Beyond Voluntourism: Examining the Motivations and Roles of Engineering Student Groups in International Development

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Abstract

Each year, nearly 300,000 US college students study abroad and many more go on short-term service trips. The ethic of using engineering skills to serve developing communities abroad is strong in the engineering field. For Christian students and Christian colleges, this service can also integrate with their mission to serve God by serving and evangelizing others, whether motivated by charity, philanthropy, or scriptural mandate. These service programs have impacted students profoundly, often changing the life course of a student. But do they positively impact the targeted communities? Is it efficient to spend $30,000 in travel money to send an unskilled student team to drill a well that could be constructed better by a local well driller for $2000? Certainly it's a great experience for the students, but what about the community? Does it in fact engender passiveness, cynicism, and dependency by the local partners? If we conclude that it's inefficient, that we should just send money so a local business or an experienced NGO to drill the well, then do we deny the students a potentially life-changing opportunity?

What is the role of student groups and engineering in academia in serving the poor? How might the approach at a Christian college be different from a state university? This paper discusses the motivations and practicalities of student projects for development and how they integrate with faith, scholarship, and education. Experiences and lessons learned from implementing international community development into the engineering curriculum at The University of Arkansas and at Messiah College are presented.

Introduction

"Dear children, let us not love with word or with tongue but in deed and truth" 1 John 3:18

As John reminds us, Christian believers are called to demonstrate their love. We have a scriptural mandate to walk in the anointing of Jesus who said:

"The spirit of the Lord is upon me, because he anointed me to preach the gospel to the poor. He has sent me to proclaim release to the captives, and recovery of sight to the blind, to set free those who are oppressed, to proclaim the favorable year of the Lord" Luke 4:18-19.

All believers are called to serve others and to proclaim the gospel in word and in deed. Many of the ways we serve we have in common, but starting with the third generation on earth (Genesis 4), people's contributions were organized into different occupations. College students are looking to find their calling, their vocation, and their area of service.

In pursuit of answers to these questions of life, some students participate in short-term service opportunities in developing communities. These trips have multiple goals – 1. specific education of the student in their major, 2. clarifying of the student's passions, goals, and priorities of their

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Christian calling, 3. having a good time and experiencing a different place and culture, and 4. benefiting the partner community. Of these goals, it is the first and last that are the most difficult to accomplish. Service trips often turn into "voluntourism", where the students have a good time, are inspired and impassioned for service, but do not have lasting benefits to the partner community. In addition, the work students do during their service trip often does not fulfill specific outcomes and objectives of their major curriculum.

This paper discusses the motivations and practicalities of student projects for development and describes a model that is appropriate for a college or university, provides great experience for students, and serves communities. The aspects of this model are 1. Long-term partnerships with specific communities, 2. Students working on innovative technical improvements to systems that can be used to serve developing communities, and 3. Site visits by students with specific objectives to investigate the specific community situation and/or to install pilot systems.

I believe that short-term student service trips can be valuable in the positive transformation of students and the target community while integrating into a student's scholarship and Christian calling. And I believe that an exemplary model of integrating service into a student's education is the approach taken by Messiah College, which incorporates the three aspects suggested above.

Motivations to Serve Developing Communities

"I pray that the eyes of your heart may be enlightened, so that you will know what is the hope of His calling, what are the riches of the glory of His inheritance in the saints" (Ephesians 1:18).

I believe God's glory among the poor is seen in them getting out of poverty, both physical poverty and the poverty of spirit that Myers[1] calls their "marred identity". The glory of God is best displayed among the poor by them rising out of their poverty and knowing the infinite grace available to them in the kingdom of God. Our job as believers is to glorify God among the poor by fighting poverty of spirit and body and to not "separate gospel-as-word from the gospel-as-deed"[1].

Christian engineering students often wrestle with combining their zeal to serve God and their heart to serve others with their inclination and aptitude toward a technical career. I know I faced this as a college student. I and other students decided that we could combine all three – serving God, serving others, developing technology - by engaging in technical work that serves the poor in international development and supports Christian mission work. We believe this is our calling and vocation and that engineers are specially equipped to help meet the physical needs of the poor, which is an essential role of believers. Jordan[2] points out that vocational calling is more easily understood in the context of liberal arts education than in engineering and questions whether this call can be taught to engineering students, but concludes that engineers working on international projects is a good fit for Christian engineers and for engineering programs at Christian universities.

The calling or motivation to serve the poor in international development can come from several origins. Peppard[3], writing from a Catholic theological context, sees the right to water as a theological and ethical mandate, a justice-based motivation similar to liberation theology. Slim[4] writes from a Christian viewpoint but talks of the "ethical origins of humanitarian instincts". He points out that aid is motivated by philosophical and ethical motives and not exclusively

theological motives. Many Christian leaders take the more traditional straight-forward approach that serving the poor is simply what we as Christians are called to do[5].

