwanda. The UCA contingent visited the village briefly during the inaugural program year and has since developed a long-term partnership with village leadership to collaboratively plan and implement an ongoing improved cookstove project in the form of site built rocket stoves. The history and community-based participatory research nature of the project have been previously described (Horton, 2022). In brief, the village partner is situated in a remote region in northwest Rwanda and is home to approximately 900 families, many of whom are in the first and second *Ubudehe* categories (most highly subsidized) of the national community-based health insurance scheme. Poverty is endemic in the village, very few families can afford to connect their homes to electricity, and almost everyone depends on firewood as their primary source of fuel. The traditional cooking method in the village is the three-stone fire. Horton (2022) compared the firewood efficiency of the traditional three-stone fires to site built rocket stoves and found the rocket stoves reduced firewood consumption by an average of 32.74%, leading to significant savings of wood, time, and money. Due to the design of the rocket stoves, there is also less wood smoke exposure thereby improving health outcomes of stove users. The primary limitation of Horton's study was the small sample size as only ten families in the village had rocket stoves and an ongoing goal of the partnership has been to build more rocket stoves in the village.

Since the inception of the *Science, Society, and Service-Learning in Rwanda* program, students and faculty have worked with various partners and programs to conduct what we refer to as deep and shallow service-learning. Deep service-learning is characterized by student engagement with community partners over multiple days during which students and community members have the opportunity to form connections, share experiences, and build relationships. In contrast, shallow service-learning is characterized by service performed during a short period of time, typically no more than more than 2-3 hours, which does not provide opportunities for genuine connection and relationship building. The faculty leaders feel that both deep and shallow service-learning are valuable experiences for students. This chapter will explore project development, relationship and trust building with global partners, as well as student perspectives and reflections on both types of global service-learning experiences. The article will close with suggestions for faculty and administrators seeking to develop collaborative, global service-learning programs on their campuses.

LITERATURE REVIEW

Service-learning is considered in higher education as a high impact practice that blends classroom learning with community engagement in an attempt to bolster student learning of course content as well as various skills and dispositions such as citizenship, perspective taking, and intercultural awareness (Kuh, 2008; Meyers, 2009; Welch & Plaxton-Moore, 2019). Faculty and students can participate in a variety of service-learning activities including direct service, indirect service, advocacy, and research (Welch & Plaxton-Moore, 2019). Morton (1995) asserts that service-learning includes three paradigms

on a continuum from charity to project to social change or advocacy. These paradigms can be "thin" or "thick" depending on the lens through which faculty and students engage with the community and the type of service conducted. Charity work risks being thin service-learning that has the potential to reinforce established structures of power and privilege, exactly opposite the intended outcomes of service-learning (Bowen, 2014, Mitchell, 2008; Morton, 1995). Another way of describing the range of student experiences within Morton's paradigms is that the service-learning falls on a continuum from shallow to deep, characterized primarily by whether and to what extent students and faculty invest in relationships with community partners and the level of concern shown to the root causes of a problem (Corso, 2008).

Within current service-learning scholarship, many authors are advocating for a shift from traditional service-learning to critical service-learning (Bowen, 2014; Latta et al., 2018; Mitchell, 2008). Critical service-learning intentionally approaches community engagement through a social justice lens focused on systemic injustice and inequality. Critical service-learning, when crafted carefully, has the potential to interrupt age-old hierarchies and power structures, providing for truly transformative student experiences. McEachen (2017) advocates for deep learning based on a foundation of character, citizenship, collaboration, communication, creativity, and critical thinking. The deep learning paradigm can be utilized in the design and implementation of critical service-learning.

However, whether students engage in traditional or critical service-learning, the experience remains thin or shallow without a reflective component built in to the service (Harrell, 2022; Welch, 2019). Kolb's (1984) experiential learning cycle is commonly used as a model for understanding the power and importance of student reflection following any form of experiential learning, including service-learning (Cone & Harris, 1996; Latta et al., 2018; Salam et al., 2019). Reflection provides the opportunity for students to make meaning from their experiences, to investigate important questions, and to conceptualize future interactions. Student reflection is necessary to move service-learning experiences from shallow to deep.

Global Service-Learning

Many college campuses are embracing high-impact practices that combine global learning and service-learning as ways to help increase students' intercultural knowledge and competency (American Association of Colleges and Universities, 2021).

Global learning was defined as "the process of diverse people collaboratively analyzing and addressing complex problems that transcend borders" (Landorf & Doscher, 2023). The authors updated their 2015 definition in 2023 to add "and engaging in actions that promote collective well-being" (Landorf & Doscher, 2023). The addition to the definition helps to establish a firmer connection between global learning and service-learning.

In addition to becoming more globally self-aware, understanding global systems, and applying knowledge in contemporary global contexts, students who participate in global learning are expected to learn about perspective taking, cultural diversity, and personal and social responsibility, (American Association of Colleges and Universities, 2021a). These learning outcomes are similar to service-learning, where the goals include, but are not limited to, students understanding how their majors can serve or address needs domestically or internationally, appreciating diversity, and practicing civic responsibility (UCA service-learning, n.d.).

Service-learning has been included in study abroad as one way students can engage in global learning. Studying abroad is an experiential learning, high-impact practice that allows students to study in another country, thereby increasing their intercultural knowledge and competency so they can understand how

to behave effectively and appropriately when interacting with individuals from various cultures (American Association of Colleges and Universities, 2021b). Students can also gain knowledge about cultural self-awareness and worldview frameworks, empathy, and verbal and nonverbal communication skills, while becoming more curious and open (American Association of Colleges and Universities, 2021b).

Glickman et al. (2015) linked service-learning and cultural competence in their research about U.S. graduate professional students in health and human services fields who spent six weeks immersed in Malawi, Africa. The authors found that the immersion experience from studying abroad enhanced their cultural competency skills more than education alone (Glickman et al, 2015). Gates (2014) echoes this sentiment by asserting that in colleges and universities across America, studying abroad "has become a powerful force in student cultural competence" (p. 33). The author concludes that these short-term experiences "can provide cultural and linguistic immersion within the context of hands-on experience that may connect both to academic and potential career interests" (p. 39).

Lee et al. (2019) noted that students can learn other skills connected to cultural competence when they engage in service-learning in another country. The authors conducted ethnographic research on American students from diverse backgrounds who participated in Engineers Without Borders programs operating in Africa, Latin America, and the Caribbean. The authors concluded that students increased their cultural competency about other countries and their classmates from different socioeconomic backgrounds. "Having diverse service-learning teams will benefit all involved as it provides another way for students to learn respect for cultural diversity, how to work across differences, and how to effectively incorporate different views into their work" (Lee et al., 2019, p. 11).

