Outreach Scholarship/
W.K. Kellogg Foundation
Engagement Awards

The Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards, and The C. Peter Magrath University/Community Engagement Award 2011

*I*n the pages that follow, you will find articles chronicling the programs of the four 2011 Outreach Scholarship/W.K. Kellogg Foundation Engagement Award winners. 2011 marked the fifth year of the Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards and the C. Peter Magrath University/ Community Engagement Award, which recognize four-year universities that focus learning, discovery, and engagement functions on signature community-engagement endeavors. The awards are supported by the W.K. Kellogg Foundation and administered by the Association of Public and Land-Grant Universities (APLU), a nonprofit association for members of public research universities, land-grant universities, and state university systems. The awards program actually comprises two separate awards: the Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards, and the C. Peter Magrath University/Community Engagement Award.

In 2011, the Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards recognized university-community engagement in the Southern, North Eastern, North Central, and Western divisions. The award winners each received a certificate, a $5,000 cash prize, and an additional $2,000 to support production of a video about their work and travel. They also delivered invited presentations about their signature outreach and engagement programs at the National Outreach Scholarship Conference (hosted by Michigan State University on October 2-4, 2011 in East Lansing), an annual conference dedicated to presentations related to building strong university-community partnerships that are undergirded by rigorous scholarship, and which are designed to help address the complex needs of communities.

A panel of experienced outreach and engagement leaders judged the presentations. One divisional award winner was selected to receive the C. Peter Magrath University/Community Engagement Award (named for C. Peter Magrath, APLU president from 1992 to 2005), which was presented at APLU's annual meeting in November. The 2011 award was presented to Montana

State University's *From Bozeman to Khwisero: Engineers Without Borders* program in Khwisero, Kenya, and included a trophy and $20,000.

The awards program is shepherded by Mortimer "Mort" Neufville, who served as an APLU executive vice president from 2000 to 2008, and who led the 2011 awards process.

One of the expectations of the awards program is that each recipient will publish an article describing the impact of the award-winning endeavor in the thematic issue of the *Journal of Higher Education Outreach and Engagement*, dedicated to that year's National Outreach Scholarship Conference.

The 2011 Outreach Scholarship/W. K. Kellogg Foundation Engagement Award winners are

- **The Pennsylvania State University's *Regenerative Design in Stressed Communities***, which partners a local community with faculty and students through a community design studio to revitalize neighborhoods in Pittsburgh, Pennsylvania. (Northeastern Region);

- **Michigan State University's *Working Together to Improve the Lives of People Affected by Epilepsy in Zambia***, a collaborative medical research and education project that supports and enriches clinical services and advocacy programs, and makes new findings available to policy makers. (North Central Region);

- **Montana State University's *From Bozeman to Khwisero: Engineers Without Borders***, a international student engagement partnership formed to bring drinking water and clean sanitation facilities to schools and communities. (Western Region, and 2011 C. Peter Magrath University/Community Engagement Award winner); and

- **University of Tennessee, Knoxville's *Ready for the World***, which established a community-based research and service-learning initiative to collaborate with a local Burundian refugee community in addressing the formidable challenges of resettlement. (Southern Region).

Resilience, Conviviality, and the Engaged Studio

Ken Tamminga and Deno De Ciantis

Abstract

University faculty and outreach program directors have been called to deliver more effective, equitable, and sustainable ways in which neighborhood and university communities may creatively interact. The authors report on the case of the Pittsburgh Studio, an initiative that matches students and resident stakeholders in researching local issues and identifying place-based solutions to catalyze resilience and conviviality in low-income neighborhoods. This article traces the cooperation of the Pittsburgh Studio and the Penn State Center, describes its conceptual basis, and concludes by outlining emerging best practices for neighborhood-based engaged scholarship in the post-industrial inner city.

Introduction

*O*ver the last several decades university faculty and outreach program directors have been called to deliver more effective, equitable, and sustainable ways in which communities and students may collaborate *(Bok, 1982; Boyer & Mitgang, 1996; CAFT, 2011; ESC, 2011; Kellogg Commission, 1999; Orr, 2004)*. This article reports on the Pittsburgh Studio (the Studio), an initiative that promotes the intertwined imperatives of professional training, institutional change, and community engagement. Building on the introduction of this community design studio case as the 2011 Outreach Scholarship/W. K. Kellogg Foundation Engagement Award winner for the Northeast region, the authors trace its origins as a cooperative venture between the Penn State Center–Engaging Pittsburgh ("the Center") and faculty of The Pennsylvania State University (Penn State) Department of Landscape Architecture. They discuss the Studio's genesis, functioning, and outcomes since the first fall 2008 offering of the course, and conclude by outlining emerging best practices.

The Pittsburgh Studio (the Studio)

The Pittsburgh Studio is one of several options selected by advanced students in the 5-year bachelor of landscape architecture (BLA) and 3-year master of landscape architecture (MLA) programs at the University Park campus of Penn State University.

The fall semester, 5-credit-hour course meets 12 hours per week, and runs for 15 weeks. Both the BLA and MLA are accredited professional degrees that are prerequisite to licensure in most U.S. states and several Canadian provinces. Advanced students who choose the Studio seek to test their considerable, but campus-honed, skills in real-life situations. Most of them are curious about the potential of design in seeding initiatives for local sustainable development, green jobs, re-democratized public places, and environmental quality.

The Studio is facilitated through the Center, which formed concurrent with the first offering of the Studio in 2008. It is a joint initiative of the Penn State offices of Outreach and Extension, and the College of Agriculture. As a facet of Penn State's land-grant mission, it develops and strengthens Pittsburgh-based relationships to connect the university with local partners and to leverage Penn State resources for application in Pittsburgh and Allegheny County.

Goals of the Studio.

The Studio is committed to Pittsburgh's lower income, inner-city neighborhoods, and works closely with local nonprofit organizations, neighborhood councils, and community block groups. Studio venues to date have included the neighborhoods of Beltzhoover, the Hill District, Larimer, West Pittsburgh, South Homewood, Carrick, and Coraopolis. These places have been labeled at-risk, marginalized, disadvantaged, distressed, disenfranchised, or underserved. The course's students may initially see a neighborhood in terms of daunting and entrenched problems; however, they invariably soon "discover" its humanity—its stories and achievements, and its specific place-based aspirations. These are the neighborhoods with which the Center and its leader have had long and productive working relationships based on mutual respect and trust.

The primary goal of the Studio has been to ally with local groups and individuals to research community and environmental design problems and opportunities, and then to collaboratively identify solutions to catalyze social, ecological, and economic resilience in the local context. In some cases the Center has been engaged in these communities prior to the Studio, and it continues that relationship once the Studio concludes. It helps neighborhood partners filter ideas, stimulate social entrepreneurship and community development activities, and forge links to resources available through the Office of the County Chief Executive, the Office of the Mayor, and other local entities.

Rationale for the Studio and the Center

The theoretical, pedagogical, and organizational impetuses for the Studio and the creation of the Center are intertwined stories that the authors believe are worth tracing in some detail. Essentially, each formed out of discontent with the types and degrees of community interaction of previous service-learning studios and outreach operations.

Among several overarching goals, the Center sought to glean from its Allegheny County Extension roots a more relevant and purposeful university–community partnership model, one that responded nimbly and creatively to requests for assistance by at-risk neighborhoods throughout the metropolitan region. One of the Center's key objectives was leveraging trust it had gained locally to function as a reliable conduit between applied research and learning mandates of the university (beyond the traditional Extension resources of the College of Agricultural Sciences) and needs and potentials of communities.

The Pittsburgh Studio–Penn State Center partnership was premised on a commitment to transitioning from standard service-learning fare to a more robust understanding of community engagement and public scholarship *(Driscoll, 2008; Yapa, 2006)*. The partnership's leaders (the authors) began by acknowledging that the potential goals of reciprocity and co-generation of knowledge were yet to be pursued. They hoped that the Studio might inculcate in their students (nascent professionals) and their neighborhood partners awareness of the power of place-based research and design in the service of neighborhood and civic regeneration over the long term. They were also attentive to the proof-of-concept nature of the Studio as a key initiative being spearheaded by the new Center. Thus, they envisioned a process that would match the needs and capacities of select neighborhoods to the logistic constraints of distance (140 miles between campus and city center) and semester duration (4 months). The partnership between the Studio and the Center would provide the scaffold needed to achieve strong relationships, efficiencies, and continuities that had been missing in earlier service-learning studios.

More broadly, the Studio served as a pilot project of the Center's drive to partner university entities and scholars with city administrators, industry, and neighborhoods, with relationships defined by mutual respect for what each partner brought to the table. As with other initiatives that would soon flow through the Center, the Studio would respond to the needs of current students, enrich their experiences by bringing current research to challenging

issues, interweave methodology and engagement into a progressive pedagogy, and offer practical opportunities for students to prepare for their future. Knowledge and expertise resources from the Department of Landscape Architecture would also be brought to bear at the neighborhood level, providing valuable assets to the residents.

The first semester, in fall 2008, tested roles, procedures, and expectations, and tracked outcomes. After some shared retrospection and re-tooling, the subsequent three Studios adopted a two-neighborhoods-per-semester rhythm, with each half of a group of 12 to 14 students aligning with willing community partners for the duration of a semester.

The Studio: Formation and Functions

The Studio and the Center each struggled with the need to be better aligned with relevant, real-world, meaningful experiences, the former through teaching, research, and community-based practice, and the latter through the scholarship and delivery of urban services in Allegheny County, Pennsylvania. A range of overlapping literatures also informed the Studio and the courses and outreach programs that undergirded it. As planning ensued, the professional backgrounds of the authors and their experiences in researching and delivering place-based scholarship blended to influence the teaching techniques used by faculty members in the Studio.

Tacit Instruction-Related Foundations

The professions of landscape architecture and community design, while multi-scale, multi-faceted, and client-based, have long traditions of serving the public realm. A curriculum that prepares students for licensed professional practice in a range of contexts, including real-world, community-based coursework, has been central to Penn State's Department of Landscape Architecture mission since at least the early 1970s *(Palmer, 2011)*. From the perspectives of instructional theory and course delivery practice, however, several shortcomings coalesced around status quo approaches to advanced studios during the long lead-in to the Studio.

- Stuckeman School of Architecture and Landscape Architecture (SALA) studios labeled as "community-based" or "service-learning" were achieving only moderate immersion levels; the more distant the studio (e.g., 30+ miles from campus), the more

superficial the interaction between students and community stakeholders *(Tamminga, Mozingo, Erickson, & Harrington, 2002)*.

- The faculty was in the habit of "shopping around" for community partners from one semester to the next. Although this resulted in a diversity of venues and project types, it limited the ability of faculty and community representatives to form relationships. One result was that project logistics and on-site research frequently bogged down as students and faculty only slowly became conversant with stakeholders and local information caches.

- The prospect of minimal post-studio follow-up was a disincentive for local stakeholders to collaborate with students in knowledge co-generation. Partial reciprocity of learning and beneficial outcomes was often achieved, but longer term, fuller reciprocity remained elusive.

- With the exception of a few select courses such as the Reading Studio *(2001)* facilitated through the Hamer Center for Community Design (HCCD), studio planning and coordination duties were shouldered almost entirely by individual faculty members. Considering the many demands on faculty for research and service productivity, and with little incentive to pursue engaged scholarship, only a few stalwart faculty members in SALA arranged their own community-based courses.

Nevertheless, there was a sizable buildup of largely discipline-specific pedagogy leading up to the Studio. Land planning and environmental design studios tended to associate with near-campus nonprofit organizations or local agencies, providing faculty members with the efficiencies afforded by established relationships driven by service research *(Tamminga, 2004)*. Partners included the Friends of Sinking Valley (fall 2000), Susquehanna Greenway (fall 2002, 2003), the Mount Nittany Conservancy (fall 2004, 2005), and the ClearWater Conservancy (spring 2005, fall 2007). The Greenway and first ClearWater studios were supported by a public scholarship grant from Penn State's Office of Undergraduate Studies. Although quite successful, these courses did not reach full potential because they were filtered through the nongovernment organization partners, allowing limited interactions with residents

in study areas. Still, all attempts at community-based scholarship served as lessons. Collectively those lessons provided a corpus of tacit experience that set the stage for the Pittsburgh Studio.

Discipline-Based Theory and Precedent Influences

Studio-based service-learning in SALA during the 1990s was not only entrenched in departmental curricular tradition, but was also stimulated by earlier professional community-based work conducted by faculty members, such as a major urban river restoration project driven by the grassroots Bringing Back the Don Task Force *(Hough, Tamminga, Newbury, & Gordon, 1991)*; a new 5,500-acre Rouge Park initiated by a consortium of community activists representing neighborhoods along Toronto's east boundary; and the Don Valley Brick Works, a natural regeneration park spearheaded by neighborhood groups surrounding the valley *(Tamminga, 2007)*. Taken together, these projects coalesced "communities of practice" that entailed substantial co-learning *(Schweitzer, 2008; Wenger, 1998)*, with collaborations resulting in neighborhood stakeholders generating and promoting their visions, and with local political units falling in step. These seminal projects worked synergistically to rejuvenate a grassroots localism in the city that had arisen in the late 1960s from successful resistance to the proposed Spadina Expressway extension through stable, working-class neighborhoods.

Overall, these precedents honed engaged techniques and professional–community group partnerships that would later influence the selection and pedagogy of design studios at Penn State. Participatory action design was used for part of the Nine Mile Run Project (1996–1999) that focused activist attention, public policy, and funding in Pittsburgh on consensus-based approaches to environmental design and green infrastructure *(Collins, Dzombak, Rawlins, Tamminga, & Thompson, 1999; Miles, 2000)*.

From community-based professional practice and scholarship to design-learning pedagogy.

Community-based professional practice and scholarship as used in design-learning pedagogy has been realized intermittently in the broader landscape architecture academy over the past several decades. Prior to that, neither the Parisian Ecole des Beaux-Arts studios tradition nor the World War II era Bauhaus/Modernist studio model that replaced it cared much for community engagement *(Harbeson, 2008)*. Ironically, the 19th-century French *ateliers* (workshop-studios) and the earlier European guilds were often

connected with everyday places, as masters and their apprentices addressed concrete problems.