Beer[6] makes a distinction between philanthropy and charity. Charity, in his description, is "an inescapably personalist and remarkably nonconsequentialist ethic" and is motivated by personal connections and desires. Philanthropy, on the other hand, is more strategic and is concerned with results. The tension between the two approaches is an ongoing issue in large scale development and is an especially pertinent debate when assessing small group projects. As discussed later, there are calls for more evaluation of results in student projects. And Myers[1] emphasizes that "what works" is an important part of "gospel-as-deed".

A student project team will almost always be charity motivated. It would almost always be more efficient to give the team's funds to an experienced non-government organization (NGO), and projects are almost always selected through personal connections rather than strategic targeting. If we only make choices on "what works", aren't we denying students a possibly life-changing experience? Is it selfish to want to be involved ourselves? Is it selfish to pray "here am I, send me?" (Isaiah 6:8). Shouldn't we rather pray "here am I, but send whoever can do the job most effectively and efficiently"?

I would argue that charity-motivated projects are still valuable, valuable to the students involved, and valuable to the community served. A well conducted project may not make a huge difference in solving the problems of the whole world, but like the boy in the starfish story, we can say "it made a difference to that one".

As Christians, we are also motivated to engage in projects that advance the preaching of the gospel. For example, at The University of Arkansas (UA) I worked with a student senior design team to develop a small community scale rainwater filtration system using biosand filters. I then traveled to Colombia to install filters in previously unreached indigenous villages along an Amazon tributary as a part of an evangelistic effort by Pastor Jaime Useche with YWAM Colombia. So the clean water systems were an opening to bring in the spoken gospel. Jaime even allowed me to preach in one of the villages. I preached the gospel and he translated, although I would speak one sentence and then he would "translate" for about five minutes. Often a mission group is motivated to work with a student team because it will help them with the service part of their ministry and the team's visit can coincide with a special evangelistic effort. For a Christian believer, it is the eternal impact of their work that is the most valuable and working in a missionary effort makes this explicit. Myers[1] cautions, however, that when we only do the physical because it leads to the spiritual, we deny the holistic nature of the gospel.

Whether motivated by charity, philanthropy, justice, ethics, scriptural mandate, or opportunity to preach the gospel, we see a strong desire among students and others young and old to travel overseas and help the poor. That desire is almost universally seen as a good thing, but it needs to be done correctly. We have made a lot of mistakes on every scale from large intergovernmental efforts to small groups and individuals. And the idea that we're doing good can mask or justify pride and hubris and can lead to us hurting those we're trying to help or even hurting us and our families[7]. The remainder of this paper discusses how to apply the lessons from the past to help us design student project experiences that are positive for the students and the communities served.

The Problem with Voluntourism

Each year, about two to three million people from the United States go on short-term mission trips internationally[8] at an average cost of around $1400 per person[9]. If you travel to Central America in May, odds are that there will be several mission or school groups on your plane in matching t-shirts ambitiously proclaiming their mission to save Belize or Honduras or Nicaragua. The group will likely work with a local mission group to do a service project and will then spend a day or two visiting tourist attractions. Voluntoursim is not exclusively a Christian phenomenon, but the 2009 book, *When Helping Hurts*[10], by Steve Corbett and Brian Fikkert, awakened many in the Christian community to the concept that short-term, paternalistic mission trips can do more harm than good. The authors point out that spending tens of thousands of dollars to send short-term, untrained young people to "save" poor people in developing communities makes no economic sense and can disturb rather than assist the local partner organization and the community they are trying to help. These observations have been echoed by other recent Christian authors as well[11,12].

Although *When Helping Hurts* was a needed wake-up call, it should not have been necessary. Many of the revelations in the 2009 book were recognized in the development community decades earlier. The Peace Corps began in 1961 and thousands of volunteers were sent out. By 1964, Peace Corps volunteers and administrators recognized that a project was only successful "if the people are well-organized and can carry on projects after you leave"[13]. In the 1970s there began to be scholarship and textbooks laying out methods for involving community participation in development[14,15]. At the same time, there began to be some critical reevaluation of appropriate technology assumptions[16]. Also in the 1970s, The World Bank, the Peace Corps, and other aid agencies began using anthropologists in their water and sanitation programs to assure that the programs fit with the community[17]. Chambers[18] emphasizes the need to spend time in rural areas personally interacting with the poor and to understand their vulnerability and powerlessness, but he warned against "rural development tourism" in 1983 and continued to warn against it in the following decades[19].

Short-term mission and service trips can be justified by the educational and life experience value to those who are traveling[20]. Kollman and Tomas-Morgan[21] observed that international service-learning trips "showed significant changes in the worldviews of student participants" and that these trips in faith-based contexts have "important potential to help students connect their deepest convictions … to their broader education". The authors go on to state "It thus behooves religiously affiliated universities to utilize their distinctive religious foundations as they integrate international service learning into their broader educational goals".

