What Counts as Outcomes? Community Perspectives of an Engineering Partnership

Nora Pillard Reynolds
Temple University

This study explored the perspectives of community organization representatives and community residents about a partnership between a College of Engineering and a rural municipality in Nicaragua. The intended community outcomes described by university participants during interviews corresponded with tangible project outcomes, such as access to clean drinking water and electricity as well as improved access to healthcare services. However, the community participants also described the following community outcomes: confianza, sense of pride, and consciencia. Comments about using the community as a laboratory illuminate how categorizing outcomes as positive or negative represents an oversimplification and draw attention to the importance of community participation in various ways including data analysis. Findings are analyzed using Fraser's framework for social justice and provide a model for enacting global service-learning partnerships with the potential to advance social justice.

> Sitting next to a fork in the dirt road in a remote area of Nicaragua, I suddenly had that feeling sink in – I was really in the middle of "nowhere." There were a few huts in view, but there was no electricity or means of communication – no phone lines or even a two-way radio to town. Our truck had just broken down and the local parish priest hitched a ride back to town to buy a new part and just told our group to hang tight and wait until he returned. As we sat there, a community resident approached us. I responded to a few of his questions about where we were from and what we were doing. I struggled with my somewhat limited Spanish, but I did grasp his last statement…something to the effect of "you killed my family," which he muttered as he turned and walked away.

In those few words, this gentleman captured much of the history of the relationship between the U.S. and Nicaragua as experienced by families in the mountains of Waslala, Nicaragua. After that trip in 2002, one of my friends and I created Water for Waslala (WfW), a non-governmental organization working to ensure access to clean drinking water. Since 2004, we have worked in partnership with Villanova University's College of Engineering (CoE), which has sent over 200 engineering students and faculty members to visit Waslala. The Director of Engineering Service for the CoE identified this as a "successful partnership" (J. Ermilio, personal communication, February 23, 2012).

This study was part of a larger project that explored stakeholders' perspectives about this global service-learning (GSL) partnership and its accompanying projects (Reynolds, Forthcoming), with a particular focus on community voices because they have received limited attention in service-learning (SL) research (Stoecker & Tryon, 2009). This study incorporated the voices of community organization representatives and community residents to explore this question: From the community's perspectives, what are the outcomes in Waslala of the projects and partnership with the CoE? The findings described here demonstrate how an intentional focus on the community's perspectives leads to a broader conceptualization of outcomes in GSL and highlights more nuanced views of how communities perceive and understand outcomes in partnerships. The community's perspectives and participation in analyzing the findings drew attention to the importance of participation to achieve socially just GSL partnerships.

After discussing the general problems related to international development work that global service-learning efforts seek to avoid and a relevant literature review, I examine the outcomes described by the community participants that go far beyond the tangible project outcomes identified by the university participants. Next, I show how a participatory analysis process demonstrated how categorizing outcomes as positive or negative represents an oversimplification of how communities perceive and understand outcomes in GSL partnerships. Finally, I explore how Fraser's framework of social justice is a useful tool to analyze GSL partnerships.

The Problem

Engineering-for-development[1] initiatives are increasing dramatically (Nieusma & Riley, 2010). Many universities now work in development projects abroad

and manage their own programs (for example, Engineering Programs in Community Service[2]), and there are now numerous engineering organizations doing development work (e.g., Engineers without Borders[3], Engineers for a Sustainable World[4], and Engineering World Health[5]). These university programs and engineering-for-development organizations directly involve engineering students, young professionals, and faculty members in international development initiatives and projects on the ground in countries around the world. The history of engineering-for-development, similar to international development more broadly, contains many examples of failed and unsustainable projects (Engineers without Borders, 2009).

Crabtree (2008) argues that international service-learning (ISL) often engages students in development work – education or health interventions such as building a school or a water system – and, therefore, needs to incorporate understanding of the history of development and "consider participatory development theories, models, and strategies" (p. 24). As a result of numerous criticisms of traditional models of development focused on development for other countries, communities, and people by outside "experts" (Easterly, 2013; Escobar, 1995), alternative models have emerged that are more participatory and community-driven such as asset-based community development (Kretzman & McKnight, 1993) and participatory rural appraisal (Chambers, 1997). Given the tormented history of development projects around the globe (Carr, 2011; Easterly) and the fact that GSL often engages students in development interventions (Crabtree, 2008), it is critically important to explore the impact of GSL projects and partnerships not only on student learning, which has received ample attention, but also on the host communities.

Literature Review

Existing SL research is focused primarily on student learning outcomes (Camacho, 2004; Celio, Durlak, & Dymnicki, 2011; Hartman, 2014a; Kiely, 2004; Plater, 2011) as opposed to community-level concerns or outcomes (Crabtree, 2008; Cruz & Giles, 2000; Stoecker & Tryon, 2009). The SL research focused on community perspectives reports positive views of the students or the university (d'Arlach, Sanchez, & Feuer, 2009; Hartman, 2014b; Miron & Moley, 2006; Vernon & Ward, 1999); a variety of different community organization motivations for involvement in SL including an emphasis on serving as co-educators (Basinger & Bartholomew, 2006; Bell & Carlson, 2009; Worrall, 2007); and satisfaction with student volunteers, the project, and/or the partnership (Basinger & Bartholomew; Edwards, Mooney, & Heald, 2001; Ferrari & Worrall, 2000; Gray, Ondaajte, Fricker, & Geschwind, 2000; Irie, Daniel, Cheplick, & Phillips, 2010; Miron & Moley; Schmidt & Robby, 2002). Studies document positive outcomes for the community such as free labor, energy, individual attention for clients, improved functionality, and even a decrease in the "town-gown" divide (Irie et al.; Edwards et al.; Blouin & Perry, 2009; Schmidt & Robby; Vernon & Ward) in addition to numerous challenges and costs for the community organization related to time, student preparation, and communication (Blouin & Perry; Irie et al.; Stoecker & Tyron; Vernon & Ward).