While educational reformers Boyer and Mitgang *(1996)* acknowledged the studio model, they also urged the U.S. architecture academy to turn parts of the curriculum outward toward the community. Programs in landscape architecture needed less such prompting. The discipline had developed a strong focus on the public landscape following World War II, so many of the 50 or so North American accredited programs had long been striving toward a balance between inward and outward studio foci. Randy Hester *(1984, 2006)*, Michael Hough *(1985)*, Anne Whiston Spirn *(1984)*, Phil Lewis *(1996)*, and others paved the way in pairing academic studios with communities. Several notable partnerships between design studios and underserved communities formed, including Spirn's *(2005)* University of Pennsylvania–based West Philadelphia Landscape Project, initiatives by the University of Illinois in East St. Louis *(Action Research Illinois, 2012)*, and University of California–Berkeley faculty work on ecological democracy *(Hester, 2006)* and culturally sensitive design in the inner city *(Hood, 1997)*.

However, the literature on community-based design learning remains elusive. A review of articles (*n* = 151) in the flagship academic publication *Landscape Journal* since 2000 shows only a handful that address themes of cross-cultural outreach or community-based coursework. Only three articles (less than 2%) present examples of coursework in underserved communities. Although educators in place-based disciplines have long recognized the imperative of engaged learning, the theory is only weakly codified and disseminated.

Guided by applied experience and case studies, the lead author has taught two dozen service-learning courses since 1994, each providing lessons and contributing incrementally to a personal cache of best practices. The Reading Studio, facilitated through advance relationship building by Hamer Center for Community Design personnel, stands out as a prototype upon which the Pittsburgh Studio could build. In general, however, the lofty goals of public scholarship as espoused by Yapa *(2006)* listed below were never quite within reach. The authors began to realize that it was not pedagogical limitations or lack of resources that placed robust public scholarship just beyond their grasp, but rather the need for a relational presence in local places, and the sensibilities and nimble responses to local exigencies that come with it. The challenge was not to bring the studio into the community. The challenge was to engage deeply enough to attain the goals of reciprocity, co-learning,

and co-generation of imaginative solutions to place-based problems. The Penn State Center was designed to address this challenge.

Extension, outreach, and learning theories.

Studio faculty members and Penn State Center staff have been strongly influenced by the evolving discourse regarding the role of Extension in the urban context. Substantive effort has been expended in attempting to reconcile the differences between Extension's traditional rural and production agriculture focus and the land-grant roles of outreach, learning theory, and interdisciplinary approaches to translational research addressing real-world problems.

Urban Extension.

Two studies supported the concept of a shift in traditional Extension perspectives by enhancing programming in metropolitan areas. The first, completed in Texas, argued that future support for Extension in Texas depended heavily on having visible, effective Extension educational programs in urban areas *(Fehlis, 1992, 2005)*. The second, conducted at The Ohio State University, provided evidence that urban Extension was nested in a traditionally rural and agricultural environment, yet served the urban population by addressing diverse challenges *(Kerrigan, 2005)*. This study claimed that securing the future of urban Extension was critical to the health of the entire system. Qualitative and other research continues in urban Extension and outreach (e.g., dissertation work by *De Ciantis, 2009*, on successful models of urban engagement).

Lessons learned from international research.

The Studio faculty's involvement with several international research projects in environmental learning also cross-pollinated with the nascent Pittsburgh Studio. Beginning in 2005, the Mountain Project *(Hoadley, Honwad, & Tamminga, 2010; Honwad, Hoadley, & Tamminga, 2006)* in north India and Nepal applied emerging principles in the learning sciences in its work. A project funded by the National Science Foundation, Anticipatory Learning for Climate Change Adaptation and Resilience (ALCCAR), 2008–present, employed action research techniques in determining anticipatory learning capacities with villages in Ghana and Tanzania in the face of climate uncertainties *(Tschakert & Dietrich, 2010)*. Both set up largely informal, constructivist community-wide learning approaches. Yet when necessary—such as when explaining climate change to village residents—both studies blended instructivist,

teacher-to-student styles to introduce exogenous scientific knowledge to local contexts.

Two concepts informed this international work: double-loop learning *(Argyris & Schon, 1978; Gunderson & Holling, 2002)* and resilience theory *(Berkes, Colding, & Folke, 2003; Folke, 2006)*. Argyris and Schon *(1978, p. 3)* explain that double-loop learning occurs when error is detected and corrected in ways that involve the modification of an organization's underlying norms, policies, and objectives. A resilience theory framework emphasizes learning, self-organization, innovation, and anticipation as ways social-ecological systems can build adaptive and transformational capacity in the face of uncertainty.

The application of these ideas in South Asia and Africa was ripe for translation to Pittsburgh's post-industrial neighborhoods. Participants in all three contexts showed a willingness to build creative learning capacity as a means to greater resilience and conviviality in their communities. The authors traded and adapted methodologies: participatory video techniques used in the Mountain Project were employed by several students during the Pittsburgh Studio; analytical neighborhood site walks used in the Studio sparked ALCCAR's "walking journeys" tool that helped to assess potential contributions of indigenous knowledge to building resilience in Ghana and Tanzania *(Tamminga & Shaffer, 2011)*. The Studio's well-honed charrette activities directly inspired ALCCAR's "layered mapping" tool, which turned out to be a key link in making the shift from learning about climate change impacts and building community capacity to village-level adaptive planning and management.

Learning theories.

More general learning theory was also very influential in constructing the Studio model. Generations ago, John Dewey *(1927)* called for unity of theory and practice in the pursuit of learning. Later, Polanyi *(1962, 1966)* delved more deeply into tacit knowledge that drew from personal trial-and-error and intuition in achieving understanding. He examined pursuit of discovery "guided by sensing the presence of hidden reality and . . . an anticipation of discovery" *(Polanyi, 1966, p. 24)*. This body of theory paved the way for study on contemporary collaborative learning environments such as the *participatory cultures* described by Jenkins *(2009)*. And these ideas overlapped with cultural-historical activity theory, which suggests that community learning is a by-product of the pursuit of shared motives and goals *(Roth & Lee, 2007)*.

The interplay between theory and learning-by-doing was applied to the Studio in many ways. For example, students documented that older participants during community charrettes in Beltzhoover, Larimer, and South Homewood often lamented the loss of what they perceived as a more intact, convivial community that existed prior to job loss and depopulation resulting from the collapse of Pittsburgh's steel industry in the 1980s. The authors found that such bouts of neighborhood-level melancholy may, in fact, be a form of social malaise that Albrecht et al. *(2007)* termed *solastalgia*. This convinced the authors that exposing students to local histories and sensibilities required introducing them to the people and places of their chosen neighborhood, and then impelling both students and local participants to meet often enough to build relationships. The authors agree with Lebow *(1993)*, who asserted that "our task is really as minimalist coach to steer students toward contexts (places, people, ideas) where connections are more likely to be made" *(p. 14)*. They also saw the imperative of getting students beyond single-story narratives promulgated by the media and pop culture. From achieving interpersonal connections and a semblance of immersion, trust would ensue, and design solutions would reflect the richer and lasting narratives of local groups and individuals living fruitfully in their places.

Meanwhile, campus-based public scholarship discourses provided insights that inspired both the Center and the Studio to press beyond conventional service-learning models. Most notable were the informal Public Scholars group led by Jeremy Cohen beginning around 2000 and the work of geographer Lakshman Yapa *(2006)* in West Philadelphia. They brought ethics-oriented and postmodern perspectives to emerging ideas on public scholarship and civic engagement. The work of Yapa and his students, in particular, injected a level of holism into discussions on how best to formulate the Studio. The authors embraced as normative his precepts that public scholarship should

- address issues of public interest;

- integrate research, teaching, and service;

- tap into and test theory;

- generate knowledge in the community as well as in the university;

- include community residents as knowledge-producers; and

- include both community and university as beneficiaries of new knowledge *(Yapa, 2006, pp. 73–74)*.

As the inaugural Studio approached, it became clear that higher-order learning was within reach, and that relatively complex and ethically explicit questions could be posed. Could the Studio, through student–community interactions, challenge the implicit status quo that "good design was too good for the 'hood"? Could it reconcile the inevitable feelings of otherness that existed between our privileged, mostly suburban students and participants from low-income communities of color? And even if reciprocal learning was possible, was it desirable from the perspective of job-seeking young practitioners?

These were the types of questions, or problem formulations, that were hoped would span from ethical to empathetic. The intent was to explore in some small ways Yapa's subversive introduction of notions of power politics and scholarly culpability, as essential precursors to any paradigm shift *(Postman & Weingartner, 1969)*. Over the longer term, it was intended that the Studio would resonate through the future work of its alumni to compel the discipline to ponder its own biases and inequities and, hence, more honestly contribute to the full spectrum of life in the city. This evolving definition of public scholarship would thus add four more foundational principles that would

- reveal the fallacy of disciplinary silos beyond the campus (neighborhood participants typically greet students as well-rounded scholars, and expect them to play both generalist and specialty roles);

- scaffold to include more transformative forms of learning (see Figure 1, below);

- emphasize constructive rather than instructive learning styles, thus calling for maturity, independent critical thinking, and an ability to handle the unexpected; for faculty, this means encouraging rather than controlling methodological and relational processes *(Lebow, 1993)*; and

- transform beyond the academy to include influencing students' impending career choices and future professional practice commitments to low-income communities underserved by design expertise.

As suggested in Figure 1, progressive design learning is premised on an expectation of higher order intentionality and creativity, ideally driven by shared goals. Additionally, the Studio would target cross-cultural learning and messy, value-laden ("slow") design in stressed communities as an opportunity to achieve the kind

of informal and confluent learning that might embody personal responsibility, empathy, and even wisdom *(Polanyi, 1966; Whitlock, 1984)*.
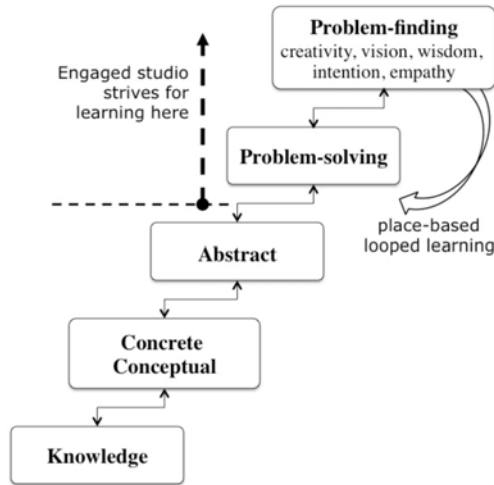

Figure 1. Engaged Studio Learning Tiers

As shown in the figure, the Studio model also calls for iterative feedback loops. As new data or insights arise, so do new design possibilities and participant responses. Each of these may prod a need to backcast, whether that entails further research or more interactions in the neighborhood. Thus, there is a staccato-legato learning rhythm that taps into cycles of divergent and convergent scholarship, and analytic, discursive, and creative modes of thought. The entire process is infused with design exploration of physical or programmatic forms. Unlike the excessively efficient version of "design thinking" that has recently been commoditized (largely outside the physical design arts), this kind of design is contingent and fairly democratic *(Jacobs, 1961; Strauss & Fuad-Luke, 2011)*. Parts of the process occur in the neighborhood, with its contextual placefulness, and parts take place in technology-enabled campus facilities. The spatial situation of the Studio is discussed in more detail below.

In summary, intertwined learning science and public scholarship theory proved useful in conceiving this Studio. Notions of collaborative, collateral/cross-cultural, experiential, and confluent learning resonated as the course geared up. Of particular interest were the possibilities for co-creativity that would catalyze community improvement while impressing on young designers the diverse

realities of the inner city and prodding them to ponder the role of such realities in their future practice.

Studio Conceptualization

In formulating a working model of the Studio, the primary intent was to achieve rigorous public scholarship outcomes within the limits imposed by time, distance, resources, and cross-cultural acclimation. As a free-ranging, experiential capstone studio chosen by advanced landscape architecture majors and promulgated in off-campus, real-world contexts, the course was not cast as a tightly controlled research study, and students and resident participants were not treated as research subjects. However, the Studio team made a concerted effort to document the course as a case study; project-based metrics and studio-wide achievements were compiled by both Studio faculty and the staff of the Penn State Center. Early on, the authors determined that the Studio would emphasize constructivist approaches, and would draw on the body of knowledge—and heightened maturity—acquired by advanced students during their college tenure. Meanwhile, the Center would leverage its social and institutional capital in its strategic role as matchmaker and facilitator between select neighborhoods and the Studio. By forging relationships in advance and through repeated visits, and by focusing on the problems and potentialities of the place, it was surmised that activating a neighborhood-as-studio approach was possible, where resident participants share place knowledge and aspiration, students share theory, design process, and form-giving skills, and both share imaginative creativity.

As the Studio jelled during its 2008 pilot, the authors conceived a loose model that builds on the Learning Tiers model (Figure 1) to include linked knowledge domains and collaborative realms. The model (illustrated in Figure 2) situates the Studio (S) astride two learning domains, the Neighborhood (N) and the Campus (C). Both are more or less open systems. The neighborhood-based form of the Studio (S^N) generates experiential, informal, and place-based learning. It is immersed in its Local Neighborhood (N^L) context, which is deeply tied to socioeconomic, political, human experience, and physical contexts of the surrounding metropolis (N^M). The intention is that the outcomes of S^N are reciprocal learning (residents and students teaching, and learning from, each other) and co-creativity (knowledge co-generation emphasizing innovative identification and solution of problems). The campus-based side of the Studio (S^C) draws knowledge from both the professional curriculum in the School (C^1) and the broader academy (C^2). C^1 emphasizes

professional theory, methods, and craft, while C^2 serves up mostly general education in the natural and social sciences and liberal arts. This model posits that the campus Studio is no longer the sole locus of design learning, separate from real-world application and action.
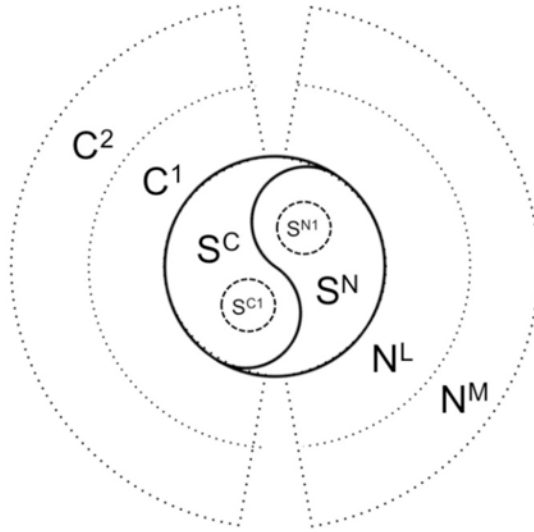
Key: S= Studio; N= Neighborhood; C= Campus; C^2= General Education; C^1= Professional Curriculum; S^C= Campus Studio; S^{C1}= Studio-seminars; S^N= Neighborhood Studio; S^{N1}= Neighborhood-based Charrette; N^L= Local Neighborhood; N^M= Metropolis

Figure 2. Pittsburgh Studio Learning Realms

Notice that S^N and S^C are intertwined to encourage learning integration and knowledge synthesis. A key node is the neighborhood-based charrette (S^{N1}), a kind of deliberative design workshop, during which students and community participants interact most directly and productively. Then back in the campus studio, ideas and new data may be scrutinized, or students and faculty may convene in Studio-seminars (S^{C1}; discussed below). Problems are linked to theory or precedent, anecdotes are shared, and ethical and practical problems "imported" from neighborhoods are negotiated.