To realize the value of these trips to the student travelers, it is important that the travelers consider themselves learners and not saviors to the poor people they're visiting. The international NGO that facilitates UA community development study abroad program outlaws the use of the word "help". The idea is that we partner with the community, not "help" them. In *When Helping Hurts* and the follow-up workbook *Helping Without Hurting in Short-Term Missions*[22], Corbett and Fikkert suggest that short-term trips adopt a learner approach and not think of themselves as "sacrificing" to go on these trips. The authors also suggest that the travelers not engage in the tourist activities. I believe the travelers should embrace the fact that they are tourists. Too often I have heard students on these trips ridicule the measly tourists or expect some special treatment or prices because they are there not as tourists but rather as

saviors. Embracing the tourist part of their trip would help the travelers understand their role better. Those who go on these trips should recognize what a tremendous privilege they have to travel and meet and interact with people far away. This opportunity is possible because of the wealth of them, their parents, their church, or someone. Traveling on a short-term mission trip is a wonderful, expensive luxury, not a sacrifice.

Short-term service trips can also be a blessing to the target community. If done correctly, the trip can be a big boost to the local partner organization, can bring new ideas in, can produce a project that would not have happened otherwise, and can be inspirational to individuals in the community. However, hard questions on the effectiveness of the project should probably be asked. Easterly[23] emphasizes that quantitative assessment of development projects has historically been lacking and that all new programs should include quantitative assessment of their results and should be adaptable to the assessment results. Peace Corps partners were calling for more research and assessment of program and project outcomes as far back as 1965[24], but such work is still lacking. Measurement and assessments must also get at the fundamental questions of whether people's lives are improved. Bartram[25] argues that current all-or-nothing measurement of water and sanitation, e.g., has or does not have improved water, do not adequately describe the water and sanitation situation and needs. More descriptive and adaptive measurements and assessments are needed[26,27]. Ongoing projects also require management methods that respond to the community.   In addition, asking tough questions up front about the outcomes of a project may impact the project selection process[28]. Amadei[29] has recommended a systems approach to modeling community development projects and has also compiled a guide to planning and evaluating the types of projects undertaken by student teams[30]. Lupton[12] advocates using business world measurements to assess development including short-term service trips.

For student group projects, a university works with an NGO or mission organization that works with the partner community. A university group can initiate assessment and measurement and follow up over time, but the community participation and ongoing management of the project goes through the partner organization. In some cases, the missionary organization is "old fashioned" in how they involve the community. The students, who have recently been enlightened and are idealistic about community participation and local control, sometimes chafe at how the missionary does things. However, the missionary has a history of working in the community, knows the specific situation much better than the students do, and the students should be instructed to go along with the decisions of the local partner. Discussions between the missionary and the faculty and students about how and why the missionary makes their decisions can be educational to both sides.

A Better Model

So what is the appropriate role of student groups and service trips in international development? I believe that trips that sync with longer term community development, that are part of valid technical, educational, or economic advancement, and have specific objectives can be valuable to the students traveling, to the partner community, and to the scientific and engineering community.

The three important aspects of effective international service projects are:

1. Long-term partnerships with specific communities

2. Innovative technical improvements

3. International trips with specific objectives related to the students' project

Messiah is working toward fulfilling these aspects in their projects. I will describe how Messiah fulfills these aspects and contrast this with other programs including the community development summer study abroad program I helped initiate at UA.

In Messiah program, projects are performed for real clients. We make an effort to work with clients over the long term on multiyear projects and to initiate new projects with the client and the partner community. For example, an alumnus in Burkina Faso has worked with Messiah on the mobility trike project for over a decade. Other multi-year projects with this alum have included biodiesel, solar power, and well drilling. Another example is Friends In Action working among the Rama people in Nicaragua. Our partner first approached us about improving the design of a block-press machine for construction blocks. In addition, we are also initiated a latrine project and a footbridge project. The hope is to work with the partner over several years in several improvements in the Rama community.

The longer-term projects facilitate deeper engagement and partnership with the community, allow us to observe the sustainability and appropriateness of the project over a period of time, and give feedback for technical and non-technical improvements. Multiyear project continuity also has value in the education of the students.

The service-learning summer study-abroad program at UA also values long-term partnership and multiyear projects. When we decided to partner with a community, we made a commitment to come every summer for at least five years. The program is currently in its 11th year working in the same community. However, there is not as much continuity in the projects as there is at Messiah. The students are involved for only one summer each and the projects are not integrated into the academic year. Some of the projects, most notably the micro-finance projects, are sustained year-to-year, but each summer has a different group of students and many of the projects turn out to be one-off construction or implementation projects rather than ongoing projects that can be sustained and iterated year to year.