Although research is making progress in understanding the perspectives of the community about SL, nearly all of the studies focus on domestic SL. Scholarship focused on international host community perspectives is emerging (Arends, 2014; Kiely & Nielsen, 2002/2003; Larkin, 2013; Larsen, 2014; Toms Smedley, 2014). However, such perspectives remain limited as a result of additional challenges related to language, distance, and the time and resources required to spend abroad building trust and gathering data (Crabtree, 2008; Cruz & Giles, 2000; Hartman, 2014b; Larsen, 2014). Further, existing SL scholarship focused on the community mostly incorporates the perspective of the community organization or partner while omitting the voices and perspectives of the community residents (for an exception, see d'Arlach, Sanchez, & Feuer, 2009). Research focused on community impact should include the wide range of perspectives of those comprising the community – participants, organization leaders, residents, and others (Cuban & Anderson, 2007; Steinman, 2011).

The term "community" is utilized in SL/GSL and development literature with limited interrogation of the complexities of power and difference inherent in the term. In GSL, community can be location-based or interest-oriented (Hartman, Kiely, Friedrichs, & Boettcher, Forthcoming). In development, Cannon (2014) concludes that community has simply come to mean "where we work," echoing the location-based definition in SL/ GSL literature. Development literature cautions against definitions of "community" as homogenous and draws attention to the complexity and heterogeneity in any community. The development literature's definitions and critiques of the term "community" focus on the heterogeneity of communities, the importance of power and history in communities and between communities and development efforts, and the many different perspectives represented in a community (Andreotti, 2006; Cannon, 2004; Carr, 2011; Christens & Speers, 2006; Cleaver, 1999; Kapoor, 2004). This study aimed to explore a variety of perspectives by Waslala community residents and community organization representatives about the projects and partnership with Villanova University's CoE.

Theoretical Framework

Fraser (2009) proposed a framework for social justice based on *parity of participation* in which all parties in a particular matter are able to participate as peers in social interaction. Her framework includes a politics of (a) *redistribution*, rooted in the economic system, (b) *recognition*, connected to the cultural system, and (c) *representation*, based in the political system. For Fraser, these three aspects are interconnected, and separating any one from the others results in an incomplete and diminished concept of justice. Each principle is important for Fraser's conception of justice not as a goal but as a means that inhibits or fosters participation as peers in social interaction. The presence or absence of these three principles helps to identify ways in which social arrangements or structures affect parity of participation and the pursuit of social justice.

Fraser (2009) addresses the question of "who is entitled to make justice claims on one another" (p. 17) and proposes *the all-subjected principle*, i.e., "all those who are subject to a given governance structure" that "sets the ground rules that govern their interaction" (p. 65). She specifically defines governance structures more broadly than state governance and instead describes these structures as "encompassing relations to powers of various types" (p. 65). In the case of GSL partnerships, the all-subjected principle calls particular attention to the importance of different voices and perspectives in partnerships – not only that of the university but also that of the community, including community residents as well as community organization representatives.

Redistribution

In SL/ GSL partnerships, redistribution relates to the directing of university resources to local and international communities. Fraser argues that redistribution is important not as an end goal but instead as a means to facilitate parity of participation. Maldistribution occurs if different actors do not have the requisite resources to fully participate as peers, as when a community organization is heavily dependent on university resources and fears university withdrawal if concerns are shared with the university (Hartman, 2014b; Larkin, 2013; Schroeder, Wood, Galiardi, & Koehn, 2009). Maldistribution inhibits parity of participation and therefore hinders the pursuit of social justice.

Recognition

While earlier conceptualizations of recognition focused on group-specific identity, Fraser (2000) argues for a status model of recognition focused on social equality, i.e., where university and community participants are recognized as able to contribute in important ways to a project. Unfortunately, many GSL partnerships do not conform with this principle. For example, SL/ GSL partnerships, housed in institutions of higher education, often attribute different status to different types of knowledge (Saltmarsh, Hartley, & Clayton, 2009; Weerts & Sandmann, 2008), which presents the opportunity for misrecognition if the partnership planning processes value the knowledge of some stakeholders more than others (i.e., the university's over the community's). Similar to traditional international development efforts where the outside "expert" helps the recipient (Easterly, 2013), if the university enters a community to teach the community and share its expertise, then there is an implicit disacknowledgement of the knowledge in the community. This misrecognition can be revealed in deficit language used to refer to a community – "needy," "disadvantaged," or "underprivileged" (Brown, 2001). Misrecognition inhibits parity of participation and therefore hinders the pursuit of social justice.

Representation

Representation highlights who counts and calls for all actors to be able to participate as equals in all phases of a project. While SL/GSL scholarship acknowledges the importance of shared decision-making in project planning (Kiely & Neilsen, 2002/ 2003; Miron & Moley, 2006), there are also reports about the ways in which university priorities often drive decision-making (Larkin, 2013). For example, a partnership planning process that takes place in university conference rooms without community representatives present precludes parity of participation and therefore hinders the pursuit of social justice.

Parity of participation can serve both as an indicator of social justice and as a way to identify social arrangements that need to be altered in order to pursue social justice. To explore the extent to which a SL/GSL partnership is socially just, one can examine each of the three interconnected principles to identify weak areas and interventions needed to encourage conformity with the three principles and therefore social justice. Fraser's theory of social justice – focused on participation as peers in social interaction – guides my overall research question (focused on community voices), methods (including the community as data sources), and data analysis (including the community in the interpretation of findings).