S^N learning tends to be tacit and S^C learning more formal, but multiple modes of learning may occur in each venue. For example, methodical research can take place in neighborhood archives that may be found in local libraries or the scrapbooks of amateur community historians. Conversely, valuable peer-to-peer learning takes place after hours in S^C studio as students share stories drawn from their neighborhood interactions. In general, however, the more vibrant and fitting ideas tend to spring up where the needs and visions are expressed most passionately: S^{N1}, after which these ideas are

given form and developed in SALA studios (S^C), where information technology facilities and scholarly critique are readily available. Both S^N and S^C studios have their own interactive personalities; each can accommodate outbreaks of negotiation, creativity, and improvisation at almost any time.

By straddling city and campus and the various speech communities they represent, students acting on their education move their horizon back in time from the future to the present. Students are compelled, sometimes emotionally, to gain fluency in community problems and potentials. The best neighborhood-based experiences occur when small groups of students and stakeholders work in a safe S^{N1} space where analyses and critique interplay with the group's growing "imaginal literacy" *(Dubin & Prins, 2011)*. This is the kind of situation that engenders real praxis *(Freire, 1993; Gadotti, 1996)*. While the grist (e.g., storylines and other deeply contextual local perspectives) originates with resident participants, the role of the students in spearheading the design process—with faculty coaching from the sidelines—is equally important. Students collaborate with local stakeholders to "create possibilities that nobody has thought of and would not have considered without rhetorical interventions by a designer . . . a space of possible actions" *(Krippendorff, 2007, p. 4)*. This is the heart of the Pittsburgh Studio: a shared swirl of ideas that come primarily from residents and students who are inspired by each other and the experience of places understood in multiple ways, and informed by theory and first principles. Learning and action become more connected.

It is the intent of the S^N charrettes and on-site activities that residents come away invigorated and even surprised at their personal and pooled imaginations and their ability to mentor visiting young designer–scholars. As the semester progresses, a collective realization emerges that creative-yet-strategic consensus is an essential step toward a more resilient and convivial community.

But while residents would be "co-imaginers," they would not do design in the professionalized, narrow sense of the word. The students are trained as form-givers *(Tamminga et al., 2002)*. Design development occurs both in the campus studio and as iteratively tested with community participants. Besides imparting place-based knowledge, the authors coach students to invite community participants to challenge the students' own preconceived notions on aesthetic or environmental values. Urban power politics and local-regional histories often surface in these conversations. This equates well with Tsoukas' *(2003, p. 426)* assertion that new knowledge comes about "when our skilled performance—our

praxis—is punctuated in new ways through social interaction." It also puts into effect Eberly and Cohen's *(2006)* call for more sophisticated and immersed forms of civic engagement between community and academy. When students become personally involved in the local (S^N and N^L), they are more likely to understand its ways, and respond with more appropriate design gestures. When resident participants share their stories and are involved in design thinking and process, they see greater possibility in the future of their place. Together, they begin to form a community of practice that promises more relevant design value than could any introverted campus studio. Finally, students become aware of the inseparability of community development from broader issues of power, race, and class. It is during this period of new realizations and creativity that double-loop, higher order learning takes place.

By now it should be clear that our concept of *studio* extends well beyond the physical. Analogous to the notion that *church* is less an edifice than a body of believers engaged in worship, the intention was for the Studio to transcend place to embrace a *network of collaborators* engaged in a catalytic *process* of analysis, discourse, envisioning, crafting, and action. Sometimes it involves small groups building on contributions from each individual, and sometimes it relies on the quiet ponderings of problems and possibilities by individual students and neighborhood participants. *Studio*, then, is a complex corpus of ideas, places, people, and processes.

In the engaged studio, *design* becomes a verb. An inclusive and protracted act, it draws inspiration and agency from the near-at-hand, where the community–studio (re)asserts its collectively held values of equity, beauty, utility, and resilience. It weaves together the two traditions of architecture (design as discovery) and engineering (design as rational process; *Agre, 2000*), but extends by seeing community design as primarily vested in the community. Solutions emerge from the local, rather than being miraculously delivered as gifts or commodities from elsewhere. Agre asserts that design involves

> selective amplification of things we value. . . . Within every community is a force toward a higher level of community life. A community needs a shared identity, a collective memory, a repertoire of ways of doing things together, familiar genres of communication, ways of moving along from newcomer to oldtimer, places and landmarks, rituals, a language and a songbook. *(Agre, 2000)*

In this model, theoretical and place-generated knowledge inform the creative process to achieve skilled praxis. Students and resident participants get to experience the power of intentional design. Resident participants in S^{N1} studio mode, freed for a while from the concerns of the day, more clearly see potential in their surroundings. For some, this may initially be through the lens of analysis offered by the students. Then, if sufficiently vested in the process, resident participants begin to catch on to the sheer joy of seeing possibilities where previously none seemed evident.

This notion of studio becomes complete when the ethical dimension is considered. Sociologist Herbert Simon wrote that "everyone designs who devises courses of action aimed at changing existing situations to preferred ones" *(1969, p. 55)*. Krippendorff expands:

> If designers realize that they cannot force their conceptions onto others, and that whatever they propose must resonate with stakeholder conceptions, the questions that designers need to ask are implicitly ethical. The only ethical principle I would add is to avoid monopolizing design in a profession and instead delegate the practice to as many stakeholders as possible. Design is a basic human activity to which everyone should have access. *(2007, pp. 7–8)*

In Studio, students become aware that the "disciplinary parochialism" *(Kincheloe, 2001, p. 684)* they are accustomed to on campus is counterproductive in their chosen neighborhoods. *In situ*, they learn not only about what street corners are safe or which vacant lots are owned by nuisance landlords, but also which sub-communities possess certain kinds of situated knowledge, what Goldacre *(2008, p. 20)* refers to as "proprietorialized common sense." They learn the nuances. Such experience "arouses curiosity, strengthens initiative, and sets up desires and purposes that are sufficiently intense to carry a person over dead places in the future . . . a moving force" *(John Dewey in Green, 1998, p. 127)*. Excitement about ideas, collaboratively explored, becomes intertwined with feelings of empathy and humility. Motivation grows as the semester progresses. Invariably, students come to see that good design in the inner city is both a just cause and achievable.

The Studio's selective mix of theory, research, and practicality is akin to what anthropologist Claude Lévi-Strauss terms *bricolage*: "enlightened tinkering by people who can see with different eyes and

utilize what exists" *(in Nader, 2004, p. 773)*. The concepts generated through student–neighborhood participant collaboration center on new landscape and place typologies at the neighborhood scale. They work at site and sub-systems scales in promoting the collective vision defined in community-level workshops (Studio structure is discussed below). Project foci have included adaptive re-use of vacant lots (community gardens, orchards, rain catchments, biomass and renewable energy production, carbon sequestration), newly interpreted civic spaces, enhancements to transit and bike infrastructure, green technology training hubs, revitalized local parks, restored remnant ecosystems, outdoor performance spaces, vacant buildings repurposed as greenhouses and community centers, neighborhood greengrocers and other cherished land uses, pedestrianized safe streets, socially and bioregionally expressive play space and public art networks, rediscovered riverfronts, and more. Most projects are linked to show how each has greater value as part of a composite geography, rather than isolated as detached gestures. Projects are compiled on the Penn State Center website *(PSC, 2012)*, so that communities can easily access the entire cache of refined and tested concepts to further catalyze environmental regeneration, social conviviality, and economic development.

Clarified roles for campus studio and seminar.

Back in the campus studio, students process their neighborhood studio experiences in the classic studio-as-workshop mode of making: design development and testing in the studio through online research, computer visualization, desk critiques, and pin-up sessions in small groups. Students also coordinate their next foray to Pittsburgh. This part of the Studio is rich with convergent, peer-to-peer learning, and perhaps a foretaste of the engaged professional studio.

The idea of a "studio-seminar" evolved during the first 2 years of the course. Initially, the class had agreed that, as advanced students, each of them would individually conduct the independent theoretical and precedent research necessary to inform their own project. This was based on an assumption that students tap into the literature as a habit instilled during previous studio-linked seminars. When it became clear that such was not always the case, the 2009 class suggested a more formal seminar. Thus, the 2010 and 2011 Studios expanded from several informal seminars to a series of four 2–3 hour thematic studio-seminars and several more postevent, group retrospective seminars. The structure now includes readings from pooled faculty and student selections, shared

reflective writings, and seminar discussions. The project addresses themes that are directly applicable to crafting regenerative strategies in the inner city neighborhoods, including (i) prominent design activists, (ii) participatory design technique, (iii) design for resilience, and (iv) green entrepreneurship.

Reflective seminar discussions help students process neighborhood-based experiences and dilemmas, thus converting tacit knowledge to explicit, conceptual, and generalized knowledge *(Brockbank & McGill, 1998)*. This reflection on action, or *co-generative dialoguing*, is precisely the approach found effective by activity theorists *(Roth & Lee, 2007)*. At the same time, theory informs, affirms, and contextualizes neighborhood-based work. Themes commonly addressed in SALA Studio have included design thinking *(Nausbaum, 2011)*, safe cities *(Wekerle, 2000)*, conviviality *(Illich, 1973)*, liminal spaces *(Waldheim, 2006)*, green infrastructure *(Hendrickson, 2009; Tamminga, 1997, 2008)*, resilience *(Folke, 2006)*, regenerative design *(Lyle, 1994; RCFTW, 1992)*, participatory urbanism *(Hester, 2006)*, slow design *(Jacobs, 1961; Strauss & Fuad-Luke, 2011)*, and design and power politics *(Miles, 2000; Orr, 2004)*.

Figure 3 shows the outcome of a keywording activity during a fall 2011 charrette in South Homewood. The blend of local sensibilities and theory is evident. For example, resilience theory was identified with residents' desire for neighborhood "staying power." After discussion, residents picked the synonym *robust*. These meaningful words then served as informally codified first principles, guiding design and decision making later in the process.

Figure 3. Local aspirations and theory blend to form keywords that will guide design; fall 2011 Homewood charrette.

After rapport with stakeholders is established several weeks into the project, students become adept at communicating concepts and precedents in straightforward terms, using local examples of possible application. Resident participants realize that students possess design skills (analyzing, graphic rendering, etc.) and appreciate students' refreshing honesty. They become comfortable with students' growing ability to translate theory and precedent. As participants adopt a more strategic vocabulary, they feel empowered to dig more deeply into the process of co-creation. Students facilitate, but never drive, the design process. Yet each student becomes, for a while, the *community's designer*. Though relatively brief, students achieve a placeful understanding, or "indwelled knowledge" *(Helbrecht, 2004; Moore, 1996; Polanyi, 1962)*. Some students focus on the idealistic, and some on the pragmatic. Residents perceive these leanings in "their" student collaborators, and gain prowess at considering a diversity of ideas and approaches. Few professional designers achieve this kind of relationship, and it is hoped that the transformative joys and challenges of this special position will carry into professional practice.

Course structure and approach.

Planning for and executing the Studio has evolved since the inaugural offering in 2008. Beginning in 2009, a balance was struck in which two communities with four or five project possibilities each were available for selection and study by each student, in collaboration with neighborhood partners. An outline of Studio lead-in, execution, and post-Studio evaluation phases, with methodological highlights included, is provided in Appendix 1.

A participatory approach to designing the Studio's flow and planned project venues encourages community partner buy-in in several ways. The most important is that it allows for ample time to develop a trusting working relationship in advance of the first student–resident meeting, and provides a space for the neighborhood core team to anticipate their role as co-teachers in the neighborhood-based form of the Studio (S^N, see above). An ample pre-Studio planning phase provides local facilitators time to gather data and confirm study sites, and encourages "incubation" during which key contacts can build social capital by assembling a core constituency of local Studio advocates and informants. This robust preparation pays dividends during Weeks 1–7.5 (Start-up and Research & Analysis phases; see Appendix 1): Relationships between students and local participants are quickly formed, data is forthcoming, and students are welcomed as friends and allies of the neighborhood.

The mid-semester Stakeholder Charrette (see Figure 4) serves as the fulcrum between analytical and synthetic/creative functions of the Studio. It is at this point that participants are strongly encouraged to shift from their role as local teachers and data suppliers to collaborating with students in the re-conceptualization of their neighborhood and its place within the larger metropolis. During the Design and Design Development phase (Weeks 7.5–14) an iterative and interactive process of idea generation takes place in the S^N Studio, while technical concept development and testing occurs simultaneously in the S^C Studio. A public Open House concludes the Studio although, as noted previously, faculty and Penn State Center staff continue working with participating neighborhoods indefinitely after the semester.

Figure 4. Homewood stakeholders develop local vision during the mid-semester charrette, 2011 Studio.

Impacts of the Studio Model of Teaching and Learning

In modeling product evaluation for service-learning projects, Zhang et al. *(2011)* suggest a combination of techniques to assess a comprehensive set of outcomes. This is particularly apt for complex and multi-constituent projects such as the Pittsburgh Studio. A listing of Studio outcomes and achievements is given in Appendix 2. This categorical approach follows Driscoll, Holland, Gelmon, and Kerrigan *(1996)* in assessing impacts on students, faculty, community, and the institution.

