Service Learning is Not Just for Students: Reflections on a Faculty Service Learning Project in Tanzania

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ABSTRACT

Much has been written in recent years about the value of service learning for college students, and for IT students in particular. While there seems to be much agreement on the value of service learning for college students, this paper demonstrates that engaging in service learning opportunities also has great value for faculty. The project discussed involves a faculty member working with a non-profit organization and schools in a developing country to integrate computers into the schools. The benefits of service learning to faculty include refreshment and development of technical skills, opportunities to learn and practice skills in new areas, and enrichment of teaching practices.

Keywords: service learning, developing nation, IS education

1. INTRODUCTION

Much has been written in recent years about the value of service learning for college students, and for IT students in particular (Cooper & Sohcot, 2004; Guthrie & Navarrete, 2003; Moser & Rogers, 2005; Saulnier, 2004; Taylor, 2005). Service learning integrates community service and classroom learning (Cooper & Sohcot, 2004). Goals of service learning programs include providing students an opportunity to apply classroom learning to a real-world problem, challenging students to develop their skills, enhancing students' sense of civic engagement, and serving a need within the community. Service learning teaches leadership and citizenship, enhances students' technical skills, provides opportunities to explore career options, and has been linked to increased student retention (Moser & Rogers, 2005).

Two critical elements for successful service learning projects include project selection and time for reflection. Service learning projects must be clearly tied to course objectives. Projects may require application of newly learned skills to a real-world problem, or require development of skills related to course content (Guthrie & Navarrete, 2004; Saulnier, 2004; Wilcox & Zigurs, 2003). To get the full benefit of service learning projects, students must be guided through a process of reflection on their experiences, including attention to both academic and personal growth (Saulnier, 2004). Sample IT-related service learning projects include website development for non-profit organizations, analysis of information systems and technology for public entities, and design of software for non-profit organizations to manage volunteer information and other resources (Guthrie & Navarrette, 2003; Saulnier, 2004).

While there seems to be much agreement on the value of service learning for college students, the following case demonstrates that engaging in service learning opportunities also has great value for faculty. Goals of service learning projects for students are providing students an opportunity to apply classroom learning to a real-world problem, challenging students to develop their skills, enhancing students' sense of civic engagement, and serving a need within the community. The benefits of service learning for faculty are similar, including refreshment

and development of technical skills, opportunities to learn and practice skills in new areas, enrichment of teaching practices in the classroom, increase in civic engagement, and serving a community need. Faculty work on service learning projects also benefits students and the community.

2. THE PROJECT

The Mwangaza Center was founded in 1996 in Arusha, Tanzania, as a partnership between the Evangelical Lutheran Church of America (ELCA) and the Evangelical Lutheran Church of Tanzania (ELCT). A significant part of Mwangaza's mission is to provide continuing education for secondary school teachers who teach at ELCT secondary schools in Tanzania. Working with ELCT school leaders, the Mwangaza staff identified computer skills as a priority for ELCT secondary school graduates. In an effort to support the work of ELCT schools, Mwangaza helped arrange donation of computers from Western countries to ELCT schools and began to provide computer training to teachers.

In 2005, a staff member at Luther College (an ELCA college) began to explore the idea of partnership with Mwangaza. The initial goal was to identify possible options for MIS students from Luther to do internships, service learning projects, or January term courses in a developing country. As a first step, Luther sent an MIS faculty member, an IT help desk staff member and two students to Mwangaza as technology volunteers for six weeks in the summer of 2006. The Luther volunteers taught a two-week seminar on computer literacy and skills at Mwangaza to 20 teachers from various ELCT schools in Tanzania. After the seminar the Luther team visited four ELCT schools near the Mwangaza Center to assess the schools' current use of technology, to help schools think about future steps for using technology, and to recommend roles Mwangaza might play in supporting ELCT schools' use of computers.