Methods

This study emerged through my years of work in Waslala, Nicaragua. My complex positionality – as practitioner/researcher, insider/outsider – allowed me to adopt a participatory orientation and create a

unique investigation of this GSL partnership (Herr & Anderson, 2005). The use of a qualitative case study enabled the depth of understanding and a focus on context called for in this study (Flyvbjerg, 2011; Yin, 2013), responded to challenges of cross-cultural research inherent in GSL (Sutton, 2011), and encouraged a move away from a homogeneous understanding of "community."

The history of civil war coupled with U.S. intervention and natural disasters has left Nicaragua a "multiply wounded, multiply traumatized, multiply mourning country" (Cabrera, 2002). The location of Nicaragua, and the resulting U.S. political and economic interests in the region, led to a history marked by recurring U.S. interventions (see Cupples, 2013). Most recently during the Contra War, Nicaragua was a divided country, though certain regions were more adversely affected than others; Waslala was one of the two municipalities most affected by the war (Nespoli, 2005).

Reaching Waslala from the Nicaraguan capital of Managua requires a seven-hour journey over treacherous, muddy roads. Waslala has a population of more than 62,000 inhabitants with a geographic distribution of 86% rural and 14% urban. The municipality includes 12 neighborhoods in the town and 72 villages in rural areas (Municipalidad de Waslala, 2012). Reaching the rural villages from the town center requires one to ten hours of travel including truck rides over unpaved roads followed by horseback rides or long hikes. Villages generally have no electricity, running water, or means of communication to town.

Participants

The participants for this study included 18 university participants (3 university administrators, 3 faculty members, and 12 students) and 26 community participants (12 community organization representatives and 14 community residents). The participants from the community organizations represented the four organizations that have worked with the CoE over the past ten years – La Parroquia Inmaculada, WfW, the Telehealth project, and the Ministry of Health. The community organizations are all based in the main town of Waslala while the projects are in the rural villages outside town. Participants included at least one male and one female representative from each organization. All community organization representatives had worked for multiple years with the Villanova CoE.

The community residents lived in the three different rural villages selected for this study according to several criteria: (a) university visits occurred during data collection to ensure recent interaction with students, (b) at least a few years partnering with the CoE, and (c) proximity to town. Since men tend to be more vocal and more likely to occupy leadership roles in villages, I made sure to include men and women as community participants in each of the villages.

Procedures

I triangulated methods and data sources (participant observation, interviews, and document review) and used member checking and participatory analysis to pursue trustworthiness (Lincoln & Guba, 1985). All observations and interviews were conducted in Waslala during the fall semester 2012. In October, I travelled to Waslala for five weeks to conduct interviews with community organization representatives (40-90 minutes each) and residents (10-30 minutes with the exception of one interview that lasted for 60 minutes). During that time, I also acted as a translator and engaged in participant observation and informal interviews during the Villanova CoE trip to Waslala.

Interviews were semi-structured with open-ended questions focusing on goals, outcomes for the community and university, student and community learning, motivations for involvement, characteristics of a desirable partnership, challenges, recommendations, and suggested questions for other stakeholder groups. To conduct interviews, I traveled to the rural villages and met with community residents in their homes, which could involve a ten-hour day of truck/horse rides and hiking to complete one community resident interview. For purposes of triangulation, I also asked a local community organizer, who had worked in the community for over 20 years, to conduct two additional interviews without me present.

Data Sources

The data consisted of field notes from all observations, transcripts of the interviews, and transcripts from the participatory analysis process. I analyzed the data by major themes and coded using Atlas.ti (Charmaz, 2004). Codes included program factors, outcomes, learning, motivation, knowledge, power, international development, interaction, and partnership characteristics. After initial analysis, I created documents that included main topics, themes within each, and evidence that supported each finding.

Data Analysis

I co-analyzed findings during individual meetings with a representative from each of five community organizations that lasted between 25 and 73 minutes each. Not only did participants correct minor details related to language and culture, but multiple participants pushed back on how I interpreted certain quotes or themes in my initial analysis. This participatory analysis process added a great deal of nuance, depth, and trustworthiness to the findings.

Results

Findings from this study call for a more nuanced understanding of what constitutes outcomes as well as draw attention to the importance of a focus on parity of participation in order to achieve community-perceived positive outcomes. In this section I compare the differential perception in outcomes by university and community participants, report on an issue described by the community residents as negative to demonstrate the importance of having representatives of all community parties – residents as well as community organization staff – weigh in on how outcomes are viewed, and discuss the value of not only gathering community resident as well as organization representative data/feedback, but also the significance of involving the community in the data analysis.

Overlapping Perceptions of Tangible Outcomes

Data from university and community participants illuminate overlapping and differential perceptions of outcomes. In interviews, university participants reported intended project outcomes related to improved access to clean water, electricity, and healthcare. University faculty and students described these intended project outcomes: "they get some electricity…they get clean water…and then with our low cost suction device they find a cheap way to help out their infants" and "they can call a health care professional when they don't know what to do." Their understandings, common in international development and GSL, represent a politics of redistribution in which the university directs resources aimed to ensure that, in this case, Waslalans have their "basic needs met."

Community organization representatives and community residents confirmed the intended project outcomes described by the university participants. As an example related to healthcare, prior to the Telehealth project, initiated in 2010 that utilizes mobile phones in rural villages to enable real-time communication with healthcare professionals, village health leaders and residents had to send someone on foot to town to communicate about a health emergency. One community organization representative described improved access to healthcare as a result of the Telehealth project:

> Coverage for the whole population is improving because someone calls and [we] are able to tell them what to do or if it is something that they cannot manage and then refer them to health care services. Or, with pregnant women, which is our biggest danger or our biggest concern, we immediately leave in the ambulance to see her. I think that the results are really significant.