Appendix 2 provides a sense of the comprehensive range of outcomes associated with student, faculty, community, and institutional constituents of the Pittsburgh Studio. Much has been accomplished since 2008, not only in neighborhood and campus-based studio settings, but also within institutional and governmental organizations looking to more effectively and sustainably support interactions between the university and underserved urban communities in the Commonwealth. There is evidence that advanced, higher-order learning has taken place in the students. Student Ratings of Teaching Effectiveness were high, with project outcomes exceeding both Landscape Architecture Accreditation Board standards and expectations set out in syllabi and problem statements. Students' end-of-semester reflective writings implied transformative learning, with several stating their appreciation for designing *with* rather than *for* the community. They also expressed their experiences publicly, helping solidify Studio-neighborhood relationships. A 2009 Larimer student relates, "It felt great to see the local people get excited about their community and about what it could become. And we benefited, too. Through visits, talks and volunteering, we forged friendships with these incredible people" *(LaJeunesse, 2011a, p. 7)*. The spring 2010 issue of *Penn State Outreach* cites a moment returning from an evening workshop: "As we drove back home, a student piped up from the back row, 'I love Beltzhoover.' Several others murmured assent" *(LaJeunesse, 2010, p. 26)*. Sentiments like this were common, and replaced the initial feelings of trepidation expressed earlier in the process.

Although end-of-semester evaluations from students typically have been positive, two significant adjustments have been proposed. As noted above, students of the 2010 Studio called for an expansion of the Studio-seminar idea, including more frequent and formal injection of theory than was occurring ad hoc in studio. This advice was adopted during the 2011 Studio. In 2011, students in the Homewood group suggested a second mid-semester stakeholder charrette, in addition to informal individual and small-group interactions already occurring. As with the Studio-seminar notion, the authors were gratified that students were so intent on rigorous engagement, despite an already demanding studio format. Possibilities to further heighten the level of interaction with local participants are under consideration for the 2012 Studio venues of Wilkinsburg and the North Side. The collaborations also helped inject much-needed energy and proactive self-determination within communities that have historically been underserved by city and regional authorities.

For instance, after the 2008 Open House, the *Pittsburgh Post-Gazette (Nelson-Jones, 2008)* reported,

> What was for them [students] a semester studio was, for residents, the chance to see old problems "solved" by fresh eyes. "I'm loving this," said [the] vice-president of the Beltzhoover Neighborhood Council, reacting to [a student's] depiction of a vision the Council has—a re-enlivened McKinley Park and the "paper street" of Haberman Avenue turned into a pedestrian greenway, with water features and whimsical lighting. "I believe it can happen."

The Beltzhoover Neighborhood Council compiled and adapted the 2008 and 2009 Studio results to leverage public funds for catalytic projects. Johnson *(2009)* reports on the Beltzhoover Neighborhood Council's follow-up to the 2009 Studio:

> Instead of waiting for the Green-Up Initiative to materialize or their councilman to put the long-neglected neighborhood on a priority list, the Beltzhoover Neighborhood Council has decided to be proactive and put together their own plan to revitalize the hilltop. They call it *New Life for Beltzhoover*. With technical assistance provided by Penn State students, residents have completed a feasibility study for a proposal that garnered support from numerous agencies and public officials.

The president of the Beltzhoover Neighborhood Council, Inc. (at the time) reflected on the collaborative nature of the Studio and the interplay between resident vision and student skill sets:

> I was so very proud of the great work you did for our community. Not only did you *get* that we are truly ready for change in Beltzhoover, you were able to capture a lot of our vision in your presentation. . . . Thank you, thank you, thank you for helping us take our vision and turn it into a plan! *(LaJeunesse, 2011a, p. 7)*

Reponses to the 2009 Studio work in Larimer took a slightly different twist. Already active in community-based planning using professional services, our key Larimer partners, the Kingsley Association and the Larimer Green Team, incorporated a series of ideas generated during Studio collaborations into the

neighborhood's official planning document. The *Larimer Vision Plan* intention, "To achieve the goal of establishing Larimer as a state-of-the-art green community, Larimer should take steps to set itself apart as innovative and green" *(Strada Architecture, 2010, p. 34)*, can be traced to 2009 Studio work. The plan also reflects the full range of 2009 Studio solutions, including a village green, a green corridor along East Liberty Boulevard, an Environment and Energy Community Outreach Center, an urban garden/farm on Larimer Avenue, and connections to Highland Park.

The 2011 Studio's Carrick neighborhood succinctly portrayed Studio objectives through their Community Council website *(Carrick Community Council, 2011)*:

> This Fall, Penn State Landscape Architecture students descended upon Carrick to create professional-quality designs for three areas of the community: Phillips Park, portions of Brownsville Road, and our vast Greenways. The students began their project by learning about the rich cultural history of the area, and then talked with local residents. Some of you may have even run into them on Brownsville Road, surveying passersby. Their goal was to take community history and perception into consideration when creating their designs. This way, the designs reflect the wants and needs of the community, and will serve as inspiration for the evolution of Carrick.

Institutional outcomes are similarly positive. The central administration perceives the Studio as a strategic pilot project supported through the Penn State Center. Considering dwindling university budgets across the Commonwealth, it is remarkable that funding has been so readily forthcoming. Firm commitments for a fifth, fall 2012 semester Studio have been made at both institutional (i.e., facilitation and transportation) and departmental (i.e., teaching assignment) levels and, as mentioned above, planning for Fall 2012 Studio locations in Wilkinsburg and the North Side are ongoing. As an engaged scholarship precedent, the initiative has been shared at all-College meetings, as well as a series of panel sessions and workshops under the aegis of the central administration. Both the innovative partnership between the Studio and the Center and the engaged studio model itself seem to have captured the imagination of the broader university community. It is hoped that they may continue to serve as inspiration over the coming years.

Conclusion

This article presents an effective and sustainable approach to creating advanced, engaged studio learning environments, which inculcates the habit of double-loop learning by both students and community participants. From this model, the authors have gleaned 14 best practices that readers might apply to their contexts.

Aim for the upper part of the learning continuum (see Figure 1). Community-based studios are time-intensive; do them only if higher-order learning is the goal.

Use the advanced studio as a means to transitioning from introductory service-learning offerings to more rigorous public scholarship. With willing partners, and if well-conceived, capstone courses can demand a level of student maturity and a degree of commitment that can engender transformative experiential learning.

Work through an agent who is trusted by the community. Organizations such as the Penn State Center described above understand student learning objectives and are able to match community needs with studio intents.

Search out neighborhoods that will present students with cross-cultural challenges outside their comfort zone.

Assert learning imperatives with community partners. By periodically reminding residents of educational goals, faculty can cultivate in local constituents a taste for free-ranging, co-generated scholarship that can lead to creative solutions.

Keep the budget smaller rather than bigger. This minimizes administration and keeps the focus on learning rather than funded deliverables; remember that students are not consultants.

Limit class size to match local capacities, timing, and range of project choices. Smaller class sizes also enable faculty to more effectively guide students and understand local contexts. Typically, six to seven students per neighborhood strikes a balance between productivity and relational efficiencies.

Connect strongly with a dedicated community core group. Pre-studio planning sessions in and with neighborhood participants are a prerequisite to forming positive working relationships (faculty-residents, students-residents). Early and strong relationships motivate local facilitators to build a

Studio (S^N) constituency even before students arrive on the scene. Conversely, involve external organizations and agencies judiciously, since local residents often perceive them as part of the problem.

Involve local facilitators in establishing neighborhood participant networks. It's their advocacy and networking that cultivate a broader sense of authorship and buy-in.

Keep a loose leash on students. Once they and community participants have established a rapport, there is usually less need for faculty oversight on the internal workings of specific projects. As nascent professionals, upper-year students are generally eager to assume greater responsibility for their own project management than those earlier in the curriculum.

Prepare in advance. At least 3 to 4 months are needed as lead time, as are several meetings and site reconnaissance visits prior to Studio start-up, to build solid working relationships with local constituents and work out logistics.

Promise something practical. Good ideas must be developed to some level of detail in order to help local partners visualize what they need to do next. Purely conceptual studio formats that promote professional training but offer little substance for leveraging on-the-ground initiatives diminish the "real world" achievements that are critical in motivating student-resident collaborations. While steeped in theory and principle, engaged studios are practical studios.

Anticipate over-extended community partners. Community leaders and activists in low-income, stressed environments may be stretched thin in terms of time and creative energy. Even the most enthusiastic resident participants will at times be unavailable. Discuss this phenomenon with students in advance to head off surprises and frustrations.

Build in a seminar component. Reflective peer-to-peer learning, supported by theory and precedent, boosts meta-cognition and promotes double-loop learning.

The Pittsburgh Studio adds to a growing list of successful initiatives supported through outreach and Extension organizations such as the Penn State Center. Such community-engaged studios can contribute to the scholarship and praxis of more resilient and convivial inner-city neighborhoods. The key is a mutually held commitment

to constructive relationships, reciprocal learning, co-generation of knowledge and creative solutions, and sustained collaborations that provide tangible benefits to partner communities.

Acknowledgments

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Appendix 1. Studio Lead-in and Structure

Pre-studio Preparation:

- 3–4 months prior to beginning of semester, Penn State Center compiles possibilities for involvement from potential participating neighborhoods
- authors discuss pedagogical objectives for the upcoming year, review community demographics and issues, and select short list of candidate neighborhoods
- initial meetings and on-site reconnaissance take place to select participating neighborhoods (usually 2)
- meetings with resident leaders of select communities to identify preliminary list of issues and project areas/sites and confirm key contacts, semester flow, and key dates

Week 0–1.5:

- campus-studio overview of communities and issues
- students choose community (studio splits into 2 groups of 6–7 students each)
- conduct Community Contexts charrette (research history, spatial geography, socioeconomics, demographics, and current issues)

Start-up Trip:

- class meets with Penn State Center representatives for orientation and introduction to each community and its specific needs and sensibilities
- class meets with community contacts to confirm goals, schedule, stakeholders, contact and information sources; conduct brief site visits of potential project areas

Weeks 2–7.5: Research & Analysis

- students select their project areas
- each student develops a work program (methods, tasks, key events, products, and outcomes), in consultation with faculty and peers
- studies of project site and neighborhood contexts; interviews with key stakeholders; local archival work; site inventories and analysis; user observations (typically 3–5 day-trips)
- campus-based research, including theory and precedent analyses; sharing of analytical and participatory findings in campus-studio
- two Studio-seminars are conducted during this phase
- student groups prepare summary findings for presentation at upcoming Stakeholder Charrette

Mid-semester Stakeholder Charrette:

- presentation of background research findings to stakeholders and interested community participants
- students lead charrette; formats may include game-playing, asset mapping, keywording, etc.; issues are identified and goals formulated; ideation (concept brainstorming) generates initial cache of design possibilities

Weeks 7.5–13: Synthesis, Design, and Design Development

- students and faculty reflect on charrette in campus studio; adapt design inquiry process to suit emerging realities and aspirations
- students and key neighborhood participants collaborate on and test project-scale ideas; students re-visit sites as necessary to fill in information gaps and flesh out place-based inquiry (typically 3–5 day-trips)
- students conduct campus-based design development and implementation strategies, giving form and action to ideas
- two Studio-seminars are conducted during this phase
- students prepare to present and interact at upcoming Public Open House

Public Presentation and Open House:

- students give a coordinated overview of approach, research findings, goals, and individual projects in a public meeting format
- community Open House follows, allowing one-on-one examination of "final draft" solutions
- students record Open House participant inputs for consideration in next steps

Weeks 14–15: Project Wrap-up and Reflection; concurrent Design Charrette

- Studio-seminar retrospective on Public event experience
- faculty review and critique of final draft projects
- students revise and finalize projects based on Open House inputs and any post–Open House stakeholder and faculty inputs
- students compile final projects into one digital volume per community and submit to Penn State Center for distribution to communities and key stakeholders
- concurrent Pittsburgh Green Innovators charrette serves to reinvigorate Studio prior to semester's end; design brainstorming of green technology installations at the to-be-renovated Connelley Training Center; includes jury presentations
- semester concludes with final Studio-seminar; reflection and prospects

Post-Studio Evaluation and Prospects:

- 2–3 months post-studio, faculty and Penn State Center staff assess outcomes, reflect on semester's accomplishments, confirm successes and strategize on improvements, and discuss prospects for the following year's Studio
- dialogue between Penn State and community constituencies continues, including follow-up assistance on select student design recommendations.