In 2007, the Luther MIS faculty member and IT staff member again returned to Mwangaza. They taught basic computer skills to teachers at Mwangaza, but this time as a component of seminars focused on content areas such as biology, rather than as a computer-specific seminar. After the seminars, the Luther team taught computer skills to teachers during an inservice at an area school. Finally, the volunteers visited eight schools to again assess the schools' current use of technology and to help Mwangaza continue to refine its role in supporting computer use at ELCT schools.

Though the initial goal of the project was to identify new venues for student learning, the exploration process proved to be an excellent professional development opportunity for the MIS faculty member and contributed to the MIS faculty member's teaching of courses back at Luther, while providing a much-needed service for ELCT schools.

3. ELEMENTS OF SERVICE LEARNING

As noted in the introduction, service learning combines community service with classroom learning. Projects should enrich both the participants and the community, should have clear ties with courses, and include time for reflection. The main goal of this project was to help ELCT secondary schools integrate computers into their schools. Leaders from Mwangaza and the ELCT schools feel computer skills are vital to Tanzanian young people for employment opportunities, higher education pursuits, and daily life in a highly technical world. These young people represent the future and potential of Tanzania, which currently ranks as one of the poorest countries in the world. Many schools in Tanzania lack the infrastructure and resources to be able to teach students about computers. Donated computers have helped make hardware and software more accessible to these schools; however, lack of prior access to computers means there are relatively few trained computer teachers and technicians in Tanzania. This project was designed to enrich ELCT secondary schools by sharing computer skills with teachers who could in turn train fellow teachers and students, and by helping schools understand and plan for the infrastructure needed to develop computer literate graduates. The computer skills the Luther team brought to the project filled a significant community need for such skills, and the benefit of training teachers is those skills will continue to be propagated through the community. Participating in the development of educational programming also enhanced faculty civic engagement as faculty reflected on the intersection of education, culture, global community, and technology.

Since this case focuses on faculty rather than students, the project was not tied to the course objectives for one specific course. The project, however, was undertaken because it had clear ties to the teaching responsibilities and professional objectives of the faculty. This faculty's teaching load consists mainly of an introductory IS course where most students are not MIS majors, a systems analysis and design course, an IT management course, and supervision of senior capstone projects. Much of the content for the computer seminar at Mwangaza was similar to that taught in the introductory MIS course for non-majors. The experience of working with schools to develop plans for integrating computers into the life of the school involved significant amounts of analysis and attention to IT management issues. Faculty objectives were similar to those of students in service learning: to apply skills and concepts discussed in class to a real-world problem. Faculty was also interested in new cases for use in various courses, and expanding her breadth of experience to include some exposure to technology in developing countries.

Finally, a variety of avenues for reflection were built into the project proposal. This was the first time Mwangaza had offered a computer-specific seminar and computer inservice training at a school. Therefore, the faculty was expected to reflect on the seminar and inservice as models for future training programs Mwangaza might offer. The faculty evaluated content shared and its fit with attendees skills and needs, structure of the training, such as length of sessions and content versus practice time, and sustainability of the training model. Because the project stretched over two summers, planning for the second year was based on reflections of volunteers and the Mwangaza staff after the first summer. Participants had opportunities for both professional and personal reflection through presentations to the campus community, local church groups, and other organizations. Incorporating material from the project into courses gave the faculty member numerous opportunities to reflect on skills learned, relationship of the project to teaching responsibilities, and lessons important to pass on to students.

4. BENEFITS OF THE PROJECT

For Faculty

Limited availability of technical professionals in Tanzania means Mwangaza and the ELCT schools need assistance on a variety of technical issues, especially basic technical support. The first major contribution to professional development from this project was a "refresher course" in technical skills – hardware, software, and networking. The computer lab at Mwangaza is made up of donated hardware with machines ranging from 5 to 10 years old, and a number of machines with failing parts. Hardware failure rates may be high because of difficulties in transporting donated machines and climate control, age of the hardware, and unstable power in much of Tanzania. Hardware skills were challenged and new skills learned as the Luther team worked to try to get enough machines functioning to support seminar work. Donated computers seem to rarely come with consistent software, appropriate licenses, or installation and recovery disks. This project involved searching for freeware programs for some functions, securing software licenses and disks where needed, and installing and updating the operating system and application software. Network solutions for file and print sharing and Internet access were investigated. For a faculty member whose primary job responsibilities are teaching IS concepts, this project provided good experience in the day-to-day operation of keeping labs running.