Another community organization representative shared a specific healthcare example related to water quality testing:

> A group of Villanova University students, along with the guidance of the professor, were instrumental in establishing a water quality testing regime on the ground. That was something we didn't have before, and the work students put in to researching different testing methods and then coming and visiting Waslala last October to begin to implement those methods and work with people here to take samples and to perform the tests has been an important gain over the last year.

In addition to improving access to clean drinking water and healthcare services, the community participants reported multiple instances of "saved lives" as a result of the projects. During my interviews, community residents and community organization representatives recounted numerous stories about using mobile phones to contact the hospital and/or ambulance when women were having childbirth complications. One community organization representative described instances of saved lives:

> There was a woman having complications in childbirth and she was dying. The ambulance arrived and transported her… and everything ended well. The health leaders call us when they have a problem and according to their reports there have been six pregnant women transported by ambulance from the [villages].

Additional Community Perceived Outcomes

While community participants described the same tangible outcomes as the university participants, they also described additional outcomes: confianza, sense of community pride, and consciencia.

Confianza[6] *(Trust/Confidence)*. Community residents in all three villages mentioned confianza, directly translated as trust/confidence, in their interviews. The community participants' perspectives showed a belief that university faculty and students' presence and participation ensured that resources go where they are intended and that the partnership will be sustained: "having this human contact creates confianza." One resident's comment highlighted the community's ideas about the importance of student presence to ensure resources go to the community:

> This is the one project in which people come and it is better…when people come with the funds, it ensures that the funds go directly to the project and the community and don't end up lost somewhere in the municipal government which happens a lot.

Community organization representatives also discussed the importance of confianza during the initial

interviews and during the participatory analysis process. Referring to past experiences when international development organizations had terminated work in Waslala and disappeared overnight, one community organization representative discussed how the student trips provide assurance that this partnership will continue. The representative stated:

> For me if [the students] stop coming…I'd think that they are starting to pull the project out, slowly disconnecting, without creating much noise, and then, by the time we realize, it would be ended. Because I've had that experience before.

Sense of Pride. Community residents in all three villages as well as organization representatives from all four organizations described a sense of pride in the villages as a result of the student visits. Because visiting rural villages requires strenuous, lengthy travel, this may be the only international group that visits a rural village in an entire year. So the implicit message to the community is that if an international group comes to their village there must be something special about their village. One community organization representative identified the sense of pride this way:

> I think it also gives people pride in what they do. You know, the people come there because they're working well, because they're organized, because they organize the community water system because they're working in health, because they're working in education and to see how foreigners appreciate what they have…I think that's a big deal for the remote [villages].

Another community organization representative commented, "we know the economic investment that you all make, but the people ask, 'and when are they coming to visit?'" Concluding the comment, this representative drew attention back to the community's sense of pride by saying, "the community feels important because they are taken into account."

Interestingly, the community members indicated that the university participants may actually contribute more and even interact more with the community than some Nicaraguans. They repeatedly indicated that in Nicaragua, "when someone studies and receives their credentials," there is "a gap." They no longer "want to visit the [rural villages]" and they "look at [community residents] with contempt." According to the community organization representatives, the manner in which the university faculty and students interact with the villagers – "they arrive to help, to hug, to talk together" – is really important to the villagers. The community organization representatives highlighted the fact that the university participants interacted with the community participants "as equals."

Consciencia (Awareness)[7]. As a result of limited infrastructure (no paved roads to access Waslala and very limited internet or cell phone service until recently), Waslala could easily remain very isolated. Community organization representatives credit international partnerships, including the one with Villanova University, as "putting Waslala on the map." Referring to horrific historical events that could happen to communities because of isolation (such as Chiapas, Mexico and Guatemala), one community organization representative's comment highlighted just how important outside awareness of an isolated community can be: "the fact that the world knows Waslala, makes us stronger."

An event reflecting consciencia happened in 2011 as a result of the bishop in Nicaragua making the decision to close the Agricultural Institute in Waslala, effectively eliminating one of the only opportunities for village farmers to pursue secondary education. The bishop made this decision despite signed agreements between the Catholic Church and the community organizations in Waslala. When he made the decision, Waslala erupted in protests. An excerpt of a letter that was sent to CoE students and faculty who had previously visited Waslala reflects community participants' belief that the partnership had created a strength in the community such that, with the university's support, the community could advocate for reinstating the Agricultural Institute. The letter stated:

> We want to make clear that the world is watching the actions the Church is taking, against the future of Waslala, against life, and against justice….if people within the Church (maybe from Villanova University) can write, I think that will be extra powerful.

Representatives from Villanova did write to the bishop supporting the community's stand. A community organization representative described how the partnership resulted in the reversal of the decision to close the Agricultural Institute:

> Look at the case of the Institute, why is the Institute open? Because of the people that had gotten to know Waslala and had experience with the parish and the Institute. In the moment of need, these people had the willingness to send a letter…to create pressure. This was fundamental.

Nuanced Perception of the Community as Laboratory

While the community participants' overall sense was that the projects and partnership were positive, community residents and organization representatives also related stories that depicted using the community as a laboratory. One story repeated often had to do with four solar panels that the university participants had installed in one of the villages during a previous trip. When the student group returned the next year,

they went back to see the solar panels. One representative described how during this subsequent village visit, the students ended up breaking parts of the existing project that the university had installed. The representative stated, "when [they] arrived, one did not work and three did work and when [they] left three did not work and only one worked. And now, none work, so what happened? Something happened."