Appendix 2. Outcomes, Pittsburgh Studio, 2008-2011

Metric / Indicator	Specific Outcome
Students	
Engaged Studio learning tiers attained (Figure 1)	Studio-seminar reflective writings and project evaluations by faculty indicate strong higher-order learning
Student-resident participant interactions conducted	Students of 2008–2011 Studios designed and led series of well-received and productive community-based workshops and open houses; convened many informal sessions
Public scholarship principles attained *(Yapa, 2006)*	Case experience indicates substantial progress on most precepts; more data needed on longer-term career choices
Meritorious recognition	Award of Honor, 2012 student team (6 students), Community Service category, for Refocus: Homewood South, Pennsylvania-Delaware chapter of American Society of Landscape Architects
	Award of Honor, 2012 student, for The Wood: Homewood South, Pennsylvania-Delaware chapter of American Society of Landscape Architects
	Award of Merit, 2011 student, for the Corliss Art Corridor project, Pennsylvania-Delaware chapter of American Society of Landscape Architects
	Second Place, 2011 student, Penn State University Undergraduate Exhibit, Public Scholarship category, for *Coraopolis Riverfront,* Pennsylvania-Delaware chapter of American Society of Landscape Architects
	Award of Honor, 2010 student, for Larimer Community Square, Pennsylvania-Delaware chapter of American Society of Landscape Architects
	Award of Merit, 2010 student, for Larimer Technology Hub, Pennsylvania-Delaware chapter of American Society of Landscape Architects
Work disseminated	2008–2011 Studio compiled project reports submitted to official at city and county level, and distributed to all neighborhood constituency groups
	Larimer Studio exhibited at the Kingsley Center, Spring 2009 to present
	Two students (2010 and 2011 Studio) invited as featured presenters at Outreach Appreciation Banquet, Penn State University, September, 2011
	One student (2011 Studio) invited to present to the Penn State Service-Learning/Student Engagement Task Force, Sept. 2011
	Connelley Center charrette 2010 and 2011 compiled projects presented to Pittsburgh Penguins redevelopment organization and Green Innovators group
Student Rating of Teacher Effectiveness	All Studios earned Student Ratings of Teaching Effectiveness 6.0+ average score on a response scale of 1 (lowest rating) to 7 (highest rating) for both "quality of course" and "quality of instruction" (College-wide averages: "quality of course" 5.7; "quality of instructor" 5.8; Linse, 2011)
Landscape Architecture Accreditation Board accreditation standards	All Studios surpassed Landscape Architecture Accreditation Board's Standard 6: "Outreach to The Institution, Communities, Alumni, and Practitioners" (LAAB, 2010)
(BLA and MLA degrees)	

Internships acquired	Three Studio alumnae, with the Penn State Center, Summer 2010, Spring 2011, Summer 2012
Studio-associated thesis work	2009. *The Ecology of Vacancy: Exploring the Use of a GIS-based Tool for Evaluating the Urban Ecology Potential of Vacant Land in Pittsburgh, Pennsylvania* 2011. *The Urban Edible Schoolyard: Case Study Evaluations in Pittsburgh, Pennsylvania* 2011. *Community Revitalization: The Methods and Means to a Systematic Design Approach*

Faculty

Meritorious recognition	Community Engagement and Scholarship Award, Penn State University, 2011
	C. Peter Magrath University/Community Engagement Award, Association of Public and Land-grant Universities, 2011 (Northeast region; national finalist)
	Appointment, Public Scholarship Fellow, Provost's Office, Penn State University, 2011–12
	Juror, Council on Engagement Selection Committee, 2012 Scholarship of Engagement Award and Community Engagement & Scholarship Awards, Penn State University
	Faculty Marshall, invited by spring 2010 and 2011 Student Marshalls and Pittsburgh Studio alumnae, College of Arts and Architecture convocations, Penn State University
Dissemination	Presentation, Penn State Service-Learning/Student Engagement Task Force, November, 2011
	Presentation and videodocumentary screening, Penn State Council on Engagement, October, 2011
	Presentation and videodocumentary screening, All-College Meeting of the College of Arts and Architecture, September, 2011
	Presentation and videodocumentary screening, National Outreach Scholarship Conference, 2011
Continuity and support	Continuation of LArch 414 teaching assignment; endorsement of department head, Stuckeman School of Architecture and Landscape Architecture director, Arts and Architecture Dean, 2008–present
	Continuation of Studio support from the Penn State Center, 2008–present

Community

Community-based organizations engaged	2008 Studio: Beltzhoover Neighborhood Council, The Hill House 2009 Studio: Beltzhoover Neighborhood Council, Kingsley Association, Larimer Green Team 2010 Studio: Storehouse for Teachers, The Meter Room (West End artists' coalition), West End-Elliott Citizens Council, Coraopolis Community Development Corporation 2011 Studio: Rosedale Block Cluster, Carrick Neighborhood Council, Pittsburgh Parks Conservancy
Site-specific project collaborations	2008 Studio: Beltzhoover (3), The Hill District (3), Neville Island (2), Hays/Lincoln Place (2) 2009 Studio: Larimer (4), Beltzhoover (3) 2010 Studio: West Pittsburgh (4), Coraopolis (3) 2011 Studio: Homewood (3), Carrick (3)

Article, "Design in the Real World: A Penn State Program Promotes Community Outreach," *Landscape Architecture Magazine (Stack, 2011)*

Overview, "Penn State Landscape Architecture Students Carrick Presentation," Carrick Community Council website *(CCC, 2011)*

Presentation and videodocumentary screening, National Outreach Scholarship Conference, 2011

Healthy Transitions: A Community-Based Participatory Research Approach with Burundians with Refugee Status

Denise Bates, Elizabeth Burman, Lacreisha Ejike-King, and Charlotte Rufyiri

Abstract

Healthy Transitions is a program of the University of Tennessee's Ready for the World initiative, a broad plan to transform campus culture and prepare students for the 21st century. Healthy Transitions partners the university with a local community of Burundian refugees. The university joined several community organizations interested in the refugees' integration, and in examining the Burundians' experiences and perceptions during and post migration. Focus group data identified key areas of concern for the Burundians. Community-based participatory research provided relevant data and an infrastructure, including a non-profit established by the Burundians, that enable the Burundian community to co-direct ongoing research and programming.

Introduction

Refugees are legal residents of the United States. The U.S. has long accepted the United Nations' definition of "refugee" as "any person who, owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership in a particular social group, or political opinion, is outside the country of his/her nationality" *(UN High Commissioner for Refugees, 2007b)*. In 2010, there were over 30 million displaced persons worldwide. The United States receives more refugees annually than any other country in the world, resettling approximately 2.5 million refugees since 1975 *(Martin, 2011; Singer & Wilson, 2007; U.S. Department of State, 2009; U.S. Department of State, Bureau of Population, Refugees and Migration, 2010)*. According to the Department of Homeland Security, the U.S. received 73,293 refugees in 2010. *(U.S. Department of State, 2010; U.S. Department of State, Bureau of Population, Refugees and Migration, 2010)*.

Among the world's refugees in 2010 were over 500,000 from Burundi with refugee status due to the wars that have torn through that tiny country, just as they have through Burundi's larger and better-known neighbor, Rwanda. In 2006, the United States approved the resettlement of approximately 8,500 Burundians to the U.S. *(U.S. Department of State, 2009)*.

Beginning in 2007, many Burundians who already had fled their home country in 1972 were permanently resettled in more developed countries, such as the United States *(Cultural Orientation Resource Center, 2007; United Nations High Commissioner for Refugees, 2007; U.S. Committee for Refugees and Immigrants, 2009)*. By then, more than 30 years had passed since the war began that forced them to leave their homes and restructure their lives in refugee camps in Burundi's neighboring countries.

The term "1972 Burundians" was used to define the group of Burundians who experienced this recent, secondary resettlement, and refers to the war in which they were victims as well as partici-pants *(Cultural Orientation Resource Center, 2007; United Nations High Commissioner for Refugees, 2007)*. The majority of the Burundians identified as "1972 Burundians" are of Hutu ethnicity and fled ethnic cleansing by Burundi's Tutsi government. Between May and August 1972, according to international agency estimates, 200,000 Hutu Burundians were killed, with an additional 150,000 Burundians fleeing to neighboring Tanzania, Democratic Republic of Congo, and Rwanda, where they have been living for over 30 years. A significant number of the Burundians resettling to the United States left Burundi as small children, or had not been born in Burundi at all *(Cultural Orientation Resource Center, 2007; United Nations High Commissioner for Refugees, 2007)*. Low literacy levels, the loss of all material and financial resources, and limited job skills *(Cultural Orientation Resource Center, 2007; Nutbeam, 2000; United Nations High Commissioner for Refugees, 2007)* positioned this popula-tion for a particularly difficult resettlement transition to the United States.

In recent years, the U.S. State Department began placing refugees, including resettling Burundians, in smaller cities like Knoxville, Tennessee. In 2007, Knoxville's resettlement agency received 49 Burundian families, totaling 187 individuals ranging in age from infants to seniors. Secondary migration by other Burundians attempting to reunite with their friends and family increased the population significantly within this same period.

In comparison with the 8,500 Burundian refugees assigned to the United States since 2007 *(United Nations High Commissioner for Refugees, 2007)*, the number of Burundians arriving in Knoxville (about 200) may seem insignificant. However, that number far exceeded the number of refugees from all locations that had arrived in Knoxville prior to 2007.

With only a small staff and limited resource base, Knoxville's refugee resettlement agency struggled to accommodate this

unprecedented number of incoming refugees. The city's school district, public health department, public housing, and social service agencies were also overloaded with the unique challenges of these families, who arrived with virtually no English language skills, whose children had little or no prior schooling, and whose adults were largely illiterate even in their own language (Kirundi). Knoxville's service agencies lacked funding, personnel, the necessary infrastructure, and cultural competency to address the many needs of the incoming refugees. Unable to meet the challenges of addressing the unique needs of significant numbers of arriving Burundian families, local public health and social service agencies approached the University of Tennessee for assistance.

Review of the Literature: Community-Based Participatory Research with Refugee Populations

Research with refugees tends to be culturally, linguistically, and ideologically challenging. Historical and political issues of human rights, national asylum policies, intercultural communication, and knowledge acquisition are of significant concern. A lack of language proficiency, cultural identity, systemic understanding, and resources can cause remarkable acculturative stress in refugee families *(Berry, 1997; Berry, Kim, Minde, & Mok, 1987; Johnson, Ali, & Shipp, 2009; Mollica, 2006; Mountain States Group, 1999; Papadopoulos, 2001; Psychosocial Working Group, 2003)*. Additionally, individual psychological characteristics, coping mechanisms, level of education, support systems, gender, and circumstances of actual events pre- and post-conflict contribute to a refugee's ability to integrate *(Papadopoulos, 2006; Ryan, Dooley, & Benson, 2008)*. Generally, refugees are placed in marginal living conditions where they experience a strained social climate. Low employability further challenges their social and physical environments, personal health, and coping skills *(Berry, 1997; Miller & Rasko, 2004; Papadopoulos, 2006)*. The complexity of these circumstances can cause tension that extends beyond the stressors families experienced prior to resettlement.

Burundians arriving in the United States face challenges that are common to most refugee populations. Research indicates that refugees often experience limited access to basic personal resources and services *(Lustig et al., 2003; Miller & Rasko, 2004; Ryan et al., 2008)*. Furthermore, many refugees who experience post-migratory adaptation in a foreign country can also experience inordinate shortages of most resources that would otherwise be available to them in their countries of origin. Identifying "constraints on the use or access to resources," both primary and personal, is particularly relevant in

the post-migration of refugees *(Ryan et al., 2008)*. During resettlement, language proficiency, cultural identity, systemic ignorance, limited education, and economic strain can cause remarkable acculturative stress in families *(Ahearn & Athey, 1991; Berry et al., 1987; Cultural Orientation Resource Center, 2007; Lustig et al., 2003).*

A review of current literature reveals that multidimensional factors contribute to poor health outcomes in marginalized communities, particularly in displaced, linguistically isolated populations *(Link, Mokdad, Stackhouse, & Flowers, 2006)*. For refugees, this situation is exacerbated by limited cultural orientation or exposure to the dominant society prior to arrival.

Public health educators have long utilized the community-based participatory research process for research and program development, particularly in developing countries. The process, however, has become more formalized and more widely implemented in the United States in the last decade. Community-based participatory research proceeds from a core belief that there exists among community members an extensive set of skills, strengths, and resources that can be employed to facilitate and promote their own health *(Doyle, Rager, Bates, & Cooper, 2006; Israel, Eng, Schultz, & Parker, 2005; Israel, Parker, et al., 2005; Seifer & Greene-Morton, 2007)*. Community-based participatory research, a form of engaged scholarship (or "community engagement"), promotes a partnership approach that equitably involves community members, organizational representatives, and academic researchers in all aspects of the research process *(Israel, Eng, et al., 2005; Israel, Parker, et al., 2005; Seifer & Greene-Morton, 2007)*. The use of community-based participatory research has been shown to be particularly effective in identifying both the needs and strengths of immigrant and refugee populations *(Doyle et al., 2006; Israel, Parker, et al., 2005; Johnson et al., 2009; Seifer & Greene-Morton, 2007).*

In the study presented in this article, the authors found that by formalizing the use of the Burundian community's own strengths in both research design and the interpretation of resulting data, investigators gained a more thorough and culturally-competent understanding of these refugees' needs. At the same time, through their own participation in the research process, Burundian families became more deeply invested in their own well-being. This ability to function independently is particularly important to the "1972 Burundians," who face heightened challenges in this area after the enforced dependency they endured during the decades many spent in refugee camps subsequent to leaving Burundi.

Community-based participatory research calls for the active participation of representatives of the larger community's

organizations, as well as members of the focal, or target, population *(Israel, Eng, et al., 2005; Israel, Parker, et al., 2005)*. The role of the academic researcher in community-based participatory research, therefore, is to facilitate rather than direct the research process. Faculty and students provide disciplinary and development expertise, rather than imposing hypotheses and assumptions on the community *(Israel et al., 2003; Israel, Parker, et al., 2005)*. This facilitative process is essential to the initial development of a community-based coalition and, more importantly, is central to the sustainability of long-term programs developed within the community *(Israel, Eng, et al., 2005; Israel, Parker, et al., 2005; Seifer & Greene-Morton, 2007)*.

Setting the Context: The University of Tennessee, Knoxville, and the Burundian Refugee Community Partnership

Ready for the World is part of a long-range plan at the University of Tennessee, Knoxville to transform the campus into a culture of diversity and prepare students for the 21st century. Since its implementation, more than 100 Ready for the World grants totaling $400,000 have been awarded to promote intercultural and international awareness. The university has a strong study abroad program, but also recognizes great potential in the diversity and globalization represented in its own region and city. Local engagement may even offer greater potential to be transformative to a university, in that it may have an impact on more students and provide more accessible material for research and curricular engagement.

A signature example is the university's engagement with the growing local community of Burundian refugees. Faculty members received a University of Tennessee Ready for the World grant in 2008 to develop infrastructure for community-based programming and research related to the Burundian community. In order to understand the needs of both arrival families and the community system attempting to accommodate them, two faculty members launched a community-based participatory research project to assess the basic needs of the community. The chief community partners was Bridge Refugee Services and Cherokee Health Systems (a local health clinic). Initial interviews by faculty members and students indicated that these families were having difficulty adjusting to their new environment. As a result, the faculty members and students launched a community-based service-learning and research initiative that they named Healing Transitions: Program Interventions for Refugee Youth and Families. (Subsequently, with

input from the Burundians, who did not feel they needed "healing," the name was changed to Healthy Transitions.)

