

International Service Learning in IS Programs: The Next Phase – An Implementation Experience

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Abstract

Information systems programs have offered students opportunities for service learning in their curriculum through elective courses and through capstone courses. However, even though there have been numerous research studies showing the benefits of international service learning experiences, information systems programs have not yet developed these in their curriculum on a large scale. This paper provides an account of an implementation of an international service learning experience through an information systems project management course. Students worked with a middle school in Guatemala to successfully deliver a sustainable website. The course is described using a modified service learning framework. The framework consists of preparation, action, reflection, evaluation, and share. The paper also provides challenges and lessons learned. This modified framework and challenges and lessons learned can be used by other programs to structure their own international service learning experience.

Keywords: Service learning, international experience, project management, Information Systems Curriculum

1. INTRODUCTION

The benefit of service learning (SL) has been the topic of many journal articles (Bowman, Brandenberger, Mick, & Smedley, 2010; Geleta & Gilliam, 2003; Moely & Ilustre, 2014). The information systems (I.S.) discipline area has not failed to take part in providing its students with opportunities to engage in SL through courses across the curriculum (Hoxmeier & Lenk, 2003; Preiser-Houy & Navarrete, 2006; Wei, Siow, & Burley, 2007). The benefits of engaging in international service learning (ISL) have also been a topic of much research. There has even been discussion of differences between domestic and ISL (Niehaus & Crain, 2013). The I.S. discipline has not produced many articles in the area of ISL

experiences. However, just as students have been given opportunities in the domestic setting for SL in I.S. curriculum, I.S. programs should try to incorporate ISL opportunities as well.

The purpose of this paper is to share the implementation experience and lessons learned in incorporating an ISL project into an I.S. project management (PM) course. The project conducted during the semester was a website for a middle school in Guatemala, the Pavarotti Center. Students worked with the school to successfully deliver a sustainable website.

Benefits of Service Learning

SL has been defined as a "course-based credit-bearing educational experience in which students

participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility” (Bingle & Hatcher, 1999, p. 180). Geleta and Gilliam (2003) and Mumford and Kane (2006) describe SL as an experiential pedagogical approach that goes beyond mere classroom instruction. SL involves the blending of service activities and classroom instruction with the purpose of meeting real community needs as students learn through active engagement and reflection.

Numerous researchers have found a positive effect of SL on learning outcomes. SL was found to improve leadership development (Friedman, 1996) and communication skills (McCarthy & Tucker, 1999; Tucker, McCarthy, Hoxmeier, & Lenk, 1998) as well as social responsibility (Kolenko, Porter, Wheatley, & Colby, 1996). Prentice and Garcia (2000) found that SL fosters civic responsibility, personal and social development, and opportunities for career exploration.

Hoxmeier and Lenk (2003) found that I.S. students participating in SL courses gain not only the course related technical knowledge, but also improved interpersonal skills and an understanding of the value of their information systems knowledge to the community they served.

A number of studies have shown the benefits of an ISL experience. Keily (2004) interviewed students who participated in ISL programs in Nicaragua. He identified changes in students’ worldviews along six dimensions: political, moral, intellectual, cultural, personal and spiritual.

Tonkin (2004) looked at the long-term effect of ISL programs on students. Tonkin found that compared to students in traditional abroad programs those who had participated in ISL demonstrated deeper intellectual and moral changes, and showed a greater demonstration of leadership qualities.

Niehaus and Crain (2013) examined the differences between completing a SL project domestically vs internationally. They found significant and meaningful differences when comparing the two programs. They found that students on international trips reported higher levels of interaction and engagement with community members. Students on international

trips also reported learning more from both community member and host site staff.

2. OVERVIEW OF THE ISL COURSE

In the fall semester, students were engaged in the classroom with lectures and activities geared towards learning PM concepts and tools. Students were connected with the Pavarotti Center to gather information on the project. They also learned about the culture and history of Guatemala.