Because we were working with the same community for three to five weeks each summer plus another one week trip during the academic year, I made some very close relationships with local people in Belize through UA of Arkansas program. I spent many hours with several individuals and became good friends. The students, however, were only there one summer each. At Messiah College, the students worked with partners at a distance for two to four years and connected in person a few short periods over those years. The Messiah students often formed bonds with the missionary partner and several of our students joined the mission groups upon graduation. So the relationship dynamics are different in the two programs and they both have their advantages and disadvantages[31].

The second aspect of a better model for student service teams is technical innovation. Engineering projects in developing countries are a good fit as senior design experiences[32,33]. It is

more difficult to incorporate such projects into other courses. At Messiah, the projects are integrated into a required five-semester project sequence and students can choose to be involved from their first semester. Projects performed through the engineering curriculum at Messiah are focused on technical innovation. Messiah is not an NGO that implements established technologies and not a research institution that advances pure research. Our role is to make innovations that solve specific problems for our clients and lead to technical advancements that can be applied more broadly. For example, the Village Water Ozonation System (VWOS) project took an existing technology, ozonation, which had been used for disinfection of hot tubs, pools, as well as for larger scale water disinfection and applied and adapted it to an in-between scale of a girls' home in Nicaragua. Ongoing iterations lead to exploring its application to a community center in Mexico and possibly to truck-mounted mobile systems that can be used to start small businesses of pure water provision. Branching off of what was learned though applying ozonation, the VWOS team is now looking to adapt existing UV disinfection and biosand filtration to in-between scales. This is all made possible by the project being ongoing, the student team actively working on the project during the academic year, and having underclassmen working with seniors and then getting their opportunity to lead. Technical innovation is the focus of the project and Messiah programs support innovation.

At UA, we worked with a national park and the adjoining village every year during our summer program. We built a small gravity fed water filtration for the village in 2007, greatly expanded it in 2009 based on a senior design project, and made major adjustments to it in 2010. Integrating the water system into a senior design project in 2009 allowed us to make iterative improvement on the system. However, because we did not have an ongoing team working on it over the years, much of the design work fell to the faculty (me) and we did not have the knowledge transfer and integration that we have at Messiah. Nor did we have time dedicated during the academic year to do research, go back and forth with our client, and make technical improvements before the implementation. I believe we could have made a better design more quickly had we integrated the project into our curriculum as we do at Messiah. The year-by-year approach hindered technical innovation.

The third aspect of an improved model for student service projects is to have specific student project objectives for the service trips. This is in contrast to mission trips or service trips that merely have the students participate in an outreach or service effort chosen by the host mission agency or have the students engage in a cross-cultural experience. Those experiences can be valuable to the student and to the host mission and have their place, but are not specific to the student's academic objectives. Trips made for specific project objectives will drive the students to achieve more academically and, in my opinion, are more justifiable. For example, the Block Press team at Messiah is planning an implementation trip in June 2017 for their block press design. The client has a specific goal to have a working block press in June. This urgent request has pushed the team to design a press, get it manufactured, and have it ready to go for the summer. The project is driving the trip and the students have individual ownership in seeing the project completed. As part of the trip, the students will also support the partner's service and evangelistic efforts, and will have a valuable cross-cultural experience.

Our program at UA also had specific project objectives, but the students signed up for the program before knowing what the projects were and did not have ownership of the project in the same way they do at Messiah. At UA, it was the trip that was driving the projects. We had a

group of students showing up in the summer and needed to have something for them to do. The UA program had longer time for the students on the ground than the Messiah site trips, but a shorter-term project life over all. The different time scales have their advantages and disadvantages[31].

I believe Messiah model, which integrates projects and scriptural discipleships is an excellent model. There are of course improvements to be made and we fail to perfectly live up to our ideals. For example, we are not always as client-driven as I presented. I contrasted the two programs, but I believe we did a lot right at UA and I am very proud of the program we built there. Although we did not work with Christian mission groups in that program, many of our students were Christian believers who wanted to serve God in missions and saw the program as a step in their calling and vocation. At UA, the trip abroad is credit-bearing while the academic year is not and this is reversed at Messiah. I believe Messiah model is better, but it would improve Messiah model and we could get more student and faculty involvement for the trips if we could make them credit-bearing without losing the credit for the academic year project work.

Summary

As Christians, we are called to serve the poor, preach the gospel in word and deed, and do our part to restore the wholeness that Jesus paid for in each person's life. Service projects in developing communities can play a part in this mission and can be a stepping-stone and clarifying experience in the life of a student. Unfortunately, short-term service trips are often not much more than "voluntourism" that is inspirational to participants but does not accomplish much for development. By integrating short-term service trips into a student's curriculum, by having specific project objectives for these trips, and by working with a developing community partner over a period of years, these service trips can be more effective and efficient.

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