In 2008, a Burundian working and attending graduate school in Johnson City, Tennessee, heard of the plight of the Knoxville Burundians. She and her husband suspended their own plans and moved to Knoxville to support their more newly-arrived countrymen, after hearing of the many challenges and difficulties the Knoxville Burundians were facing. The couple helped form a vital, first bridge between the Burundians, the university, and other city partners. From its inception, Healthy Transitions was based in and co-created by the Burundian community. Research with Burundian families was designed with their help, and then conducted with the Burundians functioning as full co-investigators. The Burundians were also involved in either co-directing or directing all interventions that were informed by, and established because of, the new knowledge. In this way, community-based participatory research was most likely to improve the health and well-being of the target community.

This article presents the process of the community-based participatory research partnership among students and faculty members at the University of Tennessee, community service agencies, and Burundian families resettled in Knoxville, Tennessee.

Desired Partnership Outcomes

The University of Tennessee's Burundian partnership has focused, in particular, on the needs of a group of Burundian families in Knoxville, many of whom had already lived in Tanzanian refugee camps since 1972, an experience that added challenges to those already caused by the trauma of war. Work proceeded from a set of goals created by the Burundians, including establishment of a community-based organization; youth programs for Burundian children; educational opportunities for adults learning English; computer lessons for the adults; and job skill development.

The student outcomes for Healthy Transitions, meanwhile, were in alignment with the university's Ready for the World goals, which are to cultivate (1) competence in cross-cultural communication, both domestic and international; (2) the capacity to think critically about international and intercultural issues; (3) the understanding that knowledge is global; and (4) a passion for lifelong engagement with global learning.

The university's Ready for the World outcomes for faculty members involved in the Healthy Transitions initiative included (1) improving faculty capacity and engagement in international

and intercultural education; (2) transforming the undergraduate curriculum to enhance international and intercultural content; (3) bridging the intercultural/international world to the university; and (4) taking the university to the world.

Finally, institutional outcomes for Healthy Transitions were provided by the university's mission statement, which mandates that the university is "To provide a high quality educational experience . . . in a diverse learning environment—promoting the values and institutions of democracy that prepare students to lead lives of personal integrity and civic responsibility in a global society" *(University of Tennessee, 2012, p. 1)*.

Faculty Expertise and Student Involvement in the Program

Two faculty members in the College of Education, Health, and Human Sciences, one in Public Health, and another in Educational Psychology and Counseling, developed the initial infrastructure for community-based programming and research. With further support from the college dean, additional faculty members and many students soon engaged. Faculty members and students from other University of Tennessee colleges and disciplines eventually joined them, applying diverse expertise to a dynamic and still-expanding relationship between the university and the newly-arrived Burundians.

From the beginning, the collaboration between the university and the Burundians has included a consistent gathering of interested and committed faculty, students, and community members, with the partnership providing opportunities for multiple layers of leadership among its members. Every project issuing from the partnership, links community-driven evidence to community-based action by utilizing democratic principles and inclusive practices, on campus and off. The community-based participatory research informs both program process and program outcomes, and it is the approach used in meetings and event planning; project and program development; and in all interactions with social agencies and other community partners, in addition to work with Burundian families.

Measuring the Impact of the Program: Methods Used

Healthy Transitions has provided an opportunity for student participation in community engagement and cultural immersion,

within the context of community-based participatory research that encompasses community development, culturally responsive program delivery, and evaluation.

Student Involvement

Community-based participatory research with refugee communities requires an academically diverse, multidisciplinary, and multi-interventional approach; therefore, a multidisciplinary team of students was recruited for the project. Health, medical, behavioral, educational, and social service disciplines in the academic setting often learn and function independently of one another. Service-learning and civic engagement provide students with opportunities to serve others, often generating a satisfaction in helping others *(Kraft & Kielsmeier, 1995)*, and a complex understanding of social issues *(Werner, Voce, Openshaw, & Simons, 2002)*.

Today, Healthy Transitions promotes interdisciplinary, community-based participatory research education for community engagement with graduate students from six academic disciplines: public health, cultural studies of educational foundations, child and family studies, nutrition, psychology, sociology, and communications science. Departments in the university's College of Education, Health, and Human Sciences partnered with Knoxville's overtaxed refugee resettlement agency to establish two service-learning courses, also establishing service-learning for the first time in that college. Students in one of these courses worked solely with Burundian refugees, while students in the other course worked primarily with Iraqi refugees.

Data Collection: Community Interviews

The primary investigator received study approval from the university's Institutional Review Board prior to the implementation of the study. Initial interviews with Knoxville community members, including both Burundians and representatives from schools and other public agencies, informed the development of the Healthy Transitions research and engagement agenda. First, university faculty members interviewed service providers, members of the local school district, public health departments, and other agencies assisting with refugee resettlement in the area. These interviews indicated that a newly arrived population of Burundian families was having difficulty adjusting to their environments. University faculty members and students contacted the local refugee resettlement agency and established a working relationship. The resettlement agency identified only two local Burundians who were bilingual.

Data Collection: Focus Groups

Burundian translators helped identify six key informants in their community. Faculty, students, and translators completed six interviews with these informants, which informed and assisted in the development of the focus group questions formulated for the greater Burundian community. The Burundian families nominated a small, demographically diverse group ($n = 8$) to test the questions prior to introducing them to the focus groups. These initial participants, along with a translator, modified the original questions for clarity and cultural context.

In 2008 and 2009, university members and Burundian key informants conducted six focus groups. The interview team grouped participants by gender, based on the recommendation of key informants. Two women's focus groups and four men's focus groups, totaling 39 ($n = 39$) Burundians, participated. Recruitment of participants for these focus groups occurred specifically at community meetings held within the public housing areas where they lived. The resulting questions designed for the focus groups centered on the migration experience (flight) to America; expectations for living in America and whether or not these expectations were met; challenges or barriers to a successful resettlement; and hopes for Burundian children, with a specific focus on education. Investigators ensured that consent forms were translated into Kirundi prior to the interviews. Each of the interviews was audiotaped with a digital audio recorder.

There was only one trained transcriber who could speak, read, and write in both English and Kirundi. She translated and transcribed the audio recordings from Kirundi into English. Due to the scarcity of trained transcribers and limited funding, back translation of the recordings was not possible.

Analysis and results of focus groups.

To enhance understanding the priorities of the partnership between the university and the Burundian community, some of the results of the focus groups are presented. In this section, the reader may see the steps of the community-based participatory process. The focus group data provided a map for subsequent steps by the collaborative research team.

Initially, the research team used an open coding scheme to analyze the focus group data. All data were also entered into a qualitative analysis software system. Significant statements and themes emerged from the analysis. The research team then worked collaboratively to group the themes into categories. The categories

and related themes were summarized into a document (see Figure 1) that was next translated into Kirundi for the data interpretation phase of the research. Examples of responses are given in Figure 1 below each theme.

Question 1: Please tell me about your trip from Africa to the United States.

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1.   Grief about leaving some family members at home, particularly children and siblings over 18 years.

"How can a child be denied this right to be with his mother? He is still so young. I will never see him again."

2.   Grief that many didn't pass the "test" or interview to come as refugees because their stories weren't important enough.

"Their stories were not good enough."

3.   Expressions of excitement that they were selected to come to the U.S.

"America is our mother, we are truly blessed."

4.   Guilt that they were selected to come but others were not.

"Our children will die there while we will live." "You are [I am] here, lucky. The person is there, suffering."

5.   Experiences with people when coming to the U.S. were good. Compared them to the treatment they had in holding camps in Kenya.

"People are very good to us. In Kenya, everywhere we go we found brothers and sisters."

6.   Treatment since arriving in the U.S. has been very bad.

"We have black skin so they treat us like other people with black skin, but worse. We cannot speak English."

Question 2: Now that you are here, what is different about the United States than what you were told?

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1.   "She" (specific description of person informing) told them that they would be cared for by the U.S. government for 5 years. (Later clarified that their understanding was that this included support for basic needs and full education.)

"She's said that we are not going to work on lands, and that we are going to rest for 5 years because we have been fleeing and running away for so many years, and that now we deserve peace and rest. She is the one who said all of these words."

2.   They feel betrayed because they would have never left the camps if they had known this 5 year commitment was not true.

"They lie to all of us."

3.   That all children were promised an education, but the older ones (17 and older) were denied an education in the public school system.

"Now they [the older children] are lost."

4.   They must pay back a debt for each family member's travel to the U.S. to the U.S. government.

"How can my family live. I must pay the U.S. government over $10,000 beginning in 3 months. They never tell us this in the camp."

5.   Again, they feel betrayed because many of their children were not selected to come with other family members. They had no idea that they would be coming to the U.S. without their children.

"I am mostly worried about my youngest child. They told me in the camp I would meet him in Kenya, but he was not there. But now look, he is not here. I am really sad and worried."

Question 3: Describe the experiences you have had since you've arrived in the U.S.

1.   They feel forgotten and unsupported.

"[The resettlement agency] will not help us anymore. We do not have someone to show us the way. We do not know the language. We do not know where to go or what to do. We are like a child who is left in the desert."

2.   It is very difficult to learn English, there are not enough classes, and many of them work when the classes that are available are in session.

"How do we learn English? We who work must work many hours to help those who cannot work."

3.   For those who have a sponsor (church or individual to assist for 1 year beyond resettlement agency), their lives are much easier than those who do not.

"Many of us do not have a sponsor. This is very difficult. The families who do have a sponsor get many things. I have only 3 chairs in my apartment. I do not have a sponsor."

4.   The housing communities in which they are placed are unsafe. There are drugs and guns, and they fear for their children's lives.

"I know how to live in Africa. It was not safe, but I know how to live. Here it is not safe, but I do not know how to live."

Question 4: What would make your community a better place to live?

1.   They wanted [refugee resettlement agency] to help them until they were ready to be independent.

"We are like children. We cannot be left to defend ourselves. We must grow up and be adults, but we need help until then."

2.   Social ties among the Burundians have been impacted due to residential placement throughout the city.

"For many years, we were side by side in the camps. Now we have no way to see our family and friends. They are far away. We cannot be with each other."

3.   Burundians are beginning to have intra- and inter-family disputes.

"In the camps, there were not many troubles. Everyone was the same. Here there are many troubles. Some people are better [off] than others. They are fighting now."

Question 5: What do you worry about for your family in the U.S.?

1.   Many worry that their children are not safe.

"There are bad people that live next to us. They yell at us and our children. They try to fight with us. We cannot understand what they are saying. It makes us worry for our children."

2.   Drinking and violence is becoming more prevalent within the Burundian communities.

"Some people drank beer in the camps, there was nothing else to do. Now too many people drink beer because there are too many problems."

3.   Many people are fighting among themselves because it is perceived that some have more than others.

"In Africa, we are all the same. Now we are divided because some people have more and will not give it among others."

Question 6: What are your hopes for your children in the United States?

1. It is important that their children get an education to be successful like American children.

"We want our children to be as smart as White American children."

2. They hope that their children can become professionals.

"Our children will become a teacher, a doctor and have computers in offices."

3. They hope that their children will not have the life they have had in Africa.

"We want our children to be American. We cannot ever be American. Our children will not be African and suffer."

4. Children need short term intensive investment to succeed.

"The children need to have someone to help them learn English like American children so they can go to college. We cannot help them. It is too late for us."

Figure 1. Focus Group Questions with Burundian men and women (n = 39). Ranked in order of frequency and intensity (1 = most frequent and intense). Examples of direct quotes from the refugees are inserted in the theme rankings.

Data Collection: Community Forums

The research team next scheduled community forums to disseminate the focus group data to both the Burundians who had participated in the focus groups, and to members of the extended Burundian community who did not participate in the focus groups. This process followed an essential tenet of community-based participatory research, which requires that the target community interpret the data within its own cultural context.

Three community forums were held to gain interpretive insight into the collected focus group data. There were 65 unduplicated participants in the forums, which were held in 2009. Each community forum lasted approximately 2.5 hours and had two translators present. Research team members read the data themes aloud item by item, allowing for responses by the community. A scribe noted, in English, all clarifications and adjustments made during the meeting; however, the team also audiotaped the forums to ensure the accuracy of translations. Finally, any participant could add information that he or she felt was important.

Upon completion of the dissemination and discussions of interview information with the Burundian community, clarification of investigator data interpretation, and final input by participants, community members were asked by the investigators, "So what do we do from here?"

Goals That Emerged from the Community-Based Participatory Research Project

Taking priority among many ideas was the establishment of a community-based organization so Burundians "could learn to help themselves" in the United States. The second priority was developing youth programs for their children "so their children can be as smart as American children." Third, they wanted to develop more educational opportunities to learn English "so they could help their children become successful and to get jobs [for themselves]" and be able to "move to places of safety." Next, they indicated the desire to learn to use computers "so they could also be American." And finally, they needed opportunities for job skill development to support their families and pay back their airfare "debt" to the United States (this refers to the fees charged by the federal government to each individual family member for transportation to the United States).

Action Steps Resulting from the Community-Based Participatory Research

In 2009, the inaugural Burundian community meeting was held to discuss the goals that the smaller groups of Burundians had prioritized. Two informal leaders (one bilingual) convened the meeting at a location of the community's choosing. The meeting began with over 100 Burundians in attendance. A discussion ensued, with the participants considering the opportunities that could be provided by the development of a community-based organization with nonprofit recognition (501(c)3) in the United States. As a result, participants voted to proceed with an election of officers. Four officers were elected, with a six-member advisory committee. The community went on to schedule monthly meetings, along with initial plans for the community-based organization they wished to establish.

Officers were elected, and an external board of directors was formed. The president, vice president, and one of the investigators of the Healthy Transitions project steadily worked with the university's School of Law clinic to develop bylaws and a charter, and to establish an Internal Revenue Service identification number for the emerging 501(c)3 organization. In 2010, Healthy Transitions and the Burundian organization collaborated on the submission of a funding proposal to support the operations and mission of the new organization. This grant-writing experience highlighted the importance of gaining nonprofit recognition, and further propelled the planning process for the partnership's subsequent priorities.

As a result of their own engagement in this scholarship, Knoxville's Burundians now direct the operations of their non-profit organization. They chose the name SODELA (Solidarity, Development, and Light Association) for their organization. Today, SODELA serves over 300 Burundians and a small population from Congo, Rwanda, and Sudan. SODELA operates eight major programs for refugees, providing basic integration assistance into the host community. The Burundians, via SODELA, also continue to take a leadership role in their partnership with the university.