Students used PM tools to prepare and execute the project. In this case, the project was completed prior to arriving in Guatemala. Once in Guatemala, the students delivered, trained and handed off the project. Students then closed the project at the end of the trip and completed reflection pieces.

There were three integral parts to the course: PM, SL and an intercultural experience in Guatemala. The three parts were brought together with the website project (Figure 1). Throughout the fall semester, the students had lessons in one or more of these three parts each time the course met. It was important they learn all of the PM skills and abilities expected after taking a course in PM. It was also important that they truly understood what SL was and how to properly go about working in a community in a way that promotes sustainability and reciprocity. Lastly, it was equally important that they understood the culture and history of Guatemala and who their client was in order to properly engage with them, build a relationship, and ultimately deliver a product that met their needs in a sustainable way.

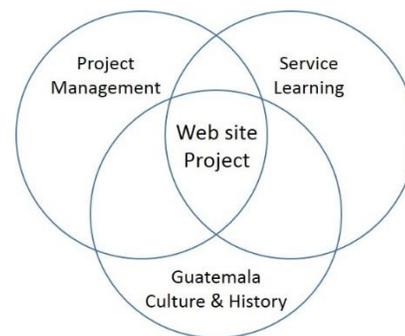


Figure 1. ISL Course

3. COURSE IMPLEMENTATION

The structure of the course can be framed using a modified P.A.R.E. Model (Figure 2). The

P.A.R.E. model of SL is a widely recognized practice in SL, originally developed by the University of Maryland (2015). The P.A.R.E model is a structured approach for SL experiences, which includes the key components of preparation, action, reflection, and evaluation. These four steps are described in Appendix 1. We modified the model to have the reflection being conducted throughout the SL experience as depicted in Figure 1. We have also included the final component: share.



Figure 2. Modified PARE Model

Share is a component we added to make the experience complete. Reflection allows students to reflect on the experience with others who were a part of the same experience. Share will allow them to reflect with those who were not a part of that experience. This may include students interested in getting involved in this type of experience or exchanging experiences with those who have been on different SL experiences.

Preparation

The course was structured to be taught on campus in the fall and then the students would complete their travel component in January. The first step was to determine which community would be selected. The Pavarotti Center is an initiative of the Rigoberta Menchu Tum Foundation, which is an institute that advocates for human rights, especially those of indigenous people.

The school was selected because the university had a prior and ongoing service relationship with the school. This was discovered by communicating with the university's Department of Cultural and Global Engagement (DCGE). The preliminary work was done by traveling to Guatemala on an earlier student trip through DCGE where the professor met with the director of the Pavarotti Center and the technology teacher in regards to potential and most needed projects. It was determined that an informative website was at the top of their list. There were certain constraints and requirements regarding the website, but all were reasonable and obtainable; namely, the site needed to provide information regarding the Pavarotti Center and its intercultural tourism opportunities, it needed to be sustainable – both manageably and financially, and they wanted the domain name to be their own name with a Guatemala country code.

Information sessions were held about the course during the spring semester several weeks before students registered for fall semester courses. During this time, students were provided information regarding course objectives and broad expectations. Students were given an opportunity to apply for the course and once selected were given the deposit due dates.

Once the roster was set, students, the professor and the DCGE director met to get acquainted and go over a few logistical items, such as travel, dates, passport issues, vaccinations, etc., prior to summer break. At this meeting, students were asked questions about why they wanted to be a part of the class and what expectations they had of the course, SL, and traveling. This also gave an opportunity for students to ask any questions they had before heading home.

Two students were selected to be student leaders. They were not, however, project managers. This allowed all the students to have the opportunity to experience working in all aspects of PM. The student leaders would be the point of contact for the students and for the DCGE office. The student leaders ensured that all students were informed of any logistical information regarding the travel portion of the course. They would also ensure that everyone had all necessary documents for the trip. In addition, the student leaders would be responsible for leading the students in reflections while in Guatemala.