In telling me stories such as this one, community participants were suggesting that they saw the students perceiving the community as a laboratory. This view was reinforced by the comments of a community organization representative:

> The students have a lot of great ideas and I feel like a lot of times they are tried out sooner than they should be, and without the proper guidance. In talking about the solar panel that was in place that went all wrong, a lot of things, the suction instrument that they're already using in the hospital without having gone through any kind of proper testing phase. Stuff like that. I feel like here it's easy to get away with a lot of things that you couldn't get away with back home, and a lot of corners are cut a lot of times, that wouldn't be cut back home…. I feel like those are things that are better dealt with if there's guidance in the broader sense, not just technical guidance.

However, in the process of involving community organization representatives in the data analysis, some of them pushed back on this outcome being categorized as negative. Although they all acknowledged the negative potential of using the community as a laboratory, they also focused attention on the importance of how the project is initiated, planned, and implemented. One community organization representative had this to say:

> I don't think it is solely negative… In the case of trying something, well, the fact is that all of history is made up of tests…What I think is negative is when it has more to do with a person's health…but if you want to test a system, for example, of combining ten solar panels to light up a community, this is a great experiment, because [in the U.S.] why would you do this? … What are they going to light up? If all the houses already have electricity…you have to put it in practice, but put it in practice in a town that does not have electricity.

Another community organization representative also described ways that perceiving the community as a laboratory can be understood as a positive or a negative.

> I think a lot of it has to do with clarifying the objectives right at the beginning, right? So, if the objective is to do a pilot project, create a laboratory, then say, "we are making a laboratory. Are you interested in participating?" to the local community. So, it can be viewed as a negative when the local community is not completely aware of this.

Another community organization representative reinforced the importance of clarifying up front that a project is an experiment so as to preclude perceptions by the community as being used as a laboratory.

> Thinking about the solar backpack or the backpack with a solar panel incorporated behind. So, when [the professor] proposed it, the first time, I listened and then afterwards I came back and talked about it here with everyone and we said, 'It is going to be really difficult to get the leaders to take care of this little solar panel. Now, if you put it in the backpack, the backpack gets wet, it is under the sun and water.' So, we told him, I said, 'Look, this idea of the backpack. I think it is going to be really difficult for this reason.' And, he answered, 'okay, the truth is that this is just an idea and we can do a little experiment and see how it goes, okay?' So, that is okay, right? So, we now know, so…when we know it is an experiment, it doesn't matter if we think it will work or not, we are all going to experiment and from there we will come to a conclusion whether it works or not and why.

Discussion

Consistent with Fraser's (2009) all-subjected principle, this study's method aimed to include the voices and perspectives of the community to better understand this GSL partnership. Fraser's theory of social justice, based on parity of participation in social interactions, also provided a framework to better understand the community participants' perspectives about the outcomes of the projects and the GSL partnership. The findings demonstrate how Fraser's framework can inform how GSL partnerships can create arrangements that facilitate participation and social justice.

The community participants' perspectives highlight the importance of redistribution (a) in tandem with recognition and representation and (b) as a pathway toward participation in order to avoid negative outcomes. Efforts to address redistribution alone without also considering recognition and representation as well as fostering participation falls short of engagement for social justice.

Beyond Redistribution

Nieusma and Riley (2010) argue that engineering-for-development projects often focus too heavily on technology, which can lead to a narrow definition of outcomes. In the project under investigation in this

study, the tangible project outcomes focused on improving access to clean water, electricity, and healthcare. These were described as positive by both the university and community participants and capture what Fraser refers to as redistribution. However, the community participants described additional positive outcomes for Waslala that highlight the added importance of recognition and representation. The findings in this study align with those of Nieusma and Riley – the community participants described outcomes much more broadly than the university participants – in this case the community participants also described confianza, a sense of community pride, and consciencia as positive community outcomes.

Comments about *confianza* highlight the specific post-civil war context in Nicaragua and the troubled history of international development projects there, the latter marked by uncertainty and volatility (Desai & Kharas, 2010). In this GSL partnership, the community perspectives demonstrated a reaction to past experiences where they were not able to participate as peers in international development efforts. Their comments show that redistribution, i.e., bringing resources, alone is not sufficient to contribute to social justice. Their comments favorably compare the student trips that enable interaction and participation against their past experiences with international aid and development projects that focused only on redistribution.

The community participants' perspectives about confianza in the projects and partnership illuminate the potential negative results when there is a strict focus on redistribution as an end unto itself instead of redistribution as a means to enable parity of participation. Without the focus on participation as equals, past international development projects actually eroded confianza. As documented in development literature, face-to-face interactions are vitally important to building trust (Bergdall, 2003; Mawdsley, Townsend, & Porter, 2005), and here the student and faculty trips involved face-to-face interactions, thereby mitigating the community's negative perspective of past international development experiences where the sole attention was on redistribution.

The community participants also described how the university visits created a *sense of pride*, reflecting Fraser's principle of recognition. Making the long trek to isolated rural villages reflected the university participants' valuing of the community residents' work and knowledge, and this facilitated a feeling of social interaction "as equals." This GSL partnership redressed misrecognition present even amongst fellow Nicaraguans and instead enabled residents to be involved in community efforts.

When the community participants described *consciencia*, they implicitly credited the GSL partnership with facilitating representation and parity of participation. They felt they were important, that they mattered, when they could turn to the CoE faculty and students to advocate for their community Agricultural Institute. This idea is echoed in Risse and Skikkink's (1999) description of the power of international networks to create domestic change by building outside pressure to complement local advocacy. GSL partnerships represent structures that create transnational networks and, in this case, community participants' perspectives highlight university participants' role in responding and taking action to advocate for the Waslala community. Here the GSL partnership served as an arrangement promoting justice through representation and participation that would otherwise not have been possible.