Whereas some scholars looked at how students benefited from service-learning and global learning through study abroad, Gendle et al. (2023) researched how the international partner benefited. The authors assessed outcomes when undergraduate student groups from the United States partnered with a rural area in Sri Lanka. Gendle et al. (2023) used the term Community-Based Global Learning instead of the commonly used term service-learning to describe their work. The students participated in a collaborative project that Sri Lankans chose, which included rehabilitating and cleaning an elementary school. The results of their Community Benefit Survey showed that within this context, community members who completed the survey agreed that "the students collaborated with their community in a useful way, and that it would be valuable to host additional student groups in the future" (Gendle et al., 2023, p. 6).

Global Service-Learning in Rwanda

The projects described in this chapter seek to implement best practices from the literature regarding global service-learning. We have been working in Rwanda since 2012 and have invested significant time into building long-term partnerships based on mutual respect and trust. While studying abroad in Rwanda, our students engage in a variety of service-learning on the continuum from shallow to deep. While students are asked to reflect on all of their service, the shallow experiences provide limited opportunities for relationship building and align more closely with Morton's (1995) paradigm of charity work (e.g. donating school supplies and donating time to help with a community clean-up event). Deep service-learning carried out collaboratively with our long-term community partner fulfills not only Morton's (1995) definition of investment in relationships, but also the level of concern shown relating to the root causes of the issues facing the community.

Our students participating in deep service-learning benefit from what McEachen (2017) calls learning partnerships – relationships cultivated between and among students, teachers, families and the wider

environment – and learning environments – interaction in trusting environments where students take responsibility for their learning. Our deep service-learning also provides opportunities for students to interrogate power structures (Mitchell, 2008), work to disrupt the white savior complex (Harrell, 2022), and practice active and responsible citizenship (Segú Odriozola, 2023). The remainder of the chapter discusses our course design and student learning outcomes, partnership development and program evaluation, and offer suggestions for faculty and administrators seeking to implement global service-learning.

COURSE DESIGN AND STUDENT LEARNING OUTCOMES

The deep and shallow service-learning discussed in this chapter are embedded into two courses taken by students participating in the *Science, Society, and Service-Learning in Rwanda* 3-week faculty-led summer study abroad program. Students enroll in three or six credit hours, with options including a biology special topics course and a world cultures course. The study abroad program in Rwanda is the only faculty-led study abroad program at UCA for which biology majors can earn course credit for their major, so it is typical for biology majors to be in the majority. In addition to outcomes related to content for each course, learning outcomes for the program were informed by the AAC&U VALUE Rubrics, in particular the Global Learning rubric (American Association of Colleges and Universities, 2021a) and the Intercultural Knowledge and Competence rubric (American Association of Colleges and Universities, 2021b). Specifically, as a result of participating in *Science, Society, and Service-Learning* students would

- improve their ability to articulate their identity in a global context.
- evaluate and apply diverse perspectives to complex global issues.
- increase their knowledge of global power structures.
- increase awareness of their own cultural biases and understanding of the foundation of those biases.
- demonstrate and articulate an awareness of the complexity of culture and make meaning from that complexity by drawing on multiple perspectives and worldviews.

Student learning was assessed through daily journal entries, participation in group discussions, and a final project. Each student was required to keep a travel journal and make at least one entry each day. Some days we gave students specific reflection prompts and other days students were free to reflect on the experiences of their choosing. For example, after spending time at a school for deaf children, the reflection prompt was:

Throughout your time in Rwanda, you have been communicating with many people who speak a different language. How was today's experience at the school for the deaf different? What did you learn about yourself today? Did today's experience affect how you feel about interacting/serving disabled communities at home?

For content specific outcomes, each student was required to lead one discussion over the course of the program. Biology students chose from a selection of peer-reviewed academic journal articles related to Rwanda, such as forensic anthropological analysis of mass graves, rediscovery of a bat species in Nyungwe National Park, ecological and genetic diversity of mountain gorillas, impact of home gardening

on food security, etc. The cultural studies students chose a relevant cultural topic to research and present including the history and current model of umuganda, impact of the Chinese Belt and Road Initiative on Rwanda, the use of restorative justice to promote peace and reconciliation after the 1994 genocide, etc. The group discussions were incredibly rich and one student commented,

There were several instances where our nightly discussions challenged positions that I had been taught my whole life, and it was interesting to see how being in a different country could completely change those positions.

Group Interdisciplinarity

Eleven students and three faculty members participated in the 2023 *Science, Society, and Service-Learning in Rwanda* study abroad program, consisting of seven biology majors, one journalism major, one political science/Africana studies double major, one social studies education major, and one international studies/linguistics double major. The interdisciplinary makeup of the student group is beneficial to the outcome of the service-learning projects, because students from different disciplines bring with them different perspectives, knowledge, and skills (Hawes, et al., 2021). One student commented, "Through my daily interactions, I found that I had so much in common with everyone I met despite our radically different lifestyles and backgrounds." Another student stated,

During my time in Rwanda, the professors who led me and the peers who surrounded me all helped to make it one of the greatest experiences of my life. I am so grateful for the little community we made amongst ourselves as we braved very new and unfamiliar adventures, including our service-learning projects. It has changed me indefinitely, and for that, I am forever grateful.

Not only were the students participating in the program an interdisciplinary group, so were the faculty who represented the disciplines of biology, leadership studies, and public relations (PR). The faculty diversity contributed to rich discussions of course content and spontaneous teachable moments that arose often in the context of daily activities. For example, the PR faculty member was able to engage students in thoughtful discussion regarding the propaganda utilized throughout the 1994 Genocide Against the Tutsi, the biology professor guided students through processing how forensic anthropologists were critical in examining human remains post-genocide to provide evidence to the International Criminal Tribunal, and the leadership studies faculty member helped students process the enormous leadership challenge of rebuilding the country post-genocide.

One important notation is that all of the students and faculty, with the exception of the PR faculty member, are White. UCA is a regional, predominantly White, masters comprehensive university in the southern United States. The most recent data show a combined undergraduate/graduate student population of 9,780, of whom 67% are White ("Bear facts," 2024). The PR faculty member is Black and the value she added to the experience for the other participants cannot be overstated. The leadership studies faculty member has been a faculty leader on the service-learning study abroad in Rwanda since the program began in 2012. While she was able to guide students through conversations about cultural competence and the pitfalls of the white savior complex, the presence of a Black faculty leader greatly enhanced the authenticity of those conversations. She spoke to the students from the standpoint of a Black American woman and gently, yet firmly, encouraged the students to interrogate their biases, motivations, and

worldviews. One important conversation she led dealt with posting photos on social media. We wanted our students to be able to share their experiences with their friends and families in a culturally competent, respectful, and appropriate way. The PR faculty member was able to help students work through what kinds of pictures were and were not appropriate to post and in what contexts. These were necessary conversations to have as we attempted to guide our students' understanding of global power structures and ongoing structural colonialism and to help them understand how the photos they posted could either reinforce those systems or could attempt to interrupt those systems by providing appropriate context.

