Case study of prior experiences with B2P and reflection on "white savior" mentality

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Bridges to Prosperity is an American non-profit organization that provides isolated communities access to education, healthcare, and other opportunities by constructing footbridges over impassible bodies of water. There are many Western organizations who have the same mission of providing humanitarian services to underprivileged communities and countries around the world, but their efforts have ultimately been labeled as voluntourism or they failed to avoid the "white savior" image. Voluntourism provides an option for those who want to travel the world and have a feeling that they are contributing in making the world a better place. The white savior complex refers to a Western industry or organization, primarily predominately white, acting to help non-white people, but explicitly or unintended to be self-serving (Bakar, 2019). This project is informed by personal experiences with B2P. Bridges to Prosperity and the student chapter program, Engineers in Action are Western organizations in itself who help non-white people in isolated communities, so how has B2P avoided the concept of voluntourism and the white savior complex in its 19 years of service? How are they funded, and how did these under-represented communities come to trust this non-profit organization? I will explore "best practices" for engineers to be trained on what is "good" and how to effectively interact with people from many different cultures and backgrounds. In addition, I will be using Bridges to Prosperity (B2P) as a case study evaluating the framework of my developed "best practices."

"Best Practices" Framework

What are "best practices" that engineers should be trained on to know what is good in terms of humanitarian services and interacting with people across different cultures? Below, I will have developed a framework on best engineering practices, and then use that framework to evaluate

the work of Bridges to Prosperity. I first want to bring up the obvious risk of doing more harm than good when it comes to humanitarian engineering education. In Birzer's article, he states that "Amongst western universities it is common practice for the engineering programs to have ethics and sustainability embedded within most professional practice course." This statement is true, when it comes to the University of Virginia because our required STS courses teaches us the ethics and responsibilities of being an engineer. He then states, "However, many activities run the risk of disempowering communities and incorrectly promote neo-colonialism as a positive concept to students." The term incorrectly, is properly used here because everyone has their own biases about different cultures and sometimes, we use those biases to push our agenda of what we think is good. Those beliefs are often not the same goals of the community we are honing in on. Birzer then states that engineering schools be holistic, or concerned with wholes or complete systems, and include the values and beliefs of yourself and the environment. I do agree that engineers should be taught to include all stakeholders when it comes to making decisions, especially for other communities. The concept of service-learning was brought up into the article, and the article highlights that "service-learning increases self-awareness, cultural sensitivity, teamwork, and empathy." These are just a few traits that a successful engineer should strive to have in not only for their career, but for their everyday life. Birzer then concludes his article with advice on humanitarian engineering education: "Designing programs to constructively build on technical content taught in other courses, working with community benefit in mind, appreciating the long-term impacts of any outcomes, and fostering reflection of experience is essential (Birzer, 2019)." This brings us to our next framework of the challenges to engineering education for sustainable development and how to overcome them.

In Ashford's article, he says that best practices to address challenges in engineering education include technological/scientific changes and system changes to organization/institutional structure. Being able to effectively design technologies so that the community that is involved has a say and is contributing in the design process, leads to major progress in terms of sustainable development. Ashford also states that engineering cannot do it alone, it will need the help from science as well as social and legal changes needing to occur (Ashford, 2004). That is where the multi-disciplinary approach comes into play. Multi-disciplinary engineering refers to the combining or involving several academic disciplines, that is, taking into account the expertise and opinions of all stakeholders involved in the affair ("Multidisciplinary Engineering," 2021). It makes a huge difference when looking at sustainable development as a multidimensional challenge in three dimensions and Ashford emphasizes that point. The three dimensions that engineers should focus on are environmental, economic, and social. These three together "drive sustainable development along different pathways" rather than just being environmentally driven. Ashford then states that best practices can be achieved when there is a presence of high-level activities where disciplinary thinking can be achieved (Ashford, 2004).

Grassroots initiatives are defined as community-based approaches that are created to address problems that are local. A best practice for training engineers is created by combining the concepts of grassroots with engineering. As described in Cruz's article, grassroots engagement with engineering students proved to help students engage in cross-cultural interactions with communities in Brazil. Service learning and community service is an integral part of universities in Brazil, so students are able to appropriately communicate with people from many different communities. There are a number of student programs in Brazil that help students empathize and

collaborate with people in different communities. These engineering initiatives in Brazil have been proven effective, and they are mostly shaped by university extension, solidarity economy, and social technology. The article also points out that engineers must be popular educators or someone who possesses empathy and critical sense, and open to learn with people who come from non-educational backgrounds. Empathy has been the theme in these articles because empathy is important in areas of life. A good engineering program or organization train engineers on what happens beyond what they learn in school, according to Cruz. From what I understood from the article was that not only are technical results obtained, but there are lasting positive impacts on the student engineers that include enlarged consciousness and empowerment (Cruz, 2020).