The discussion about community as laboratory highlighted the risks inherent in the traditional international development model's singular focus on redistribution. When university participants drive decision-making about what is needed absent representation of individuals in the community, they run the risk of treating the community as a laboratory. Although examples such as the installation of solar panels in rural villages with no access to electricity and innovative medical devices could easily appear to represent a positive redistribution, they also represent a risk. This, too, highlighted the inherent risks of a politics of redistribution without concurrent consideration of recognition and representation.

In SL/GSL research, examples of the community as laboratory often align with a politics of redistribution by sending resources to the community. However, a process involving community organization representatives in a participatory process of data analysis highlighted the risk of viewing redistribution as the goal instead of as a platform to encourage community participation and enable Fraser's recognition and representation principles. Focus on recognition and representation alongside efforts at redistribution can actually mitigate the negative perception held by community participants.

GSL Partnerships as an Arrangement to Pursue Social Justice

Data from the community demonstrated how this GSL partnership represented a structure that utilizes Fraser's three principles – redistribution, recognition, and representation – to foster participation in social interaction for all stakeholders and therefore established the conditions to contribute to social justice. In contrast to many international aid and development projects that are focused on redistribution alone, in this partnership recognition and representation enabled villagers' confianza, sense of pride, and consciencia. When university participants recognized the knowledge and work of village residents enough to

make the long journey to visit the villages, the GSL partnership created opportunities for the university and community participants to "interact as equals." When the GSL partnership facilitated representation, where the community participants were able to have a voice in deliberations and reach audiences beyond Waslala in order to advocate for themselves, the decision to close the Agricultural Institute in Waslala was reversed, a clear indice of social justice at work.

Implications for Practice and Theory

The findings suggest that those involved in GSL partnerships need to intentionally involve the community in as many ways as possible with a project – from conception to implementation to evaluation. Additionally, it is important to ask the community partners – both organization representatives and residents – about their desired outcomes beyond the project and then acknowledge these additional outcomes as priorities that are reflected in program implementation and assessment. Further, involving the community in evaluating the project and the partnership is imperative for comprehensive understanding of the tangible and intangible outcomes.

Fraser's framework serves as a useful guide for stakeholders to consider redistribution, recognition, and representation as a guide to facilitate participation of all stakeholders and encourage partnerships that contribute to social justice. From the community participants' perspectives, efforts to address redistribution alone without concurrent consideration of recognition and representation falls short of social justice goals. The framework also enables the identification of missing or weak areas in a partnership. For example, is redistribution occurring without intentionally utilizing it as a method to encourage participation, and is there concurrent attention to recognition and representation alongside redistribution? The all-subjected principle also serves as a guide to plan research on GSL that intentionally incorporates many voices and perspectives in all phases of the research process.

Limitations

This case study explored one specific partnership between Villanova's CoE and the "community" of Waslala, Nicaragua during one slice of time, and so the reader is cautioned regarding generalizability. My positionality as a project administrator may have influenced my reading of the data, though this may have been controlled for to some extent by the involvement of the community in the data analysis. While trust and relationships developed over time with participants served as a strength, my tacit knowledge and past experiences also may have created researcher bias. Finally, while I intentionally used participatory methods to ensure multiple interpretations were possible, the partial sample of the community must be acknowledged; other community residents may have had other perceptions about the outcomes from this project and partnership, and community residents may have arrived at different perspective than the community organization representatives in the data analysis process. In the future we intend to enable additional voices previously absent to join the conversation, challenge assumptions, and enrich the effort to improve this ongoing partnership.

Conclusion

There is increasing acknowledgement of the importance of direct participation in both SL/GSL and international development. However, there is ambiguity and increasing critique about how to interpret participation in engineering-for-development (Nieusma & Riley, 2010) and in international development (Cooke & Kothari, 2001). Consequently, there is need to explore specific characteristics and approaches to GSL partnerships that encourage genuine participation and that can lead to social justice outcomes. For the purpose of this paper, I focused on the community participants' perspectives on outcomes and the utility of Fraser's framework to understand GSL partnerships. In future efforts I plan to investigate the specific program factors, techniques, and approaches that fostered success in this GSL partnership.

Notes

[1] There is substantial variation in the terms used to describe this work such as "engineering-for-development, community development engineering, humanitarian engineering, and appropriate technology" (Nieusma & Riley, 2010, p. 29) and the ways in which engineering students are involved such as course based service-learning, co-curricular service experiences, and extracurricular service experiences (Carberry et al., 2013).

[2] https://engineering.purdue.edu/EPICS

[3] http://www.ewb-usa.org/

[4] http://www.eswusa.org/

[5] http://www.ewh.org/

[6] Since the original data from the community was in Spanish, I have left the terms used to describe findings related to *confianza* and *consciencia* in the original language of the community participants. Writing specifically about engineering-for-development work, Nieusma & Riley (2010) warn that "when language is viewed merely as a logistical concern rather than a critical site of power relations, the consequences for process, project, and social justice are likely considerable (p. 53)." The idea that "translation is always an approximation" (Cortazar & Wohlfeiler, 1981, p. 12) is particularly salient with the word *confianza*.

Although confianza can be directly translated as trust, its full meaning also incorporates ideas related to confidence; understandings between partners; relations between people and institutions; expectations about future behavior; and exchange of favors, goods, service, and information (Aguilar, 1984; Laso, 2010).

[7] *Consciencia* is directly translated as awareness, but the participants' descriptions refer to meanings related to connection, integration, and inclusion as well. They describe this outcome as the opposite of being isolated.

References

Aguilar, J. (1984). Trust and exchange: Expressive and instrumental dimensions of reciprocity in a peasant community. *Ethos*, *12*(1), 3-29.