PROGRAM OVERVIEW AND PARTNER DEVELOPMENT

Since the second student cohort in 2013, we have been fortunate enough to work with a local educational tourism company owned and operated by Rwandans. Developing close relationships with in-country providers is critical to the success of long term partnerships and we highly recommend working with locally owned businesses whenever possible. In order to facilitate partners for deep service-learning, faculty and administrators must commit to relationship building. Global service-learning, especially those centered in developing countries with students from predominantly White institutions, can run the risk of reinforcing colonialist stereotypes and promoting the white savior complex. Those risks are particularly prevalent when university faculty or staff have chosen partners without doing the important relationship building and needs assessment work prior to conducting the project with students. Designing projects based on faculty, staff, and student assumptions of partner needs places the partners in the unfortunate position of *being served* or having service conducted *on* them rather than *serving with* them.

In order to ethically conduct global service-learning in developing countries and/or with marginalized communities, intellectual and cultural humility is essential. Putting in the time to build relationships and establish trust is key to involving students in an ethical, reciprocal service-learning project. Marginalized communities are often targeted for research and service-learning partnerships. However, work with marginalized communities must be done carefully and ethically, and every attempt must be made to bring the community into the decision making process (DeJonckheere et al., 2019). Israel et al. (2013), outline nine best practices for practitioners of community-based participatory research and many of those best practices also apply when conducting service-learning with marginalized communities. The principles most applicable for service-learning are

- Recognize community as a unit of identity.
- Build on strengths and resources within the community.
- Facilitate collaborative and equitable partnership in all phases.
- Promote co-learning and capacity building among all partners.
- Systems development through a cyclical and iterative process.
- Requires a long-term process and commitment to sustainability.

Faculty leaders for the *Science, Society, and Service-Learning in Rwanda* program have been building relationships with the same service-learning partners since the program began in 2012. The long-term relationships have fostered mutual trust and respect and have provided opportunities for community members to provide authentic feedback and help to shape future projects.

Pre-service training and education is an essential part of preparing students to conduct ethical global service-learning. Students participating in the global service-learning study abroad in Rwanda were selected by February 2023 for the May 2023 program. Over the next three months, the faculty and students were in regular contact in order to promote team-building with the student group. Students were also given some reading assignments to complete during this period. Prior to departure, we spent three days having class on campus during which we discussed the history of Rwanda, watched and debriefed important films, led cultural competency training around cultural norms and customs, had basic Kinyarwanda lessons, and prepared for the service-learning projects. Students reported that these campus class days were important in helping to reduce culture shock, prevent cultural and social missteps, and develop an appropriate mindset to ensure ethical participation in the service-learning projects.

The timing of the service-learning projects within the itinerary is also important to consider. Service-learning was a focus throughout the program, but was not the focus of each day. Excluding the four travel days, service-learning comprised five days of the program, spread across three different sites. Our group spent seven days in Rwanda prior to participating in the first service-learning project. These days allowed the students some time to adjust to the differences in time zone, food, transportation, landscape, and social norms. They also had time to learn more about the history of Rwanda, the colonization that ultimately led to the genocide, the post-genocide recovery, the modern social and political context, the unique flora and fauna of the country, and various public health concerns throughout the country (e.g. poverty, malnutrition, parasites, water-born illnesses, etc). We also visited multiple genocide memorials, museums, and parks in various regions of the country. Acquiring this knowledge of the history and physical landscape of Rwanda enabled the students to be better prepared to empathize with the service-learning partners and community members they would be working alongside. Each daily activity and class discussion deepened the students' understanding of the people and places they were interacting with, gave them confidence in using their limited language skills, and built anticipation for the upcoming service-learning projects. In isolation, the service activities might have been interesting and fun, but the students would not have been able to place their service in the broader social and cultural context and make appropriate meaning from their experiences that critical service-learning requires.

SHALLOW AND DEEP SERVICE-LEARNING IN RWANDA

Students participated in three service-learning projects in Rwanda, each characterized by a differing amount of time and level of interaction with the community. Each project was direct service in which students personally engaged with community members on activities that required teamwork, communication, and interpersonal skills. All three service-learning projects will now be discussed from most shallow to most deep.

Umuganda Participation

Rwanda has a history of public and community service known as *umuganda* (Uwimbabazi, 2012). After the 1994 Genocide, the government implemented compulsory monthly public service that takes place across the country on the last Saturday of each month as part of the National Unity and Reconciliation policy. Local leaders plan projects specific to their community and local residents are expected to

participate. Businesses are to remain closed and motor vehicles are prohibited during time of service, unless special permission has been granted.

Since we were in Rwanda on *umuganda* Saturday, our in-country provider arranged for us to participate in the community in which we were staying. The service took place at a local genocide memorial that contained a mass grave. UCA students and faculty members assisted in sweeping the parking lot, pulling weeds in flower beds, and cleaning the covering of the mass grave. This activity only took a couple of hours and did not provide much opportunity to interact with community members as most of them did not speak English. In the beginning, the women sweeping the parking lot with hand brooms were reluctant to let us help; but after showing us their techniques and what they expected, we were able to complete the job to their satisfaction.

Our participation in *umuganda* was the shallowest of our service-learning projects due to the short period of time we participated and the very limited opportunity for meaningful interaction with community members. However, because the students had learned about the genocide and the cultural significance of *umuganda*, they recognized the importance of the activity. In journal reflections, one student talked about realizing that they could have been working alongside someone whose family member was buried in the mass grave. Several students reflected on the experience, wishing there was a similar program in the United States because many towns and neighborhoods lack a genuine feeling of community. So despite the shallow nature of the experience, it was still valuable to the students' learning and intercultural awareness.

The Nyabihu School for the Deaf

UCA faculty and students were first introduced to the Nyabihu School for the Deaf in 2012 and have visited the school as part of every study abroad program. In 2023, prior to arriving in Rwanda, the faculty leaders had been in communication with the director regarding supply donations the UCA students could collect and bring. We received a detailed list of items from the director that guided our collections. Students and faculty shared the donation list with family, friends, and on social media. Our local community was very generous with both supply and cash donations. One afternoon of our on campus class days, students inventoried the donated supplies, made lists of items still needed, and divided into teams to go shopping with the donated money. We then spent a few hours packing and weighing suitcases full of supplies for the school. Ultimately, we packed seven suitcases full of school supplies.