The term peace engineering can be best defined as using peacebuilding communication tools to aim at restoring, building up and preserving peace in the affected communities ("What does Peace Engineering Mean?"). In Amadei's article he starts by saying, "Engineers in the twenty-first century need to be more than providers of technical solutions, they also need to play an active role in peacebuilding efforts and contribute to diplomacy." It is important for engineers, especially nowadays, to have a diverse skillset and be cognizant of people from different cultures. Amadei also emphasized that engineers have the ethical and professional obligation to develop solutions to meet basic needs of all humans since the primary driver of engineering is being of service to humanity. Trained engineers are effectively able to forge scenarios for interventions to address peace and development-related community issues. A possible framework for peace engineering consists of three aspects: peacebuilding, peacemaking, and peacekeeping. Along with having all those technical skills that engineers possess, engineers need to be able to peacefully carry out their work. As stated in Amadei's article, key attributes to the

three aspects are being able to address roots causes of conflict, work in collaboration with different stakeholders, and being able to restore essential community services (Amadei, 2019). Those are three key aspects to help train engineers on best practices for humanitarian efforts.

Human-centered design matters a lot, and it was one of the most important, if not, THE most important "best practices" in the framework that I have developed. Human-centered design or HCD is defined as immersing yourself in the users' lives to gain a better understanding of who they are ("Human-centered design: Design defined"). That is another way of describing empathy, which has been the theme of the paper. Thomsen's article describes that "When done well, a human-centered approach fuels the creation of products that resonate more deeply with an audience — ultimately driving engagement and growth." That engagement and growth is important when it comes to building a relationship with a community and having that sense of trust between parties. Examples of successful design-driven companies are Airbnb and Pinterest, where they immerse themselves to the user's perspective and ideas. HCD is important in training engineers because the different minds or collaborators bring different frames of reference, ultimately elevating the work. A shared ownership of ideas drives success and erases some of the implicit biases that engineers might have. Thomsen then concludes his article by stating that "involving your users early, prototyping to learn and applying a design-driven approach to every touch point along your product journey can lead to breakthrough product experiences (Thomsen, 2015)." This is very important framework that is hopefully evident in Bridges to Prosperity's work.

Nicaragua Case Study

Bridges to Prosperity devote a ton of time, funding, and effort to help underserving communities in Africa, Asia, and South America gain access to resources that was harder for

them to access before. However, these well-meaning efforts can unintentionally do more harm than good. In this case study, I speak to a woman (whose name I will not disclose due to privacy reasons) who was involved with B2P early in her college career. We talked about her experiences on the job site and the "bad" ways of teaching student engineers how to effectively interact with people from different backgrounds, cultures, and beliefs.

The setting of the footbridge was in an isolated community in Nicaragua, and it took place in 2014. It was her second build with Bridges to Prosperity, and she took the role of Project Manager, at the whopping age of 20 and fresh off her freshman year of college. Right off the back, that is a lot of responsibility for someone so young. She referred to the days before the CCC course as the "Cowboy days" because "there wasn't a lot of oversight on project, B2P was trying to make student teams somewhat independent." It was the "Cowboy days" in terms of safety, Cross-Cultural communication, and non-technical skill because these important topics were not provided to the students to learn beforehand. The project was to be heavily student-led and she then described her situation as being the "perfect storm" as bad situations were soon to arise.

The first problem was that the student team had to find the underserving community on their own, again, which is a lot of responsibility for a team of young college students, especially without managerial oversight from B2P. The community they found in Nicaragua needed two bridges, and that was how the problems started. "One sight was a suspension bridge site, so it was a corporate site." From what I understood, corporate teams had a lot of money and only came for two weeks for the "cool" part and to get a lot of pictures. This was the first example of the white-savior complex and voluntourism, as corporate would build the bridge for them and shower the community with many gifts before they left. This gave the student team a lot of unfair