The second major benefit of this project was the opportunity to develop new skills in IT-related areas, in particular resource and facility assessment and strategic planning. The purpose of the school visits was to assess the current technology infrastructure at the schools. Preparing for the assessment was an excellent learning experience including decisions about what factors were most important to the current state of the infrastructure and what factors would most impact future use of technology in the schools. At each school computers were counted, and age, make, model, level of consistency among machines, and number of working versus non-working machines were noted. Application and system software on machines was evaluated, and availability of install or repair disks, and compliance with licensing was assessed. Information was

gathered about any networking infrastructure and peripheral devices. For rooms where computers were housed, environmental factors were recorded as well as availability/reliability of electricity. Interviews were held with administrators about budgeting practices, prioritization of technology, and goals for use of computers. Teacher and student knowledge of computers was assessed.

This experience of assessment was useful in illustrating the way organizational factors influence the adoption of technology. Some schools had computers on the premises, but had rarely, if ever, turned them on for lack of knowledge on how to use the machine, or lack of technical skills to keep old hardware functioning. Some schools had teachers with some computer skills, but with too many other teaching responsibilities to teach computer literacy. One school noted that they were interested in expanding students access to computers, but could not offer access to computers after school because they had no kitchen – students and teachers needed to go home as soon as classes were out in order to eat lunch and most lived too far away to return a second time in the day.

After assessing schools, the team was asked to help schools think about steps they could take toward a goal of making computer literacy training a standard part of the curriculum. The Luther team was also asked to make recommendations to Mwangaza about roles the center might play in helping schools integrate technology into the life of the schools. This work was an opportunity to look at strategic, or long-term, planning for technology and programming for the schools and for Mwangaza.

The third major benefit of this project was bringing new ideas and energy to teaching. The experience was shared in a variety of ways in a variety of courses. Implementing technology into schools in a developing country provided a great context for systems analysis and design coursework. Students looked at a case based on Mwangaza's interest in providing electronic resources, such as lesson plans, to teachers at ELCT schools. Mwangaza is interested in how to make such information widely available. The case was useful in illustrating feasibility issues to students. For example, students had to consider the feasibility of a web-based solution

given that many teachers had no Internet access at home or school and if Internet cafes were available, teachers had to bear the financial burden of access. Thinking about the computing environment in ELCT schools exposed assumptions students held about things like reliable power, ease of internet access, and CD ROMs as "lowest common denominators" for transferring files -many schools had machines old enough that CD ROM drives were not standard.

The IT management course at Luther includes components on IT infrastructure, organizational change, ethics, and social issues. The Tanzania project again provided a wealth of examples. ELCT schools attempting to teach computer literacy in the curriculum face a variety of infrastructure challenges, ranging from reliable power to reliable hardware to availability of reliable maintenance personnel. Bringing computers into these schools represents great change in teaching, learning, and administration, providing case examples to think about managing organizational change related to IT. A variety of social and ethical cases came from the Mwangaza project. Students looked at licensing; in particular, licensing for donated hardware and the implications of compliance or non-compliance with licensing agreements. Donating hardware to developing nations creates concerns for proper disposal at end-of-life and raises issues of responsibility for the environment. Limited resources and varied models of funding technical infrastructure in schools opened discussions of access and implications of the digital divide.

In general, the experience brought new energy to teaching. Teachers in Tanzanian secondary schools teach in English, but English is the third language for many of them. Teaching basic computer skills to someone in their third language provided an opportunity to reflect on terminology and how make it understandable to students. Teaching individuals for whom even basic knowledge offered a new sense of empowerment led to reflection on learning objectives for different classes and reexamination of course objectives in relationship to students' long-term goals. Helping individuals who had never turned on a computer envision how computers might positively influence their lives and work sparked new thinking on how to

relate use of information systems to students in introductory MIS courses.