Unfortunately, due to an itinerary change, we were only able to spend one day at the Nyabihu School for the Deaf, rather than two. The school director had planned for the first day to be spent touring the school, eating with the children, playing games, and learning from their handicrafts teacher. The second day was to be spent repainting exterior walls. Upon hearing of the itinerary change, the director chose for us to spend our day at the school following the Day One itinerary. Upon arrival, the director welcomed us and took us on a school tour. The UCA students had the opportunity to introduce themselves in sign language. Some students had practiced learning to sign their names prior to arrival and the children enjoyed figuring out our names and writing them on the chalkboard. After the tour, the school children engaged the UCA students in their physical education class, teaching their games and playing volleyball. We also ate lunch in the dining hall with the children and spent some time joining a handicrafts class. We spent about four hours at the school, interacting with the children.

We were all disappointed that we were not able to spend more time at the School for the Deaf or do the work we had planned to do, but the time we spent engaged with the children was important in its own

right. Globally, people with disabilities have been historically marginalized and discriminated against. In Rwanda, there is often shame associated with having a child with disabilities and there is often a prevailing assumption that people with disabilities have no options for earning income and therefore depend on begging for their livelihood (Dushimiyimana, 2018). The Nyabihu School for the Deaf is the only school of its kind in the northern half of Rwanda and the school's goal is not only the education of deaf children, but also of their families and communities to reduce stigma against deaf children and people with disabilities (Nyabihu school for deaf, 2024). Allowing groups such as ours to visit the school and engage with the children demonstrates to the children and local community the inherent value and dignity of people with disabilities. The interaction was equally important for our students, many of whom shared their nervousness regarding the communication barriers and interacting with people with disabilities in general.

We also characterize the time we spent at the Nyabihu School for the Deaf as shallow service-learning, due to the limited time and limited opportunities for relationship building. Despite the shallow nature of this project, our students' learning was deep and rich. One student wrote in their journal,

I was shocked at how fast I caught on to useful signs as I spent the day with the students. The fast learning pace allowed me to communicate with those at the deaf school better than I had with any other Rwandans on the trip thus far. The students were bursting with so much joy and kindness. It easily spread throughout our whole group, making us very reluctant to end our visit at this happy place. I hope I can take this joy with me wherever I go, and continue to interact with disabled communities.

Building Rocket Stoves with our Village Partner

Horton (2022) describes the origin and history of the rocket stove project with our village partner. As of 2023, there were still only ten rocket stoves in the village and the village leadership was eager to build more stoves, but needed the funds to purchase the necessary supplies. Our students hosted a "Rocket Run Bring the Heat" 5K with a $25 entry fee, which would purchase the materials to build one stove. While many people signed up for the 5K with the sole intention of sponsoring the construction of a stove, we had approximately 20 participants at the 5K events and raised enough money to purchase supplies to build 50 stoves.

Several individuals in the village had been previously trained to build the rocket stoves, so the primary role of the UCA students and faculty during the service project was carrying supplies from the central location in the village to each individual home. The village itself is built in a volcanic region and the paths through the village are rife with rocks. Carrying heavy loads of bricks, sand, and cement in the equatorial sun, at an elevation of approximately 5,300 feet above sea level, while navigating hilly, rocky, and uneven terrain was a difficult task. In fact, during a follow-up phone call that took place through a translator, one of the village leaders commented that the people of the village had never seen White people do such hard work and that they were all still talking about it. When asked why that was so surprising, he said, "We did not think White people would do such hard work. We thought that was only for Black people."

Regarding the difficulty of the service, several students commented that was what made it so meaningful. Student 4 said, "[the project] was also hard hard work which also made me feel good because we were able to speed up a process that would've taken them so much longer."

The stove project was the deepest service-learning project of the study abroad, as we spent most of three days in the village. Every student said this project was the most meaningful to them and multiple students said it was because of the amount of time they spent in the village and how close they got to the residents. Student 2 said,

Rocket stoves definitely meant the most to me. It was the longest project we had and the only one we had to really struggle through. The heat was a contributing factor…I also felt like we got the most bonding time while we were in the village since we got to stay there the longest.

Student 5 commented,

The rocket stoves service opportunity was definitely the most meaningful to me because we worked so closely with the families living in [the village] for multiple days. The poverty I witnessed in the village was difficult for me to come to terms with, and the children I met and bonded with will be in my heart and mind for the rest of my life. It was so eye-opening to see people deeply struggling, without access to so many resources, but at the same time cheerfully living, making memories and building families in these space that were home to them, yet so foreign to me…Also, going in and out of peoples houses and backyards lended itself to a level of intimacy with total strangers that I had never experienced before.

Student Learning and Growth Self-Assessment

In order to assess student perceptions of their own learning, students were asked to complete an Institutional Review Board approved post-trip assessment via an open-ended Google Form. The assessment questions (see Table 1), can be divided into categories of Global Competency and Intercultural Awareness (questions 1, 2, 3, 4, 11, 12, and 13), Personal Growth and Development (questions 5, 8, 9, 10, 14, and 15), and Communication and Teamwork (questions 6 and 7). To complete and submit the Google Form, students were required to answer questions 1 through 15, with question 16 being optional.

The post-trip assessment questions are based on Chan et al. (2021), whose research examined the impact of global citizenship and intercultural competence among students who participated in international service-learning. The authors used a Global Citizenship Scale that measured social responsibility, global competence, and global civic engagement (Chan et al., 2021, p. 6). The authors also used an Intercultural Competence Scale that measured intercultural effectiveness (Chan et al., 2021, p. 6). The researchers noted that the benefits of international service-learning "include improved global competence; increased sense of global citizenship; development of leadership, communication, and teamwork skills; and personal development in the areas of adaptability, maturity, examination of values and beliefs, civic responsibilities and civic engagement" (Chan et al., 2021, p. 2).

Eight of eleven students completed the assessment, for a response rate of 72.7%. Overall, students rated their learning and growth very positively, with only five of eighty-eight (5.7%) data points being a neutral rating and no questions receiving a rating of disagree or strongly disagree.

Global Competency and Intercultural Awareness

Students rated their personal learning and growth highest for the category Global Competency and Intercultural Awareness (see Figure 1). They universally agreed or strongly agreed that the service-learning

Table 1. Post-trip student assessment questions.