expectations and was the main reason why this project was such a disaster. The “white savior” image was established in the community especially because of corporate gave away all these things to the community, the precedent was set, and the community expected it to be a “white savior” bridge. The community expected the student team to just come in and give them stuff and pretend everything was “saved” in their community. She then said that “the community leaders were not very supportive from the start; we were a young group of white kids.” To specify it even more, there were 4 white men and 3 white women on build team that year. On a good note, logistics and materials were fine, and a professional engineer even came down to help for a week. However, after the professional engineer left, “tides turned when they realized student team was still there and the bridge still wasn’t done.” “And unlike corporate, students weren’t buying and giving the community things.” The community then stopped volunteering to help build the footbridge, only bringing their adolescent sons to the site, which then created conflict. There were a lot of tiny fractures that caused to bridge project to fail, which included a mason starting an intimate relationship with a member of the community, the community stealing from the student teams, adolescent kids sexually harassing the student staff, and lack of privacy in personal spaces. I thought it was interesting that she pointed out after the fact that one of B2P’s members asked her “Why didn’t you stop it from happening!” I can imagine her feelings of helplessness, uncomfortableness, and neglect when asked that question. With the build-up of all those conflicts and uncomfortable situations, the site was shutdown and all the student members left. All there was left was the building of the ramps, and on the bright side, “one mason helped finish the bridge after things simmered down.”

In her time of thinking and reflection, she said it was important to note that the “political environment in Nicaragua challenged the project as well.” “The community was made up of

people of the opposing or minority political part in the country." The community had to rely on a bunch of twenty-somethings to provide them with infrastructure as they had no infrastructure or electricity. We don't realize how much politics play into communities and my heart dropped when she told me that all other communities around this community had electricity, simply because they shared beliefs with the popular political party in the country. She also pointed out that you had to know the history and dynamic of Nicaraguan communities with nonprofit work and political systems, and B2P did not provide them with that information. As a way to try to compensate for the damage that has already been done, Nicaraguan B2P staff shows the student team "a very informal slideshow on how to engage with communities effectively and how not to fall in habit with indirect communication." For one, why didn't they show the student teams beforehand, and they clearly prioritized the Peace Corps as they were shown this presentation before going to their site. She and I both thought it was interesting and a complete waste of time that they waited after the fact to give them that informal presentation.

With all of the problems that were faced, she did say that she "learned a lot about indirect communication, how to conduct yourself on international bridge building, and how to prepare students and peers." I learned while listening to her that if you are leading a project, majority of the responsibility falls on you. Bridges to Prosperity and student engineers (EIA) worked together to learn from their mistakes and to properly inform students on what is "good." She stated that "It is engrained in B2P that we are not trying to be white saviors. B2P and EIA try to engage and empower people living in the communities and countries where they go to work." With years of perfecting their own "best practices", she was able to help B2P create the Cross-Cultural Competency course.

B2P's Cross Cultural Competency course

In 2017, Bridges to Prosperity released the Cross-Cultural Competency (CCC) course. This interactive and multi-disciplinary course is intended to help engineering students grow in their understanding of working cross-culturally and collaborate with other Cultural Relations Managers. This approach has proved to work almost perfectly, as students are able to become competent in cross-cultural communication. It took the team and I about 8 weeks to finish this course, as the course has very in-depth information and we purposely spaced it out this way.

One of the first lessons that the course introduced, was the concept of voluntourism and "toxic charity." I defined what voluntourism is in the introduction, but "toxic charity" is this idea that is basically centered around the ways that giving away things to communities can remove agency to create sustainable solutions to problem. A simple example is a man gives away shoes to countries and that then removes business from cobblers in those countries and additionally the man doesn't do anything to invest into those communities. B2P wanted to make to the people taking this course that these trips can create or intensify "white savior" complexes and I find that very impactful of them that they acknowledged it up front. The course then moves into the direction of engineers "owning up" especially when making decisions as leaders. It emphasizes that as leaders, it is important to approach leadership with "openness, curiosity, and positivity, instead of being stuck in mindsets of scarcity" (EIA: 401 Cross Cultural Competency). Furthermore, the course really emphasized how much privilege we have and the terms selective attention and perception of culture. Privilege intersects with several social categories like class, race, religion, etc., so it was very important of the B2P to get student engineers to realize their privilege before traveling to these countries. Selective attention and perception of culture are just reminders to be cognizant of how we as engineers are thinking of others, and how we are recognizing our own actions. Learning activities about selective attention, privilege, and

resolving conflict on a job site were then conducted within my technical team to put it in to practice.

The next part of the course introduced the topic of breaking down walls and to the fact that "characteristics of identity (race, gender, sexuality, etc.) change people's reaction to an identical situation." The lesson highlights that our different perceptions about people are affected by the fact that we lack access to the complexities of different cultures and lifestyles. The part of this section that really stuck out to me was that B2P talks about how engaging with other people through listening first, as opposed to sharing, can create a successful communication. In addition, as engineering students, Bridges to Prosperity wanted to break down the fact that poverty is "a complex system that can't be fundamentally resolved through a technical fix and is often rooted in historical power imbalances." What I got from this section is that technology fixes are not bad, but we shouldn't view them as end-alls and that we should understand the limitations of technical solutions. This lesson of the CCC course does a great job of pushing ourselves (engineers) to think both technically and socially.