Over the course of the summer, the professor communicated with the DCGE director. She helped to identify the appropriate articles and videos to assign the students throughout the semester. The DCGE office handled all the travel logistics and the itinerary for the trip. Although, we had one native Spanish speaking student, we also hired a translator.

The first day of the class began with a discussion on the students' motivations for taking this ISL PM course. After watching a video on voluntourism, the DCGE director led the students in a discussion of what the goals and objectives of SL are. It was important that we removed the "savior complex" right from the beginning of the semester and put the proper understanding of what this SL course would be: to build a relationship with the Pavarotti Center in Guatemala and help them with a sustainable project.

The next step was to educate the students on Guatemala. They were required to read several articles and watch videos on the history and

culture. We would then discuss these during our sessions together. These were extremely important for two reasons. First, it was important to prepare the students prior to going to Guatemala. They needed to understand the history and culture before engaging with people there. These trips are about partnerships, building relationships and learning from each other. Our students needed to do their part and be prepared before meeting with the students of the Pavarotti Center. The second reason was they were building a website for a client. In order to do this properly, they needed to understand their client to the best of their ability. Cultural differences can hugely impact how you would develop a website.

A few weeks before leaving for Guatemala, the students met with the DCGE director for additional cultural sessions and more specific information on the relationship of the university and the Pavarotti Center. The DCGE office also provided a basic Spanish speaking session for the students.

Action

Students had required readings in an IT PM textbook. For most sessions during the first nine weeks of the semester, PM concepts were introduced. They were quizzed on the material. Students were also introduced to Microsoft Project. They had individual assignments in Microsoft Project to familiarize themselves with the capabilities of the software. After the concepts were learned, they were applied to the website project.

Communication with the technology teacher at the Pavarotti Center was done indirectly through the DCGE director. Questions were submitted to the director who would forward them to the technology teacher. The students sent a letter asking questions regarding the website requirements. Our native Spanish speaking student would translate the letters. Once the students received the requirements from the technology teacher, they had their kickoff meeting and developed the project charter. From there, the scope and work breakdown structure were developed. The students learned about both traditional and agile methodologies in the course. For this project, they followed a traditional approach.

Adding Scrum Meetings

Time was very tight to complete all of the objectives. It was important to know what work was completed, in progress, and what challenges were found. So though the students followed a

traditional method for the project, the students began each session with a 15-minute scrum meeting.

The scrum meetings would begin at the start of class whether everyone was there or not. The class would stand in a circle at the front of the room. Each person answered the three questions: what did you complete since our last session; what are you working on today; and what challenges are you facing? We utilized a ball to throw to a person to speak next. We kept the meeting within 15 minutes.

At first, the students were very hesitant at the scrum meetings. They passed the ball directly to the person standing beside them. And they barely spoke of their challenges. It took at least two weeks before the students were comfortable to begin speaking up and getting energized. Then the scrum meetings became very helpful. They made the students accountable. No one was late after the first week of seeing that the meeting began without them. Everyone completed what they said they would because they had to report back each session. Challenges were addressed promptly. And throwing the ball back and forth across the circle really energized the group before getting started.

Hosting and Registering the Website

The students were asked to build a website that focused on providing information about the Pavarotti Center. The website needed to be easy for the Pavarotti Center's teachers to maintain. The Center also requested to have a domain name that used its name and had the Guatemala country code. This meant they could not use a free hosting site. The students needed to find something that would be financially sustainable for them. The Pavarotti Center did have a website in the past. But, they were unable to continue to pay the hosting fees. This was something the students needed to keep in mind as they researched their developing and hosting alternatives.

After reviewing several options, the students quickly realized this was not an easy task. When taking into account all of the client's needs, they determined that the best option was to use a Wordpress site hosted on Wordpress.com and registered through a company called .GT. While the students wanted to build a website from scratch, they felt the maintenance would not be as user friendly for the teachers. In addition, the hosting costs were simply not sustainable. So the students confirmed the domain name with the client and registered the name through the

Guatemalan registry. In addition, they obtained hosting services for the site. The students met their deadline for this item according to their schedule and were on track.