Question 1	The global service-learning study abroad in Rwanda increased my global competence. Global competence is defined as "having an open mind while actively seeking to understand others' cultural norms and expectations and leveraging this knowledge to interact, communicate, and work effectively outside one's environment" (Chan et al., 2021, p. 3).
Question 2	The global service-learning in Rwanda increased my **intercultural awareness**. Intercultural awareness "involves the ability of standing back from our own point and becoming aware of not only our own cultural values, beliefs and perceptions, but also those of other culture" (Zhu, 2011).
Question 3	The global service-learning study abroad in Rwanda increased my **global citizenship development.** Global citizenship is "a mindset to care for humanity and the planet to undertake responsible actions when and where necessary" (Global Citizenship Foundation, 2024).
Question 4	The service-learning study abroad in Rwanda increased my **awareness of global issues**.
Question 5	The global service-learning study abroad in Rwanda increased my **leadership development**.
Question 6	The global service-learning study abroad in Rwanda increased my **communication skills**.
Question 7	The global service-learning study abroad in Rwanda increased my **teamwork skills**.
Question 8	The global service-learning study abroad in Rwanda increased my **adaptability**.
Question 9	The global service-learning study abroad in Rwanda increased my **maturity**.
Question 10	The global service-learning study abroad in Rwanda increased my **examination of my values and beliefs**.
Question 11	The global service-learning in Rwanda increased my **civic engagement**.
Question 12	Which service opportunity (rocket stoves, deaf school, *umuganda*) was most meaningful to you and why?
Question 13	What is your assessment of the ethics of the service work you completed during the service-learning study abroad in Rwanda?
Question 14	How did the service-learning study abroad in Rwanda help you find yourself and the person you want to be?
Question 15	How did the service-learning study abroad in Rwanda impact your personal and intellectual growth?
Question 16	What else would you like us to know about your experience with service-learning in Rwanda?

Note. Questions 1 - 11 were Likert-scale questions with options ranging from strongly disagree to strongly agree. Questions 12 - 16 were open-ended questions.

study abroad in Rwanda increased their global competence, intercultural awareness, global citizenship, awareness of global issues, and civic engagement. In particular, students rated their global competence, intercultural awareness, and global citizenship as increasing the most as a result of participating in the program. Regarding global competence, defined by Chan et al. (2021, p. 3) as "having an open mind while actively seeking to understand others' cultural norms and expectations and leveraging this knowledge to interact, communicate, and work effectively outside one's environment." Student 2 commented,

I've always been pretty open-minded, realizing that not everyone has the same moral values. Coming to a place where almost everyone around me holds differing values was a little intimidating but it got me out of my comfort zone…it was nice being around so many people that respects [sic] everyone's beliefs and not pushing one another to change.

Global Service-Learning on a Continuum

Figure 1. Responses to global competence and cultural awareness questions
Note. The assessment was completed by 8 of 11 students. Student self-assessment indicates the program was successful in improving students' confidence and awareness of global issues. All respondents strongly agreed that participation in the program increased their intercultural awareness (Question 2).
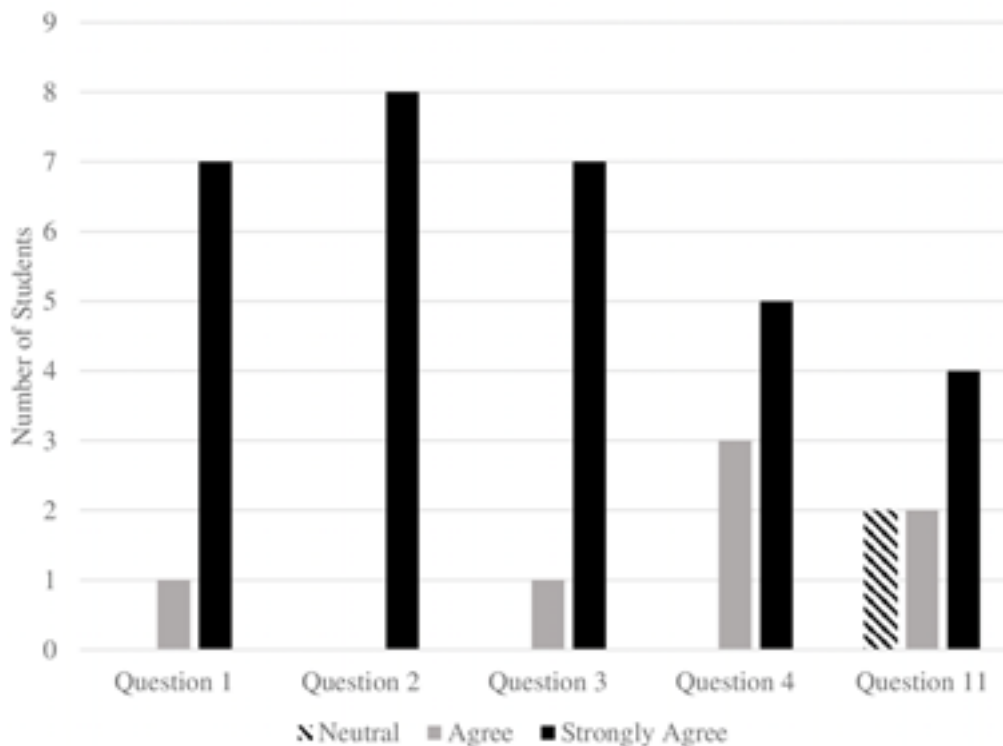
Student 5 spoke specifically about how their improved global competence facilitated their ability to make connections with community members in the village. They said,

I left Rwanda with a renewed value for kindness, thoughtfulness, connections and community. I came face to face with and eventually found some peace in how existence on this planet can be so loving and so cruel at the same time, which was kind of a spiritual revelation for me. Through my daily interactions, I found that I had so much in common with everyone I met despite our radically different lifestyles and backgrounds. I found a shared humanness in [the village] that has stayed with me every day since. Rwanda helped me see there is real community to be found with all different kinds of people around me and it has inspired me to live my life differently at home.

Question 2, assessing intercultural awareness, is the only question for which each student answered "strongly agree." A common theme among student reflections dealt with becoming aware of the material privileges they were used to and took for granted when confronted with the different amenities throughout the country and the poverty of the village in particular. Student 7 commented,

...the interactions within the village is what impacted me the most and made the service opportunity the most meaningful. Being able to overcome a language barrier and have complete strangers show grace and love to us was absolutely incredible and something I will never forget. Even though these people aren't financially well [off] or have the best access to various resources, they are living their lives in the present and fully embracing their daily routine and interactions with passion. It's impactful to see how us, as Americans, are so spoiled and fortunate to have adequate access to various resources, yet we still complain and act bitter at times. Because of this experience, I feel like I have matured and grown as a human being, and I ultimately think my perspective on life has changed for the better.