Andreotti, V. (2006). *The contributions of postcolonial theory to development education* (DEA Think Piece). Retrieved from www.dea.org.uk/thinkpieces

Arends, J. (2014, January 21). *"Just collecting data for the white guys": Community impacts of service-learning in Africa* [Web log comment]. Retrieved from http://globalsl.org/just-collecting-data-white-guys-community-impacts-service-learning-africa/

Bell, S. & Carlson, R. (2009). Motivations of community organizations for service learning. In R. Stoecker & E. Tryon (Eds.). *The unheard voices: Community organizations and service learning* (pp. 19-37). Philadelphia: Temple University Press.

Bergdall, T. (2003). Reflections on the catalytic role of the outsider in 'Asset based community development' (ABCD). Retrieved from http://www.globalbrigades.org/app/webroot/media/ABCD.pdf

Brown, D. (2001). *Pulling it all together: A method for developing service-learning and community partnerships based in critical pedagogy.* Washington, DC: Corporation for National Service. National Fellowship Program.

Blouin, D.D., & Perry, E.M. (2009). Whom does service learning really serve? Community-based organizations' perspectives on service learning. *Teaching Sociology*, *37*, 120-135.

Bushouse, B. (2005). Community non-profit organization and service-learning: Resource constraints to building partnerships with universities. *Michigan Journal of Community Service Learning*, *12*(1), 32-40.

Cabrera, M. (2002). Living and surviving in a multiply wounded country. *Envio Digital*, *257*. Retrieved from: www.envio.org.ni/articulo/1629.

Camacho, M. (2004). Power and privilege: Community service learning in Tijuana. *Michigan Journal of Community Service Learning*, *10*(3), 31-42.

Cannon, T. (2014). *Why do we pretend there is 'community'? Problems of community-based adaptation* (CBA) and community based disaster risk reduction (CBDRR). Retrieved from www.vulnerabilityandpoverty.blogspot.com

Carberry, A., Lee, H., & Swan, C. (2013). Student perceptions of engineering service experiences as a source of learning technical and professional skills. *International Journal for Service Learning in Engineering*, *8*(1), 1-17.

Carr, E. (2011). *Delivering development: Globalization's shoreline and a road to a sustainable future*. New York: Palgrave Macmillan.

Celio, C.I., Durlak, J., & Dymnicki, A. (2011). A meta-analysis of the impact of service-learning on students. *Journal of Experiential Education*, *34*(2), 164-181.

Chamber, R. (1997). *Whose reality counts? Putting the first last.* London: Intermediate Technology Publications.

Charmaz, K. (2004). Grounded theory. In S. Hesse-Biber & P. Leavy (Eds.), *Approaches to qualitative research: A reader on theory and practice*. New York: Oxford University Press.

Christens, B. & Speer, P. (2006). Tyranny/ Transformation: Power and paradox in participatory development. *Forum: Qualitative Social Research*, *7*(2), Art. 2, Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/91.

Cooke, B. & Kothari, U. (Eds.) (2001). *Participation: The new tyranny?* New York: Zed Books, Ltd.

Crabtree, R. (2008). Theoretical foundations for international service-learning. *Michigan Journal of Community Service Learning*, *15*(1), 18-36.

Cruz, N. & Giles, D. (2000). Where's the community in service-learning research? *Michigan Journal of Community Service Learning*, *7*, 28-34.

Cuban, S. & Anderson, J. (2007). Where's the justice in service-learning? Institutionalizing service-learning from a social justice perspective at a Jesuit university. *Equity & Excellence in Education*, *40*, 144-155.

Cupples, J. (2013). Latin American development. New York: Routledge. d'Arlach, L., Sanchez, B., & Feuer, R. (Fall 2009). Voices from the community: A case for reciprocity in service-learning. *Michigan Journal of Community Service Learning*, *16*(1), 5-16.

Desai, R. & Kharas, H. (2010). *The determinants of aid volatility*. Retrieved from http://www.brookings.edu/research/papers/2010/09/aid-volatility-desai-kharas

Easterly, W. (2013). *The Tyranny of experts: Economist, dictators, and the forgotten rights of the poor.* New York: Basic Books.

Edwards, B., Mooney, L., & Heald, C. (2001). Who is being served? The impact of student volunteering on local community organizations. *Nonprofit and Voluntary Sector Quarterly*, *30*, 444- 461.

Escobar, A. (1995). *Encountering development: The making and unmaking of the third world*. Princeton, NJ: Princeton University Press.

Ferrari, J. & Worrall, L. (2000). Assessments by community agencies: How "the other side" sees service-learning. *Michigan Journal of Community Service Learning*, *7*(1), 35-40.

Flyvbjerg, B. (2011). Case Study. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research*, 4th Edition (pp. 301-316). Thousand Oaks, CA: Sage.

Fraser, N. (2000). *Rethinking recognition*. New Left Review, 3, 107-120.

Fraser, N. (2009). *Scales of justice: Reimagining political space in a globalizing world*. New York: Columbia University Press.

Gray, M., Ondaatje, E., Fricker, R., & Geschwind, S. (2000). Assessing service-learning: Results of a survey of Learn and Service America, Higher Education. *Change*, *32*(2), 30-39.

Hartman, E. (2014a). Educating for global citizenship: A theoretical account and quantitative analysis. *American Democracy Project eJournal of Public Affairs Special Issue on Global Engagement*, *3*(1). Retrieved from http://ejournal.missouristate.edu/2014/04/educating-global-citizenship/

Hartman, E. (2014b). The utility of your students: Community partners' critique. In V. Jalga, J. Strait, & A. Furco (Eds.), *Service-learning pedagogy: How does it measure up?* Advances in Service-Learning Research. Charlotte, NC: Information Age Publishing.