Fundraising

The students wanted to raise funds to help support the hosting of the site. They contacted several restaurants to determine which one would give the best deal for a percentage of sales back to the Pavarotti Center. The students selected a restaurant and began advertising on campus. They also asked the School of Business Dean to support the fundraising efforts. In the end, the students raised enough funds to support the Pavarotti Center to host and register their domain for 5 years.

Building, Feedback, and Documentation

The students gathered information from the technology teacher through email letters. In addition, he gave them information from their former website as well as the Rigoberta Menchu Tum Foundation website. The students used this information to begin building the site. They reviewed several different templates. The students originally thought they would be able to utilize the language widgets for the translation from English to Spanish and vice versa. However, upon building a few pages in English, they quickly realized that the Spanish translation wasn't quite the same. So the students opted to build each page in Spanish and English. This increased the expected time needed to build the site. However, a student in the course, while not fluent in Spanish, offered to help our native Spanish speaker with the translation. This helped the team get back on track with the schedule.

The students built a feedback loop into the schedule. They hoped to make adjustments before the end of the semester and before developing any end user documentation. They requested feedback from the Pavarotti Center, the DCGE director, CIS faculty and university students (this would be the demographic the Pavarotti Center would be trying to reach for the intercultural tourism opportunity). The students received feedback from everyone except the Pavarotti Center (it was the end of the school year for the Pavarotti Center and a very difficult time to get in touch with them). So they made the appropriate adjustments and began developing the documentation. They determined that they would make any adjustments needed from the client while in Guatemala.

They created all of the end user documentation in Spanish for the Pavarotti Center. It included a

user manual for both the front end and the back end of the website. The documentation also included all information in regards to accounts for hosting and registration. This included renewal dates and contact information as well as how the Center will need to renew each item. Everything was completed and ready by the final exam week.

Training and Handoff

While in Guatemala, the students worked with the Pavarotti Center director and the technology teacher. They first stepped through every page of the website and took notes on anything that they would like to have changed prior to the students' final handoff. There were a couple of cosmetic changes that they asked for which the students changed that evening. In addition, the students took new pictures while in Guatemala and updated the website with additional photos.

After the initial walkthrough, more in-depth training sessions with the technology teacher were done. These consisted of training him how to update, add, delete, etc. pages. The students then had him add new posts to the page regarding recent news. They explained the difference in the Spanish and English site and how to update both versions.

As a final step, passwords, usernames and contact information were changed over to the client. All documentation was given to the client. At the end of the training, the client stated he had no questions because the students came so prepared and the documentation was thorough. The project was successfully accepted by the client.

Intercultural Tourism

The students completed their hand off of the project on the third evening in Guatemala. There were still five more days. This was all spent having a cultural exchange with the students and teachers of the Pavarotti Center. This was a time for us to learn from them and for them to learn from us. Some of the things we did was learn about the history of the Pavarotti Center, help out in the classrooms, and learn how to make crafts and how to play the Marimba. We went out on the fishing boats with local fishermen, visited local markets and coffee cooperatives, and visited the homes of some of the students. We also participated in a Mayan ceremony. The students practiced an American dance and taught it to the Pavarotti Center students during a celebration at the end of their stay. And there were many more activities throughout our time there. Each night the students gathered together and reflected on the day's activities. It was a good time to discuss

expectations and surprises. You could truly see the impact of the trip and how the relationships they were building went well beyond a one-time project.

Reflection

The course provided numerous opportunities for reflection before, during and after the experience. As discussed, we felt that having reflection opportunities throughout the course would benefit the student more than just after the action component. There were five structured reflections during the fall semester.

The first reflection was completed on the first day of class. They had one reading about why Guatemala was one of the happiest countries in the world. The reading asked students to reflect on their motivations for joining the course and what their thoughts were in regards to global service engagement. In addition, it asked them to reflect on their assumptions about Guatemala and to discuss the challenges they thought they may face.