Similarly, Student 8 said,

Through our time working on the stoves, I experienced a plethora of emotion, including a sense of guilt for taking my health, lifestyle, and opportunities for granted when seeing the fruitful lives of those with far less, but also a greater understanding of pity, and how individuals with greater privileges might make assumptions of pity that do not accurately reflect the group on which they are projecting such emotions. Yes, the people of [the village] live without most of the amenities we deem necessary in our day -to-day lives, but there was a rich sense of community and spirit that was beyond commendable, inspiring me to apply more scrappiness and zeal into my personal life and my role in the great communities of which I find myself a part.

Other students commented how their experiences in Rwanda made them aware of how much more there is to learn in the world, how little they knew about Africa (and how much of what they thought they knew was incorrect), and how they want to spread what they learned to other people. Student 2 said,

I felt accomplished that I got out of my little bubble…I've heard and read about places like Rwanda but it didn't even compare to the actual experience. I do feel more culturally experienced. But, the glimpse I got of what life outside of Arkansas is like made me realize there's so much more about the world I know (and should discover for myself).

Similarly, Student 7 stated,

Rwanda showed me that there is so much more to life than what we can ever dream of and that sometimes, being uncomfortable is necessary for growth. Rwanda also taught me that I want to use my experience and knowledge gained while abroad to educate others on the beauty of Africa and to correct others on the common stereotypes and misconceptions of Africa.

Three students spoke specifically about increasing their intercultural awareness in connection with the ethics of the service-learning projects. Student 3 reflected,

I learned a lot about how to approach service in a way that does not use any form of superiority or white savior complex. I learned that the best way to help people is often to listen to them and work alongside them instead of making decisions for them about what help they should receive.

Student 5 added,

By learning Rwanda's history and have in-depth conversations about dos and don'ts before we left for the trip, we arrived better informed and prepared to act appropriately. We consciously utilized cultural relativism, which helped us act from a place of respect and non-judgement.

Student 8 noted,

Our service work at [the village] carried a much different tone from most of the service work I had heard of in foreign countries. The rocket stove project has been rooted in a collaborative effort since its start. The village leaders have played an integral role in deciding on the needs of the village and orchestrating how external service would be best utilized. Most of our efforts were guided entirely by the villagers, even down to the method by which we carried the bricks and cement. While we helped raise the funds for the raw materials of the rocket stoves, the villagers did not necessarily need our help in moving supplies and stove construction. We merely helped speed up the process which, in turn, allowed us the great opportunity of seeing the final destination of the raised funds. Yes, we provided funds, time, and labor as a service to [the village], but we did not do so with the assumption that they were incapable of improving their conditions or that they required help from Western civilization. This new light showed me how we can break down barriers and accomplish much greater services to one another as a society if we change the mindset through which we offer our efforts.

Regarding global citizenship, seven of eight students strongly agreed that the service-learning study abroad in Rwanda increased their global citizenship development. Student 1 expressed that the experience solidified their career interest in global conflict resolution, "Learning more about the genocide, the events that led up to it, and the failings of the international community that allowed it to happen strongly affirmed my choice in a career path."

## Personal Growth and Development

Questions 5, 8, 9, 10, 14, and 15 assessed students' perceptions of their own personal growth and development as a result of participating in the service-learning study abroad in Rwanda. Questions 8 and 10, asking about increases in adaptability and examination of personal beliefs and values, had only "agree" and "strongly agree" responses (see Figure 2). The most common theme expressed in the open response portion of the assessment was some form of students challenging themselves, getting out of their comfort zones, and being capable of more than they thought. Student 5 summarized the ideas of personal growth and development beautifully by saying,

My time in Rwanda impacted me in ways I am still realizing. I feel like my personal and intellectual growth were closely intertwined throughout the trip. I feel like I can inch toward a more real, educated, mature version of myself in my daily life at home, but it felt like I grew in leaps and bounds each second I spent in Rwanda. Everywhere I turned, I faced a learning experience, with something to contribute to my inner understanding of myself and something to contribute to my intellectual understanding of the world around me, particularly with global politics justice systems, power/governmental structures, colonial history, propaganda, social movements, conflict and resolution, civic engagement, language, and so many other things…

Figure 2. Personal Growth and Development Questions
Note. Overall, each respondent indicated participating in the program increased their personal growth and development. The areas of increasing adaptability (Question 8) and increasing examination of personal values and beliefs (Question 10) showed the most positive responses.
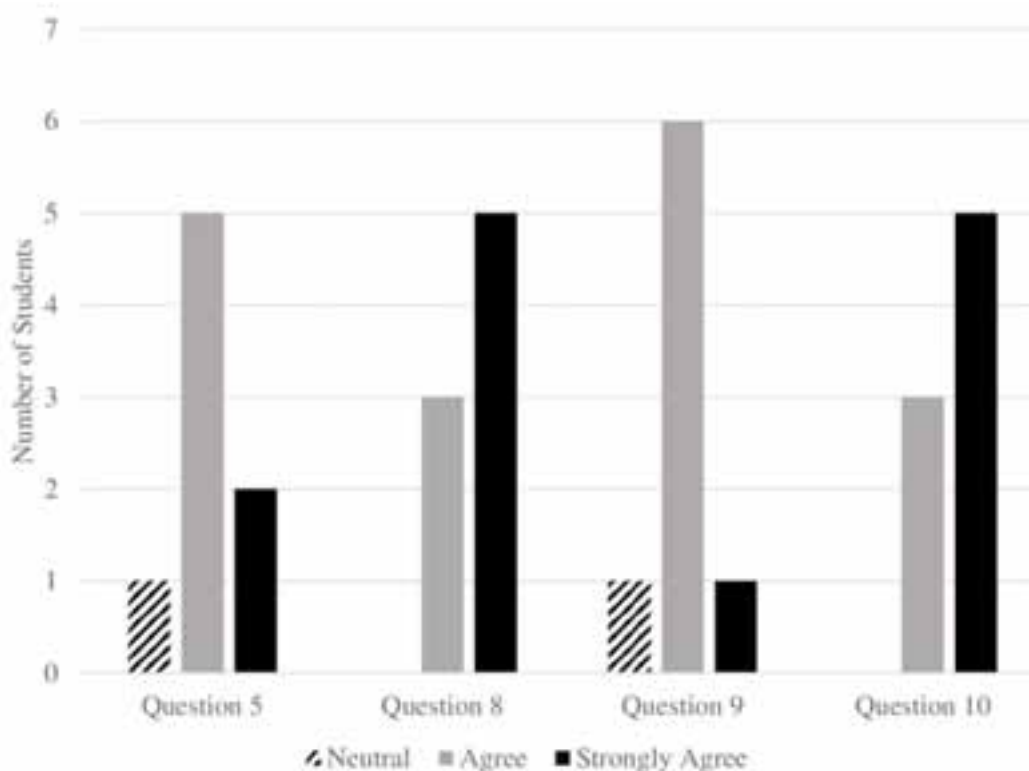
Communication and Teamwork

With the exception of one "neutral" data point, all students agreed or strongly agreed that the service-learning study abroad program in Rwanda increased their communication and teamwork skills. Four of eight student respondents specifically mentioned learning to navigate communication barriers in the open response questions. Student 2 said, "...the hardest part for me was the communication barrier. It made me realize how important body language was and being patient when working in a team who doesn't speak the same language."