Hartman, E., Kiely, R., Friedrichs, J. & Boettcher, C. (Forthcoming). *Building a better world: The pedagogy and practice of global service-learning*. Sterling, VA: Stylus.

Herr, K. & Anderson, G. (2005). *The action research dissertation: A guide for students and faculty*. Thousand Oaks, CA: Sage.

Irie, E., Daniel, C., Cheplick, T., & Phillips, A. (2010). *The worth of what they do: The impact of short-term immersive Jewish service-learning on host communities*. A report for Repair the World by BTW Consulting. Retrieved from http://www.werepair.org/wp-content/uploads/2013/11/repair_btw_twowtd_full_report.pdf

Kapoor, I. (2004). Hyper-self-reflexive-development: Spivak on representing the third world "other." *Third World Quarterly*, *25*(4), 627-647.

Kiely, R. (2004). A chameleon with a complex: Searching for transformation in international service-learning. *Michigan Journal for Community Service Learning*, *10*(2), 5-20.

Kiely, R. & Nielsen, D. (2002/2003). International service-learning: The importance of partnerships. *Community College Journal*, 39-41.

Kretzman, J. & McKnight, J. (1993). *Building communities from the inside out: A path towardfinding and mobilizing a community's assets*. Retrieved from www.abcd.org.

Larkin, A.M. (2013). *Internationalizing Canadian higher education through North-South partnerships: A critical case study of policy enactment and programming practices in Tanzania*. Doctoral dissertation, University of Western Ontario, Canada.

Larsen, M. (March, 2014). Internationalization and international service learning: Impact on host communities, *Comparative and International Education Society* (CIES) Annual Meeting, Toronto, Canada.

Laso, E. (2010). Trust as a crossroad: Culture, development, and corruption. *Athenea*, *17*, 97-117.

Lincoln, Y. & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.

Mawdsley, E., Townsend, J., & Porter, G. (2005). Trust, accountability, and face-to-face interaction in North-South NGO relations. *Development in Practice*, *15*(1), 77-82

Miron, D. & Moely, B. (2006). Community agency voice and benefit in service-learning. *Michigan Journal of Community Service Learning*, *12*(2), 27-37.

Municipalidad de Waslala (2012). *Diagnóstico municipal de agua y saneamiento de municipio de Waslala, Región Autónoma del Atlánitco Norte*.

Nespoli, M. (Producer) (2005). *Waslala: Past, present, future* [DVD]. A DolanFilm Production.

Nieusma, D. & Riley, D. (2010). Designs on development: Engineering, globalization, and social justice. *Engineering Studies*, *2*(1), 29-59.

Plater, W. (2011). The context for international service learning. In R. Bringle, J. Hatcher, & S. Jones (Eds.), *International service learning: Conceptual frameworks and research* (pp. 29-56). Sterling, VA: Stylus Publishing.

Reynolds, N.P. (Forthcoming). *Is international service-learning win-win? A case study of an engineering partnership*. Unpublished doctoral dissertation. Temple University.

Risse, T. & Sikkink, K. (1999). The socialization of international human rights norms into domestic practices. In T. Risse, S. Ropp, & K. Sikkink (Eds.), *The power of human rights: International norms and domestic change* (pp. 1-38). Cambridge, UK: Cambridge University Press.

Saltmarsh, J., Hartley, M., & Clayton, P. (2009). *Democratic engagement white paper*. Boston: New England Resource Center for Higher Education.

Sandy, M. & Holland, B. (2006). Different worlds and common ground: Community partner perspectives on campus-community partnerships. *Michigan Journal of Community Service-Learning*, *13*(1), 30-43.

Schmidt, A. & Robby, M. (2002). What's the value of service-learning to the community? *Michigan Journal of Community Service Learning*, *9*(1), 27-33.

Schroeder, K., Wood, C., Galiardi, S., & Koehn, J. (2009). First, do no harm: Ideas for mitigating negative community impacts of short-term study abroad. *Journal of Geography*, *108*(3), 141-147.

Skilton-Sylvester, E. & Erwin, E. (2000). Creating reciprocal learning relationships across socially-constructed borders. *Michigan Journal of Community Service Learning*, *7*(1), 65-75.

Steinman, E. (2011). "Making Space": Lessons from collaborations with tribal nations. *Michigan Journal of Community Service Learning*, *18*(1), 5-18.

Stoecker, R. & Tryon, E. (2009). *Unheard voices: Community organizations and service Learning*. Philadelphia: Temple University Press.

Sutton, S. (2011). Service learning as local learning. In R. Bringle, J. Hatcher, & S. Jones (Eds.), *International service learning: Conceptual frameworks and research* (pp. 125-144). Sterling, VA: Stylus Publishing.

Toms Smedley, C. (2014). *Global development through international volunteerism and service-learning: Who's saving whom?* Unpublished dissertation, University of Notre Dame.

Vernon, A. & Ward, K. (1999). Campus and community partnerships: Assessing impacts and strengthening connections. *Michigan Journal of Community Service Learning*, *6*(1), 30-37.

Weerts, D. & Sandmann, L. (2008). Building a two-way street: Challenges and opportunities for community engagement at research institutions. *The Review of Higher Education*, *32*(1), 73-106.

Worrall, L., (2007). Asking the community: A case study of community partner perspectives. *Michigan Journal of Community Service Learning*, *13*(1), 5-17.

Yin, R. (2013). Validity and generalizations in future case study evaluations. *Evaluation*, *19*(3), 321-332.

Author

NORA PILLARD REYNOLDS (nora.reynolds@temple.edu) is the vice president of Water for Waslala, a non-governmental organization in Waslala, Nicaragua that works to ensure access to clean drinking water. She is also a Ph.D. Candidate in Urban Education at Temple University.