Many Burundian families now own cars, and some have been accepted by the Habitat for Humanity program as they begin to transition to the economic advantage of home ownership as well. Despite the serious language barrier, most Burundians now know where to go for health care, insurance, and groceries. They have contact with churches and are socializing with people outside the Burundian community. Among other things, SODELA has helped organize the Knoxville African Soccer Team, welcoming men from several African countries.

The solid principles of community-based participatory research easily extend to engaged scholarship in other disciplines, and the university's partnership with the Burundians has indeed fostered an expanding set of opportunities for community-engaged programming and experiential learning that have since stretched across many disciplines and departments at the University of Tennessee, Knoxville. The authors have witnessed true changes in campus culture as a direct result of this partnership, including the development of new curricula for course-based and discipline-based service-learning that have enriched the experience of many university students, even as the partnership also has contributed both to the empowerment of the Burundian families and to the capacity of the greater Knoxville community, as all partners grow in shared knowledge of and respect for one another.

The experience has involved all levels of the university, including the chancellor's and provost's offices; the campus Office of Research; and several colleges and departments. In addition to initial Ready for the World funding, further grant support from the University Chancellor's Academic Outreach and Engagement Council allowed a faculty member to pay for the translation and development of an orientation guide to U.S. public schools. This guide was also produced in reciprocal fashion, with a Burundian community leader co-directing the project.

Community Impact

Community-based participatory research involves the target community from the inception of the process, from the formation of the research question through the collection and interpretation of data to the implementation of any action informed by the research results.

As a primary goal established by the Burundians, the incorporation of a Burundi-managed nonprofit, SODELA, was key to the success and sustainability of the partnership's impact on the Burundian community. The Burundian community elected its own officers and chose its own name for the new organization (SODELA). SODELA's mission is "to support the healthy transition of refugees through the promotion of education, employment, cultural preservation, and the long-term sustainability of families resulting in better personal adjustment to resettlement and positive mental and physical health" *(SODELA.org, 2012)*. Figure 2 depicts SODELA and the main partners from University of Tennessee, as well as the types of activities generated by this partnership, in collaboration with further, partnering organizations in the community.

Figure 2. The University/Community Partnership

Student Impact

The integration of the community-based participatory research model with academic service-learning offered a unique opportunity for graduate students, multidisciplinary faculty members, and the university's Center for the Study of Youth and Political Conflict

to experience researching multi-factorial health issues, education conditions, and diverse cultures of newly arriving refugees in Knoxville. Research that examined the Burundians' experiences and perceptions of resettlement during and after migration demonstrated to graduate students the effectiveness, success, and challenges of multidisciplinary, community-based research. Students engaged in the process have demonstrated a strong interest and performance in project scholarship.

Both graduate and undergraduate students have been involved with the partnership in countless ways, including their facilitation of prejudice reduction and cultural competency workshops in area high schools. Accustomed to traditional academic tests with right/wrong answers, and academic coursework that lasts for exactly a semester, students are exposed, by contrast, to real-life learning. Through their interactions with the Burundian community, these students must learn to tolerate ambiguity, including societal problems that neither have easy answers nor can be neatly solved within the temporal or disciplinary confines of an academic course.

Faculty Impact

In their engagement with the Burundians, university faculty members and students have established a track record of developing new courses and producing joint publications. In turn, the growing academic expertise resulting from these interactions is evidenced by numerous invitations to university faculty and staff to present their work both nationally and internationally.

For example, the University of Tennessee's Center for the Study of Youth and Political Conflict recently completed a research project funded by the Robert Wood Johnson Foundation titled "Evaluation of Caring Across Communities: School-Based Mental Health Services for Immigrants and Refugees." The national project documented the full array of challenges that refugees and immigrants face in the United States. The research findings inform the everyday practices in the University of Tennessee/SODELA partnership.

Institutional Impact

Ready for the World began in 2004 as the University of Tennessee, Knoxville's Quality Enhancement Plan, which was required for reaccreditation from the Southern Association of Colleges and Schools (SACS). The reaccreditation phase ended in fall 2005 with the university receiving a highly positive 10-year SACS re-accreditation.

The Ready for the World initiative calls for expanding university curricula, increasing global competency of faculty and staff, and focusing on the intercultural issues of particular concern to the university. Local intercultural engagement, such as the university's ongoing partnership with the Burundian refugee families, has made an invaluable contribution to furthering these institutional goals, which has already become deeply embedded in many parts of the university. Therefore, the university's work with the Burundians both exemplifies and sustains Ready for the World, helping to anchor the university's current accreditation while also complementing the university's institutional Diversity Action Plan, which requires all departments to strengthen recruitment and retention efforts to enhance diversity among all faculty and staff.

Burundian-associated work generated some of the university's first formal service-learning courses, beginning not with undergraduate courses, but with much-less-typical, graduate level service-learning courses, thus offering additional potential for curricular literature and scholarship. Inspired in part by this new service-learning curriculum, a service-learning task force has been established by the provost to develop campus-wide implementation of a formal service-learning program for all students at the university, possibly as part of an eventual interdisciplinary college for undergraduates.

Discussion

Community-based participatory research methods may be less feasible than traditional methods that demand fewer resources. However, for hard-to-reach, hard-to-teach populations in the United States, community-based participatory research offers a means to traverse unknown obstacles by involving the community to assess, interpret, implement, and evaluate data in a way that is both relevant and sustainable. Burundian families in Knoxville, Tennessee, continue to struggle with basic needs, education, employment, English proficiency, and other issues. However, through their nonprofit organization SODELA, and alongside others in Knoxville and at the University of Tennessee who are committed to their success, these Burundians now have the infrastructure in place to navigate more effectively systems that make this transition so difficult.

SODELA and its president have directly, and greatly, contributed to the University of Tennessee's scholarship by checking the historical representation of the country, conflict, and people

of Burundi, ensuring that culturally appropriate terminology was used at every stage of the research process. For example, SODELA's Burundian leadership convene all meetings. Together, SODELA's leadership, along with board members from the university and the Knoxville community, plan fund-raising, social, and educational events. The University of Tennessee Healthy Transitions team serves as a resource and a bridge for knowledge, funding, student volunteers, educational opportunities, and summer camps for the children. As a direct result of their curricular and co-curricular engagement with university faculty and students, the Burundians' lives have become more stable, as have their perceptions that they themselves possess the necessary resources to integrate into the community. In the process, university students have learned how to work alongside an international population.

All decisions between University of Tennessee members and the Burundians continue to be made in open discussion, with translators present. All work has proceeded through first establishing, and then using, a set of priorities that was decided upon by the Burundians. Their first priority was to establish a community-based, nonprofit organization, which has been accomplished. Additional priorities implemented subsequently include educational opportunities for adults learning English; youth programs and after-school tutoring for Burundian children; assistance for Burundian families who wanted to learn "American ways"; and career-focused development that included computer lessons and job skill development, as well as help for those needing a driver's license, which is still often necessary in Knoxville, where one cannot always get to jobs, schools, doctor appointments, or shopping on public transport. The Burundians have become increasingly able to find their way in their new community of settlement. University faculty members and students have learned a great deal alongside the Burundian community as well.

Conclusion

The community-based participatory research method employed by Healthy Transitions was essential to the productive process of data collection as well as to the subsequent implementation of culturally-relevant interventions. Ongoing, engaged scholarship by Healthy Transitions participants fills a gap in the literature that addresses work with refugee populations, while also extending the emerging literature concerning the application and impact of community-based participatory research.

Community-based participatory research will continue to serve as the medium by which university faculty and students learn more about how to better serve people resettled in the United States. The next phase of research will analyze more closely the perceived and actual resources the refugees identify as being most important to their healthy integration into U.S. culture. This research will serve to inform policy and programming throughout resettlement communities in the United States.

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Working Together to Improve the Lives of People Affected by Epilepsy in Zambia

Gretchen L. Birbeck

Abstract

Epilepsy is a neurologic disorder that results in recurrent, unprovoked seizures. The biomedical burden of epilepsy can be substantial, but for many the social consequences may be just as extreme, with epilepsy victims suffering from social abandonment as well as economic and physical vulnerabilities. Since its founding in 2000, the Chikankata Epilepsy Care Team, a collaborative project between Michigan State University and the rural Zambian community of Chikankata, has worked to improve the lives of people with epilepsy. What began as a local nurse–medical student partnership in one small rural Zambian hospital has grown into a program that supports and enriches clinical services and advocacy programs throughout Zambia. Recognizing the imperative for knowledge to influence policy, this university-community partnership works tirelessly to inform key stakeholders and policy makers of its findings. The program received the 2011 Outreach Scholarship/W. K. Kellogg Foundation Engagement Award for the North Central region.

Setting the Context

*A*s a medical student, the author, Gretchen Birbeck, undertook an elective rotation at Chikankata Hospital in rural Zambia, (which is located in the rural province of Chikankata in the Republic of Zambia located in Southern Africa) curious to see how medicine was practiced without the advanced technologies and extensive resources available in the United States. Among the many devastating conditions to be found there, the realities of epilepsy were the most disturbing. Epilepsy, a condition characterized by recurrent, unprovoked, and usually unpredictable seizures, is a treatable condition. Most people with epilepsy in the United States are able to live full and active lives, but people with epilepsy in the Chikankata community faced soul-crushing social and medical realities.

Living with Epilepsy in Zambia, Africa

No one with epilepsy in Zambia received treatment for this seizure disorder. Health care providers found themselves caring for children and adults with fatal or seriously disabling burns that

occurred during a seizure, often while the family stood by too paralyzed by contagion fears to pull them from the fire. Children with epilepsy were routinely ejected from schools and often prevented from playing with other children, dooming them to social isolation and long-term economic vulnerability. In confidential disclosures, women with epilepsy offered details of spousal and familial abandonment with subsequent social vulnerability, physical violence, and sexual assault. Epilepsy was not formally recognized as a common chronic condition in the community, yet the consequences of untreated seizures filled the hospital. Birbeck decided that this paradox deserved formal investigation. After completing her training in neurology, she returned to Zambia, and, with other concerned health care workers at the hospital, undertook a formal hospital-based study of epilepsy at Chikankata.

Needs Assessment

The study confirmed several disturbing facts *(Birbeck, 2000a, 2000b, 2001)*. People with epilepsy were presenting to the hospital with their seizure-related injuries, but not with their seizures. Most of the inpatients who were identified with epilepsy had been admitted with severe burns or fractures experienced during a seizure, but they had failed to mention the seizure or their epileptic condition to the admitting health care provider. Less than 10% of the people with epilepsy who were seen as inpatients had ever been treated for the disorder, and even among those who had been identified and treated, the prescribing health care worker, usually a clinical officer or nurse, had provided doses of antiepileptic drugs for seizure prevention in doses so low as to be essentially useless. This mode of treatment indicated that the health care workers required additional training in epilepsy care. It was also noted that although the hospital routinely registered patients with chronic conditions to ensure that sufficient medications were kept in stock, the registry listed only 32 people with epilepsy. This was a low number, given the catchment area of 65,000, and it led to the conclusion that many unrecognized and untreated cases of epilepsy existed in the community *(Birbeck & Kalichi, 2004)*. Indeed, a subsequent population-based prevalence study identified almost 2,000 people with epilepsy in the catchment area *(Birbeck, 2009)*.

These findings were congruent with what has subsequently become evident globally. Approximately 80% of the 50 million people with epilepsy worldwide live in resource-poor regions *(de Boer, Engel, & Prilipko, 2005)*. Epilepsy represents 0.49% of the global burden of disease, and among neurologic disorders it ranks third

after dementia and cerebrovascular disease in terms of its contribution to global disease and disability *(Leonardi & Ustun, 2002)*. Epilepsy is the most common chronic neurologic disorder in Sub-Saharan Africa *(Eisenberg, 1997; Leonardi & Ustun, 2002)*. The World Health Organization (WHO) estimates that a year's supply of phenobarbitone could cost as little as $5 per person *(WHO, 2004)*, yet the proportion of people with active epilepsy who warrant treatment, but who are not receiving it, remains more than 90% in most Sub-Saharan Africa countries *(Meyer & Birbeck, 2006)*. The avertable burden of death and disability due to epilepsy in Sub-Saharan Africa is particularly disturbing. The WHO estimates indicate that 41% of all lives lost and disabilities due to epilepsy could be avoided if drug availability could be scaled up.

Overview of the Chikankata Epilepsy Care Team Program

The early hospital-based studies of seizures and epilepsy at Chikankata involved collaboration with several clinical officers and nurses who shared the perception that something was missing when it came to epilepsy in the community. Once the formal hospital-based study of epilepsy at Chikankata began to provide insights into the local burden of disease, hospital administrators gained an interest. The busy (and expensive to run) burn unit was filled mostly with people with epilepsy, and seizures accounted for a substantial proportion of the ICU (intensive care unit) admissions. In 2000, with support from hospital administration and seed money from Michigan State University (Michigan State), the Chikankata Epilepsy Care Team (Epilepsy Care Team) was founded. The initial Epilepsy Care Team coordinator was Ellie Kalichi. Prior to accepting the position with the Epilepsy Care Team, Kalichi was head of nursing at Chikankata Hospital. Having completed additional training in leprosy diagnosis and control in Tanzania, she also served as the hospital's leprosy control officer. Her work with leprosy had given her great insights into the burden of stigmatized conditions in the community. These insights proved critical for guiding the Epilepsy Care Team's work, and the development of additional partnerships within the broader community.

Program Activities

Members of the Chikankata Epilepsy Care Team provide clinical services, conduct research, and support local capacity building and medical education in Zambia. Birbeck, a Michigan State faculty

member and the Epilepsy Care Team director, spends 4 to 6 months a year at the site, and maintains weekly contact when off site by email and Skype. Since 2000, the number of community partners involved in Epilepsy Care Team activities has expanded to include collaborative partners from other Zambian health care institutions, faculty members from the University of Zambia and Chainama Hills College, and officials from the Zambian Ministry of Health. Epilepsy Care Team work depends on its grassroots partners from the community, including teachers, clerics, and traditional healers. As director, Birbeck works with the Epilepsy Care Team's Zambian academic colleagues on grant preparation and research dissemination. As a health care worker at Chikankata, she provides inpatient, outpatient, and community-based care. Specific program activities include improving health care services, advocacy, teaching/capacity building, and research.