Of working in the village, Student 3 said simply, "We did not speak the same language, but we learned to appreciate and care for each other regardless." Student 5 reflected,

The mutual commitment to communication and teamwork between ourselves and the people of [the village], despite a language barrier so significant it had all of us laughing (and getting laughed at), was something that made me feel fundamentally connected and inspired.

Figure 3. Communication and teamwork questions
Note. Seventy-five percent of students strongly agreed that the service-learning study abroad in Rwanda increased their communication skills. The most common reflection was related to overcoming communication barriers.
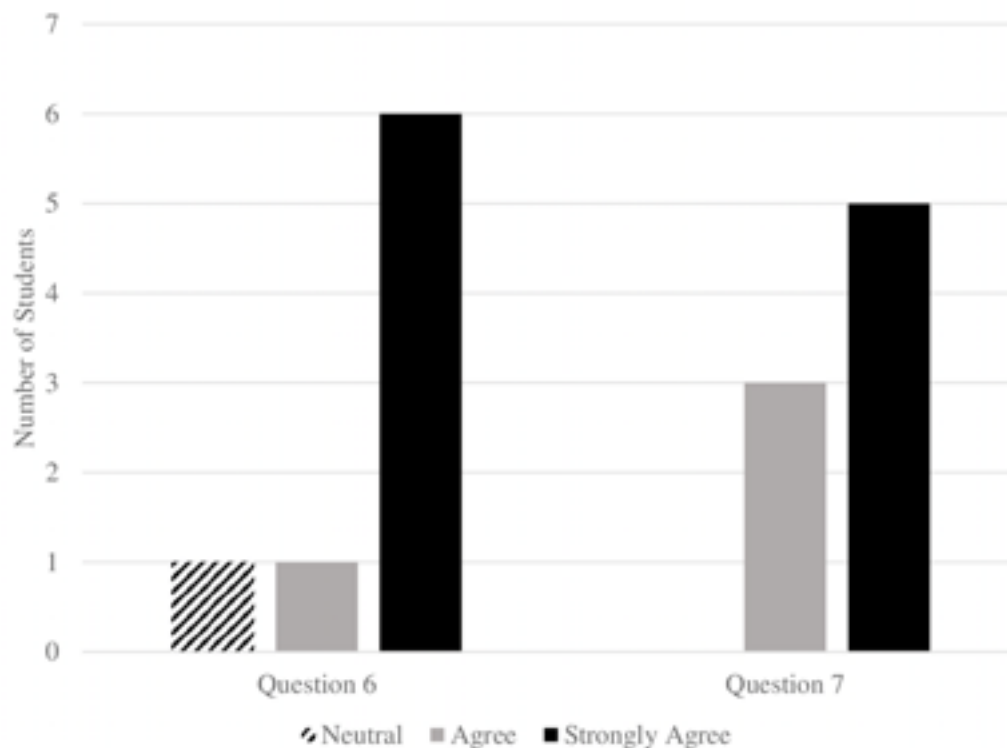
DISCUSSION

The shallow and deep service-learning described in this chapter work together to further student learning and development with respect to global competency, intercultural awareness, personal growth and development, and communication and teamwork. Global competency and intercultural awareness tie back to the outcomes that the AAC&U note students should attain based on the Global Learning and the Intercultural Knowledge and Competence VALUE Rubrics. As previously noted, global competence is defined as "having an open mind while actively seeking to understand others' cultural norms and expectations and leveraging this knowledge to interact, communicate, and work effectively outside one's environment" (Chan et al., 2021, p. 3). The Global Learning rubric underscores this importance by evaluating students on "understanding global systems" and "applying knowledge to contemporary global contexts" (American Association of Colleges and Universities, 2021a). Because the students spent several days learning about the history, geography, and current context of Rwanda before traveling there, they were able to connect what they read to what they experienced meeting Rwandans and visiting the cultural and historical sites throughout the country.

Personal growth and development tie back to "personal and social responsibility" on the Global Learning rubric, which mentions "individual and collective interventions" (American Association of Colleges and Universities, 2021a). It also relates to the empathy skill outlined in the Intercultural Knowledge

and Competence rubric, which "demonstrates ability to act in a supportive manner that recognizes the feelings of another cultural group" (American Association of Colleges and Universities, 2021b). An example of this occurred when one student noticed that one child in the village had watery eyes and was constantly shielding her eyes from the sun. The group intervened by asking the village leader to locate the child's mother, who was a beggar in another town. By the third day, the child's mother returned to the village, and the guide/interpreter took them to a medical clinic for treatment. Leftover funds collected to buy rocket stove supplies were available to pay for the child's treatment, but due to the *Ubudehe* status of the family, there was no charge for the services. The medical clinic staff urged the village leader to share this with other families in the village. This example illustrates critical service-learning because the students felt empowered to intervene and ask questions regarding the health and well-being of the child, rather than assuming there was nothing they could do or that assisting her was outside the scope of the project. The students also demonstrated global competency and intercultural awareness by respectfully asking questions of the village leaders and the child's mother rather than falling victim to the white savior complex and taking action without considering the appropriate sequence of events.

Communication and teamwork were key factors in the students completing the one deep and two shallow service-learning projects. Regarding communication, students used both verbal and non-verbal communication skills because of the language barrier, but in some instances, they had to rely more heavily on their non-verbal skills. The Intercultural Knowledge and Competence rubric refers to these skills as demonstrating "understanding of the degree to which people use physical contact while communicating in different cultures or use direct/indirect and explicit/implicit meanings" (American Association of Colleges and Universities, 2021b). During the deep service-learning project, many UCA students carried Rwanda children on their backs or shoulders, or held their hands, while also carrying rocket stove supplies, to show their care and concern. In some instances, the students allowed the Rwandan children to carry a brick or two as a way to demonstrate the value of working together. During the shallow service-learning project at the deaf school, some UCA students communicated with the Rwandan children by allowing them to use their smartphones. Some of the Rwandan children pulled up images on their phones and taught the UCA students how to say them in American Sign Language. These experiences also relate to the attitudes of curiosity and openness, the latter of which involves initiating, developing, and valuing "interactions with culturally different others," (American Association of Colleges and Universities, 2021b).