Overall, this service learning experience enhanced the faculty member's technical skills, provided an opportunity to play new IT roles, and encouraged reflection on teaching and learning, while also providing opportunities for personal growth. In this case, faculty learned about another culture, reflected on the impact of American values and decisions on other nations, and gained an appreciation for the privilege and access education provides. The faculty member was able to utilize professional skills in service to a community and reach new understandings about IT as a service profession.

For Students

Faculty involvement in this service-learning project also had benefits for students, including development of a new course offering, enrichment of course material, and exploration of IT as a service profession.

The partnership that has been created through this service-learning project has opened an opportunity for development of a study abroad course to serve MIS majors. While Luther offers a variety of study abroad courses during the January term, study abroad courses specifically targeted to MIS majors have not been developed. One anticipated outcome of this project is a January term course in 2009 that will take students interested in technology to Tanzania to work with ELCT schools in the schools' use of technology for teaching, learning, and administration.

The previous section described a number of ways faculty teaching benefited from this project and how this project provided cases demonstrating important MIS concepts. Students are ultimately the beneficiaries of enriched teaching. This case provided "real-world" examples to demonstrate textbook concepts. In particular, students studying systems analysis and design appreciated the challenge of developing solutions for Mwangaza to distribute electronic resources. Completing the case required students to learn about a new culture and environment, which seemed to spark students' interest as they came to understand "familiar" technology isn't familiar to everyone. In some cases, students who were not as strong technically were able to contribute in new ways to

class because they had international experience or knowledge from other coursework such as sociology, anthropology, or economics that was helpful in looking at integrating computers into education in a developing nation. Students in the 2006-2007 senior capstone course partnered with a local museum to help assess technology infrastructure, needs, and planning. Those students used the ELCT school assessment process and documentation that was done by the faculty member while in Tanzania as a model for developing their own assessment process and documentation for their work with the museum.

Most importantly, faculty involvement in this service-learning project provided a model and context for discussion with students about IT as a service profession. Luther offers a number of pre-professional programs embedded in a liberal arts curriculum, and the college places a strong emphasis on "connecting life's work with service." Service-learning projects provide students an opportunity to combine community service with their classroom experiences in MIS. Having faculty members engage in service learning projects provides a model for students of how to continue utilizing their technical skills to serve their communities when they become IT professionals.

For Community

Part of the mission of Luther College is to prepare students to serve in a larger world. Faculty engagement in service-learning projects models this mission. In particular, this project most directly benefited communities of teachers and students in Tanzania – an underserved population in regard to technical resources and instruction. Those teachers and students will in turn share their skills with others in their community. The increase in technical skills in the Tanzanian population will ultimately benefit Tanzania economically and in its other global exchanges. The Luther community benefits from the enrichment of its faculty and students. Both the ELCA and ELCT communities benefit from the partnership that is strengthened as educational institutions from both organizations work together.

5. CONCLUSIONS

Much has been written about the value of service learning opportunities for students. IT presents a wide variety of opportunities for students to develop skills, to apply skills to real-world projects, and to learn the value of service in community; however, just as service learning presents those opportunities for students, so can it be meaningful for IT faculty to take on service learning projects. This experience working with non-profit organizations in a developing nation demonstrates the benefits of such faculty projects

to faculty, including:

*   development new skills

*   development of new cases for use in the classroom

*   intentional reflection on teaching

*   personal growth in understandings of life's work and service

to students, allowing:

*   development of new course offerings

*   "real-world" cases demonstrating important concepts

*   opportunity to integrate MIS content with other coursework

*   a model of the connection between life's work and service

and to community, providing:

*   much needed skills for underserved populations

*   transfer of skills needed for economic development and global exchange

Service learning enriches education by helping students integrate community service and classroom learning, and helping faculty integrate community service and professional experience as an IT educator.

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