For the second reflection, the students watched a video on the Guatemalan genocide. They then had to reflect on how/if that challenged the previous readings. Did it make them feel differently about Guatemala? This was the first time most students had ever heard about the genocide.

The third reflection was presented after students had developed their work break down structure report. They were asked to reflect how they felt. Did they capture everything that the client needed? What challenges did they foresee? After watching the Ted Talk "What's wrong with volunteer travel" (Papi, 2012), how do they now view their project?

The fourth reflection asked the students to discuss any new insights they had gained from the readings, videos, and meetings regarding Guatemala and the Pavarotti Center after the sessions they had with the DCGE director. They were required to read "What is Asset Based Community Development (ABCD)?" (Collaborative for Neighborhood Transformation, 2014) and write how they could see utilizing ABCD in the next steps assessment paper.

The last reflection of the fall semester occurred after the students finished building the website. The students were asked to reflect on how they felt about what they had accomplished. What were they most excited about traveling to

Guatemala and what did they hope to see come from the project?

Prior to leaving for Guatemala, the student leaders met with the DCGE director to discuss how to lead meaningful reflections. Each morning at breakfast in Guatemala, the student leaders would ask the students to focus on a particular area, for example, "community". And each evening the student leaders would lead the group in the reflection discussions first surrounding the focus area. And the discussions would tie back to the project and how the project fits in to that area.

Additional reflection was completed as a part of the evaluation and the share components. This is explained further in the next two sections.

Evaluation

Part of evaluation is gathering community feedback. The goal was sustainability both manageably and financially. The technology teacher was very happy with the website. He was amazed with how well the students documented how to do each task. The students started with a tool that was easy to maneuver and backed it up with clear documentation. They chose a low-cost hosting service that still allowed for the Pavarotti Center to use their name for the domain name and have the Guatemalan country code.

During the trip the students were gathering information to complete their last two assignments of the semester, a travel journal and a next steps assessment paper. The travel journal was filled with their thoughts from the activities they did throughout their time in Guatemala. The journal reflected many of their thoughts that were brought up from the reflections discussed nightly. They submitted a final reflection that was taken from their travel journal after they returned. The final reflections indicated students overall found an appreciation for the Guatemalan culture. Many discussed how surprised they were at their ability to build relationships without knowing the language. Several discussed their desire to complete additional trips like this. Students discussed their increase in technical knowledge and their confidence in their ability to help communities using these skills sets.

The next steps assessment paper was to be based on the ABCD model. This was where they were to make suggestions for the Pavarotti Center of things they could do next in utilizing the assets they currently have to move forward in reaching their goals. They recommended that they utilize the English teacher to help the technology teacher in translating the English side of the

website. They even suggested using it as an assignment for some of the older students. The purpose of these last two assignments was to really wrap up the experience in the course with answering the questions, "what impact did this experience have on me" and "where can the Pavarotti Center go from here."

Share

Students from the course were asked to come speak at an information session for another course set to go to the Pavarotti Center. The students came and described the work they did, the relationships they built, and the things they learned. The students were so excited to talk about their experience and how they planned to do more.

Another way the students shared was through a poster session. The students had an abstract of their experience accepted to an inter-professional poster day that was held at our university. They had an opportunity to discuss their experience with students from other disciplines and hear about their experiences.

4. CHALLENGES & LESSONS LEARNED

There were definitely some challenges and lessons learned from this first experience. One of the biggest lessons learned was it was a mistake not to select a specific project manager in the class. While students were assigned specific activities on the schedule, there wasn't one person overseeing the whole schedule. The student leaders managed the travel portion and reflections, but not the project itself. The thought was to give everyone an equal part in the project. But that ended up with a lot of indecision.

There is such a short time to learn the culture and history and to get the students truly engaged and connected. Therefore, the discussions that they had with the DCGE director about the relationship of the university and the Pavarotti Center that were held towards the end of the semester, needed to be moved up to the beginning of the semester. These discussions provided so much more of a connection. There also needs to be many more cultural discussions. This is an area where more is definitely better.