As Gendle et al. (2023) notes, higher education service-learning in global settings often fail to take into consideration partner perspectives when assessing programmatic effectiveness. To address this issue, we conducted a follow-up interview approximately six months after conclusion of the project with one of the partner village leaders to ascertain his perspectives regarding working with our students. He expressed that he and the village residents enjoy working with the students and only wish they could have had more interaction and have ways to communicate other than using gestures. When asked how he thought that issue could be addressed, he said that he and others in the village would like to learn English. He went on to say that learning English would help them not only communicate with UCA students, but also help them further develop the village and would give them access to information they currently do not have access to.

We also asked him to tell us about ideas for future projects. We had assumed the first priority would be building additional stoves, but our partner discussed the challenge of having the stoves outside (governmental regulations prohibit building the stoves inside due to the public health risk from regular wood smoke inhalation), saying that when it rains the stoves cannot be used. He recommended building "houses" to cover the stoves – essentially three brick walls with metal sheeting for a roof. Mud brick

construction is common in Rwanda and the village residents could make the bricks themselves if they had access to proper soil. As previously mentioned, the village is built in a volcanic area that makes digging to acquire the necessary amount of rock-free soil essentially impossible. We discussed the possibility of raising funds to have the soil delivered to the village so the residents could make the bricks themselves. We believe this type of collaborative planning and problem-solving is a characteristic of the ethical partnership we have developed with the community.

Suggestions for other Service-Learning Practitioners

We highly encourage other faculty and administrators to support projects such as the one described in this chapter. We have learned that students are eager for opportunities to interact with people from other cultures, want to do work in an ethical and culturally appropriate manner that makes a difference in people's lives, and are willing to challenge themselves in order to broaden their perspectives and worldviews.

Faculty Identification

To begin the process of building a faculty-led study abroad program with an emphasis on global service-learning, we recommend identifying faculty with ties to the country of interest. The *Science, Society, and Service-Learning in Rwanda* originated due to relationships a faculty member developed with Rwandan students. The professor had no prior experience in Rwanda, but was passionate about developing an ethical, culturally appropriate experience for students. To do so, she drew on the expertise of the Rwandan students she was teaching, reached out to local non-governmental organizations in the area with ties to Rwanda, and worked closely with the university study abroad office to develop the program goals and itinerary. Faculty committing to a global service-learning program should also be prepared to commit multiple years to the project in order to build relationships, cultivate trust, and have sufficient time for collaborative project evaluation and modification.

When choosing faculty to lead a program such as this, we also recommend assessing the other study abroad options currently taking place at the university to see what coverage gaps exist. As mentioned previously, the *Science, Society, and Service-Learning in Rwanda* program is the only faculty-led study abroad program at our university for which science students can receive any course credit in their major field of study. Many of the trips to Europe offer liberal arts and humanities general education credit, but by the time students are prepared to participate in study abroad, many of them have completed their general education requirements. Therefore, having course offerings in departments with robust student populations can increase the likelihood of attracting enough students to sustain the program.

Course Design and Assessment

In preparing this book chapter, we recognized that one of our biggest oversights was the failure to utilize pre- and post-assessments regarding our defined student learning outcomes. While we presented ample qualitative evidence demonstrating the growth and learning of our students, we do not have comparative data. Ideally, faculty would administer a pre-assessment to gather student perspectives on their global competency, intercultural awareness, etc, prior to any pre-departure training and class time. Upon completion of the experience, a post-assessment should be conducted to gain insight into students' perceptions of their growth and learning. We recommend conducting the post-assessment a few days after program

completion to allow the students time to rest and reflect on their experiences in order to get a richer and more complete assessment. If concerns exist regarding students completing the post-assessment after returning home, it could be built into the syllabus and course expectations as the final requirement prior to faculty reporting grades.

Another suggestion, and one that we plan to implement in the future, is to ask students to complete the assessment instrument following each service-learning activity. This would give us the opportunity to gauge student perceptions in real time and provide richer context for the impact each experience has on students' learning and growth.

In-Country Providers

Common practice across institutions of higher education is to utilize educational tourism companies as service providers for faculty-led study abroad programs and our institution is no different. However, whenever possible, we recommend working with companies that are locally owned by residents of the country of interest. Our first program in Rwanda in 2012 was coordinated by an educational tourism company owned by European ex-patriates who employed local Rwandans as guides. The program was much more expensive than subsequent years and we also did not like the fact that much of program fee paid by our students and university was not directly benefitting the local community. The guides relied on tips to supplement their meager income and we felt this hierarchy reinforced colonial structures of power and privilege. After the first year, we have worked with the same locally owned educational tourism company. The prices are more affordable and we have developed a relationship with the owner of the company and the employees that enhances the overall experience for the faculty leaders and the students. Because of the relationships we have developed with the providers, we have been able to reach out to them for assistance with student and faculty research, remote assistance projects during the pandemic, and ongoing communication and collaboration with our in-country partners.

Community Partner Identification and Development

When developing a program in a country in which faculty do not already have established ties, we recommend working through your local community to identify in-country contacts. Having an in-country service provider is also beneficial in this regard, because they are members of the communities in which they work and often know of ongoing projects that faculty members can join or know of specific communities in need of assistance and can facilitate making connections.

Prior to planning a project with a new community partner, it is important to meet the community liaisons, discuss the needs of the community, projects already underway, and potential opportunities for faculty and students to be involved. This step is critical in cultivating trust and it is important for faculty and administrators to listen deeply to what the community liaisons are sharing and not force an agenda on the community partner. Ethical service-learning requires collaboration, cultural humility, and patience. The program described in this chapter took several years to develop to its current state and faculty/administrators must be willing to put in the time and effort before partnerships are fully mature.

CONCLUSION

In closing, our student assessment data show deep service-learning opportunities to be the most meaningful to the students in terms of the development related to global competency and intercultural awareness, personal growth and development, and communication and teamwork. However, as evidenced from student journal reflections and open-ended questions, shallow service-learning was also meaningful and provided rich opportunities for learning and growth. For other faculty planning global service-learning programs, we recommend prioritizing deep service-learning projects to achieve the largest gains in student development. However, we also recommend incorporating additional projects as possible along the continuum from deep to shallow for the most robust and meaningful student experience.

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