One of the lessons that the CCC course provided that I thought was really interesting and important was the idea of exhibiting flexibility and adaptability to community's ideas on scheduling. Americans think of punctuality as an important value in a person, and maybe other cultures don't value it as much, and that is why it is vital to be flexible and being able to adapt to those situations. Bridges to Prosperity, through this lesson, teaches engineers to put in time to build and prioritize relationships, as that builds trust and benefits all parties. The four qualities of empathy are then brought forth, and they are perspective taking, no judgement, recognize the emotions of others, and communicate the understanding of that person's feelings. The course

then has the team do discussions about relationship development, which do an excellent job of training engineers of that aspect of building a footbridge.

The next lesson in the Cross-Cultural Competency course was actually a country call with the Cultural Relations Managers in Bolivia, so it was neat to talk to people who work for B2P, and are also in these communities we are building in. The Managers emphasized that punctuality is not as important as meaningful interaction with the community. It is important to be understanding and flexible, and to build in some contingency to scheduling. Interaction with community leaders can vary from community to community and it is important to be clear what tasks need to completed in what time frame. The Cultural Relations Managers were as real with us as possible, as they talked about the challenges they faced with living conditions and how physically demanding building a bridge can be. They then wrapped up the call by giving us advice on how to connect with community members. Their advice included organizing community dinners, playing sports with them, sitting with different people during lunch breaks, and sharing plans, pictures, and information about scheduling. Basically, the theme with this lesson is to be as open as possible so that there is trust and relationships can build. I personally liked how B2P incorporated the Managers in the course because they took time out of their day to give us real world feedback about the experience.

As the last lesson in the CCC course, B2P brought up and informed us on the idea of design thinking, which is one of the frameworks I am using to evaluate B2P. The main themes I got from this lesson is to consider alternatives that don't exist, include context of problem and culture of stakeholders in design and solution creation, and that rapid development leads to efficient design (EIA: 401 Cross Cultural Competency). The lesson then concluded by having us watching a TedTalk on the happy secret to better work. The video drew attention to that people

work better when they are happier, and it is important to learn to see stress as a challenge instead of a threat.

Discussion and Conclusion

Bridges to Prosperity went from the "cowboy days" in the early 2010s where it was heavily student-led to the more effective Cross-Cultural Competency course, which started in 2017 and more mentorship from leaders. Like B2P, thousands and thousands of Americans flock to Africa and Asia with big hearts. For example, in Martin's podcast/article, she interviews a guy named John Donnelly and they are specifically talking about Americans or missionaries going to Africa to help the many orphans. I thought it was interesting that missionaries in Africa are far bigger than the U.S. government, in terms of money and funding. The article emphasized that Americans go and don't actually know what the community needs, they are there to forcibly use their own ideas. Bridges to Prosperity in their early days is comparable to that, as corporate would travel to these places for their own needs and pleasure. Donnelly pointed out that Americans have no knowledge or humility and that missionaries aren't effective as they should be. Americans feel that they know more than the people in Africa, and that was apparent in B2P before their adoption of best practices. The discussion concluded by Donnelly insisting that missionaries need to be more coordinated and going to have to form more partnerships with groups (Martin, 2012). Bridges to Prosperity has learned from those same mistakes that missionaries still make, and have continued to make good strides in teaching student engineers what is "good." B2P exemplifies the best practices of developmental engineering, peace engineering, community engagement, and human-centered design, while still acknowledging the immense privilege that they have. The best practices that I formed to evaluate B2P, are all encompassed in their CCC course and is very apparent in the way the employees conduct

themselves. It wasn't easy getting here though, they got here through a lot of trial and error and hundreds of mistakes. From the case study I conducted, the person I interviewed encountered a lot of problems while building the footbridge, but they ended up learning so much just by going through that tough experience. From what I have observed through life, the best way to get to where you want to go, is to make mistakes and learn from them, and that is exactly what B2P did and is continuing to do. I have revealed that a non-profit organization can learn from their past mistakes and ultimately train student engineers on what is "good." There are some limitations of my meta-analysis and they include not having unlimited access scholarly articles and some of the best practices are still early in their development, but there are opportunities to explore other organizations with the same missions and goals as B2P.

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