Early discussions of sustainability will save time in the long run. For example, there were times during the research phase when trying to find the right hosting service and website platform that the students were going round and round. Some were losing sight of the fact that \$50 to us may not mean much, but \$50 in Guatemala was very

different. And if they had to continue paying that after we left, what did that mean and how long could they sustain that? So the earlier those discussions can be done, the better.

Working with an established partner was definitely a nice experience. If you have an office such as our DCGE, it is worth working with that office. They are experienced in the country and are able to help in not only setting up the experience, but also preparing you and the students for working in the area. The director was instrumental with providing the class with the resources needed in regards to articles and videos as well.

There were only seven students in the course. This seemed to be a good number for the ISL experience. This small number allowed us to travel together as a group and get to know each other well prior to traveling. This small group size also made working in Guatemala more manageable. This type of project can be expanded into a larger class size. However, there would be some additional challenges. For example, there would need to be more than one project or a larger project with several working parts. Another challenge is the cohesiveness of the group. This can change the dynamics of the course. However, there are ways to bring the group back together. You could still do pre-departure meetings where you connect the class. While in country, you can also do the nightly reflections to bring the group back together. The principles of the modified P.A.R.E. model can still be applied.

You do not necessarily need to speak the native language to travel to a country. As long as there are good translators, you are all set. We were fortunate to have a student who spoke Spanish. But even if we didn't, we had our translators with us. Most of the students had this concern in their original reflection, but all did very well throughout the trip.

5. CONCLUSION

There have been many studies discussing SL in the I.S. area. However, there has been a lack of papers describing ISL experiences in this program area. This paper describes an ISL experience in an I.S. PM course. It is framed using a modified P.A.R.E. model. We extended the reflection to be throughout the course and added a share component. Students learned PM skills and tools through coursework during the semester. They learned what SL is and how to properly engage in SL work. They also learned about the culture and

history of Guatemala. These three aspects were brought together through their service project for the semester. They worked with a middle school in Guatemala to successfully deliver a sustainable website. The students had a valuable and memorable experience that they can take with them and share with other students, potential employers, and future SL opportunities.

The modified P.A.R.E. framework can be utilized by other I.S. programs to begin ISL experiences at other universities. The best advice in beginning an ISL experience would be to first touch base with your DCGE office. Determining which relationships are already in place will make the transition much easier. Providing these opportunities for I.S. students within their own discipline will allow them to obtain the benefits of ISL experiences while simultaneously putting to practice the skills learned in the I.S. program.

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Editor's Note:

This paper was selected for inclusion in the journal as an EDSIGCON 2017 Meritorious Paper. The acceptance rate is typically 15% for this category of paper based on blind reviews from six or more peers including three or more former best papers authors who did not submit a paper in 2017.

Appendix 1 PARE Model

The PARE Model consists of four steps: Prepare, Action, Reflection and Evaluation. Each step is described below.

Preparation consists of several items. This is when you determine which community you will be working with for the SL project. You set the goals and objectives of the SL project. You determine what the students' expectations and assumptions are about the experience. This is also when you prepare students for working with the community (John Hopkins University, 2017).

Action is where the SL project actually takes place. This can either be direct or indirect. This means that students may work on something that is directly interacting with the community. Or they may work on something that impacts the community, but the students are not directly interacting with the community (John Hopkins University, 2017).

Reflection is an extremely important piece of SL. This has been found to be a strong connector that bridges the service experience to the content of the course (Astin, Vogelgesang, Ikeda, & Yee, 2000). This should be done in a structured and guided format to prompt students. The original P.A.R.E model seemed to emphasize more reflection after the action component. However, we felt that reflection really would benefit the students if it were done throughout the time of the course.

Evaluation is where you determine if the goals and objectives of the course were met. You would ask the community partners if they felt they were satisfied with the project and experience. Here is where you evaluate the changes in the students' attitudes, understandings, knowledge about the community. This is when you evaluate what went well and did not go as you had hoped. You would determine what you would do better next time (John Hopkins University, 2017).