Improving Health Care Services.

In addition to epilepsy care at the hospital, the Epilepsy Care Team mobile clinic makes weekly visits to rural health centers serving the district to ensure that drugs are available, and to provide more advanced services to people with epilepsy closer to their own homes.

Workers who underwent neurologic training through a grant to Birbeck from the Lancet International Fellowship lobbied for incorporating neurologic training into the basic curriculum for all clinical officers in Zambia. (Clinical officers, who provide most of the health care services in Zambia, have completed a 3-year course in basic health care provision following secondary school [analogous to high school].) With funding from the World Federation of Neurology, formal training materials were developed, and an ongoing visiting professorship was funded to ensure that experts return annually to train and re-train trainers.

With faculty from the University of Zambia, the Epilepsy Care Team co-founded the Neurologic and Psychiatric Society of Zambia, a professional organization of health care workers who focus on neurologic and psychiatric disorders. The Society has been an important organization for providing expert advice to Zambia's Ministry of Health, and for offering continuing medical education opportunities for Zambian physicians. Recently, the Society has been awarded funds from the World Federation of Neurology to develop a Center of Excellence that will focus on epilepsy care.

Advocacy.

With leadership from a past graduate of the clinical officer training program, the Epilepsy Care Team was among the co-founders of the Epilepsy Society of Zambia. This grassroots organization is affiliated with the World Health Organization's International League Against Epilepsy and is focused on an Out of the Shadows campaign, which is aimed at improving acceptance and treatment of epilepsy.

Ongoing peer-support group activities are supported by the Chikankata Epilepsy Care Team. The Epilepsy Care Team was first to notify the WHO and then publish reports describing

- antiepileptic drug toxicity related to extreme weight loss in famine *(Birbeck & Kalichi, 2003)*;

- the lack of appropriate medications for treatment of co-morbid HIV and epilepsy *(Birbeck, Chomba, Ddumba, Kauye, & Mielke, 2007)*; and

- unintended consequences of the WHO programs to improve pharmaceutical regulations, which have resulted in a global decrease in epilepsy treatment availability *(Chomba et al., 2010)*.

Teaching and capacity building.

Neurologic rotations under Birbeck's supervision are available to Zambian medical students. No other neurology rotations are available in-country. Michigan State medical students have also taken advantage of this opportunity. Several master's level students in Zambia have worked with the Epilepsy Care Team as part of their training. Director Birbeck served as the primary advisor for two of these students. She also serves as the primary advisor and mentor for Zambian Ph.D. and master's degree students studying issues related to epilepsy, stigma, and co-morbid social and medical problems in Zambia. In addition, training for grant administrators in Zambia has been provided by Michigan State grant administration specialists, funded through an National Institutes of Health Research Grant Program (R01) award.

Research.

Over $3 million in research funds, mostly through NIH, have been awarded to support research related to this work. More than 40 peer-reviewed publications have resulted from the research findings.

Evaluating Outcomes

The agenda for the Epilepsy Care Team is guided by the priorities set by the Zambian community. All activities (teaching, community education, health care service delivery) are undertaken in a way that allows an academic evaluation of the circumstances in the community and impact of the activity. The academic productivity associated with the various activities has been substantial. Findings from these scholarly activities are also relayed back to the community for their interpretation and feedback. The process of developing by consensus the agenda for the Epilepsy Care Team activities includes ongoing, regular, informal communications as well as formal meetings with community representatives, and retreats with academic and professional partners.

Impact of the Chikankata Epilepsy Care Team Partnership

This university-community partnership has had significant impact on Michigan State University students, on the Chikankata community, and on health care policy. For example, today Michigan State students participate in the Chikankata Epilepsy Care Team partnership. Graduate and medical students have participated in clinical and research rotations, including seven students whose dissertations have been based upon work in Zambia. Two Fulbright scholarships, two Fogarty Student Fellowships, and one American Medical Association grant have been awarded. U.S. neurology residents who have worked with the Chikankata Epilepsy Care Team have gone on to develop similar projects in other African countries.

For the Zambian community, more than $2 million in extramural research funding has been obtained for activities that include direct service delivery and outcome assessments related to services. The number of people with epilepsy in the Chikankata catchment area receiving regular care has improved substantially—so much so that the burn unit closed in 2005.

For health care policy, Chikankata Epilepsy Care Team partnership members now regularly serve as advisors to the World Health Organization, the U.S. National Institutes of Health (NIH), and the World Bank. The Chikankata Epilepsy Care Team's work has had a direct impact on health care policy at local, national, and international levels.

Sustaining the Partnership Over the Long Term

The Chikankata Epilepsy Care Team partnership is jointly supported by Chikankata Hospital and Michigan State University. The Epilepsy Care Team obtained its initial funding from Michigan State, and continues to be supported through Director Birbeck's leadership and the regular participation of Michigan State visiting scholars and students.

Community Contributions

Subsequent to the initial seed funding from Michigan State, funding has been acquired from the Lancet International Fellowship, the Rockefeller Brothers Fund, the Doris Duke Charitable Foundation, the U.S. National Institutes of Health, the World Federation of Neurology, and several private donors. In-kind contributions (e.g., staff, space) have been made by Chikankata Hospital, the Zambian Ministry of Health, and the University of Zambia. These resources indicate that the community continues to acknowledge and value the improvements in both health care policy and clinical care guidelines made possible through this work, as well as its substantial impact on the lives of people with epilepsy and those affected by epilepsy.

University Contributions

Michigan State has long valued global partnerships and recognized itself as a "world grant" university. In 2005, Michigan State's commitment to the Epilepsy Care Team's work was further demonstrated when it committed over $900,000 to the establishment of an academic unit, the International Neurologic and Psychiatric Epidemiology Program, for which Birbeck serves as director. Two additional full-time faculty members have been recruited, and a fellowship is sponsored. The mission of the International Neurologic and Psychiatric Epidemiology Program is to undertake research on neurologic or psychiatric conditions that affect public health in developing regions worldwide. Multidisciplinary training and collaborations involving Michigan State experts in neurology, psychiatry, epidemiology, and radiology are central to this effort. Experts in the social sciences, anthropology, political science, health services research, and the basic biomedical sciences also contribute. The research undertaken by the unit strives to place the diseases under study in the appropriate social and geopolitical context.

Next Steps

In 2012, the Chikankata Epilepsy Care Team activities continue in full force. The team is presently in the 4th year of a 5-year project funded by the U.S. National Institutes of Health to evaluate the impact of a series of multifaceted community-based interventions aimed at improving health care services and decreasing epilepsy-associated stigma. In 2011, the Epilepsy Care Team was awarded an NIH grant to conduct a cohort study of HIV-associated seizures and epilepsy. These community-based outreach activities continued with school-based interventions in 2011, and work with traditional healers in 2012.

Conclusion: Lessons Learned

Members of the Epilepsy Care Team have learned a number of valuable lessons through their work with the partnership. Initially, the inclusion of research endeavors within the structure of service delivery presented the most critical challenges in this university-community collaboration, chiefly due to issues of trust. Most of the Zambian partners had witnessed "research mercenaries" in action: academics from more developed regions who parachute into the community, collect their data, and fly away, never to be heard from again. Michigan State's long-term commitment to the partnership has been an essential part of developing trust. As the Zambian grassroots partners came to appreciate their central role in determining research priorities, their concerns dissipated. Findings and best practices from Epilepsy Care Team work are being incorporated into programs in other regions of Zambia and in several other African countries.

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About the Author

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C. Peter Magrath University/Community Engagement Award

Engineers Without Borders at Montana State University: Student-Led Engagement and Transnational Collaboration

Otto R. Stein and Leah Schmalzbauer

Abstract

The Montana State University student chapter of Engineers Without Borders USA is a student-managed partnership with the people of Khwisero, Kenya. The primary mission, to bring potable water and clean sanitation facilities to 61 primary schools and the surrounding communities of Khwisero, necessitates a long-term commitment to collaboration and cultural exchange. Engineers Without Borders has helped transform views regarding engaged scholarship at Montana State University. Students and faculty members are collectively advancing interdisciplinary, service-learning, and global action initiatives across the campus. This article describes the growth, organizational principles, and goals of Engineers Without Borders at Montana State University.

Introduction

Montana State University (Montana State) was founded in 1893 as Montana's land-grant institution. The Montana State Bozeman campus has more than 14,000 students enrolled in seven colleges. The Carnegie Foundation for the Advancement of Teaching ranks Montana State as one of 108 research universities with "very high research activity." In addition, in 2010 Montana State was awarded the Carnegie Foundation for the Advancement of Teaching's Community Engagement classification designation, which recognizes a commitment to collaboration between the institution and communities (local, regional, state, national, and global) for mutual benefit. The work of the Montana State student chapter of Engineers Without Borders USA was identified as one of 15 key partnerships exemplifying community engagement in Montana State's 2010 Carnegie engagement designation application. In 2011, the partnership between Engineers Without Borders and the people of the Khwisero District of Western Province, Kenya, was awarded the 2011 Outreach Scholarship/W. K. Kellogg Foundation Engagement Award for the Western region and, competing with three other regional winners, won the national 2011 C. Peter Magrath University/Community Engagement Award. In this article, the authors describe how the partnership between Montana State University's chapter of Engineers Without Borders USA (EWB-MSU) and the people of Khwisero, Kenya,

developed into an award-winning example of university-community engagement.

Setting the Context

The Khwisero District of Western Province, Kenya, is home to approximately 150,000 inhabitants who live primarily by subsistence agriculture. As is typical throughout rural Africa, access to basic infrastructure in Khwisero is minimal; few institutions such as schools and hospitals, and even fewer individual homes, have on-site electricity, water, and safe sanitation facilities. Although many publicly accessible springs and shallow wells are distributed throughout the region, one-way travel distance for individuals to access this water may be one mile or more, and the dependability and quality of the water is questionable. Additionally, the chore of fetching water has historically fallen almost exclusively upon women and girls. This has led to a gender disparity in terms of education because girls often miss school to fetch water.

The Khwisero District of Western Province, Kenya: Recognizing a Need for Potable Water and Sanitation Facilities

The inhabitants of Khwisero are almost exclusively from the Luhya tribe, but the region is organized around clans, sub-clans, and extended families that are often centered on the locations of primary schools. Therefore, even more than in the "developed" world, primary schools serve as a social hub. Ronald Omyonga, a graduate of one of these schools and a successful architect living in Nairobi, wished to increase opportunities for social and economic mobility and well-being for the people of Khwisero. Recognizing that education, gender equity, and community engagement coalesce around local schools, he wrote a proposal to Engineers Without Borders–USA asking for help to develop potable water and sanitation facilities for 56 primary schools in Khwisero.

Montana State University's Chapter of Engineers Without Borders

In 2002, a group of engineering students established a Montana State University student chapter of Engineers Without Borders–USA, and in 2003 accepted Omyonga's proposal for a partnership to address water and sanitation concerns at the primary schools of Khwisero. Like other Engineers Without Borders–USA chapters, EWB-MSU provides engineering services and generates financial resources for student travel and construction of facilities. But unlike other chapters, Montana State's project (working with a multitude

of schools without a pre-established local organization with the same mission) has prioritized building long-term and sustainable relationships across race, class, and cultural differences. Indeed, Montana State's chapter has embarked on an ambitious development strategy whose success depends on securing the ongoing trust of, and collaboration with, the people of Khwisero. By recognizing that successful project implementation is multifaceted and fraught with non-technical impediments, EWB-MSU has morphed from its engineering-focused beginnings nearly a decade ago, into an award-winning, 70-member, interdisciplinary, student-led organization focused on university-community engagement.

A strong commitment to fostering social change and development from the grassroots is the guiding principle of EWB-MSU's current strategy. EWB-MSU now enters every context and new project as a partner, offering technical expertise but taking guidance from the community to ensure that the expertise is both appropriate and well utilized. EWB-MSU's mission embodies a democratic reflexivity, acknowledging the power differentials inherent in partnerships, and committing to disrupting the hierarchies that often confound mainstream development work. EWB-MSU has followed through on this commitment by establishing community advisory boards and involving Khwisero community members in the decision-making phases of all projects. EWB-MSU students prepare for travel to Kenya by studying the history, cultures, and economics of the region as well as engaging in deep reflection about how their relative privilege may manifest itself in the relationships they are building with Kenyan partners.

The next section describes, more or less chronologically, how Montana State's Engineers Without Borders chapter has used a reflexive learning process, building on successes and learning from mistakes, to become a leader in student-led university-community engagement.

Montana State University's Engineers Without Borders Chapter: Program Details

In 2003, when Montana State's Engineers Without Borders chapter accepted Omyonga's proposal to provide water and sanitation to the primary schools of Khwisero, the chapter had six members (all engineering students). Few faculty members or administrators were aware of the organization's existence, and students sought financial assistance from the local Bozeman business community. Local funding allowed a two-person team to make an initial visit to Khwisero in 2004. By interviewing Omyonga, local school district officials, and headmasters of

several schools, the team concluded that potable water would best be delivered to schools via the drilling of deep-well boreholes. Additional fundraising allowed student-centered teams to return and drill boreholes at Omyonga's childhood school in 2006, and at a second school in 2007. While the chapter's membership grew to approximately 15 students and a faculty mentor during this time, the organization remained predominantly focused on technical engineering projects. Involvement by the Khwisero community happened primarily via the personal contacts of Omyonga. There was a growing awareness, however, that the scope of the project required a greater diversity of talents and perspectives, in both Bozeman and Khwisero.

Multidisciplinary Student Involvement

The 2007–2008 academic year was a turning point for the organization. Several EWB-MSU students were enrolled in the University Honors Program, where high-achieving students interact in small seminar courses about timely social, political, and economic topics. EWB-MSU began to emerge as a topic in seminar discussions. Through the fledgling success of the chapter and those seminar interactions, a larger and more diverse generation of enthusiastic students became actively involved in the organization.

Particularly noteworthy was the involvement of students majoring in sociology and in film. For example, in 2006, Jaime Jelenchick, a graduate student in film studies, traveled to Kenya with the Montana State EWB-USA chapter. She later directed and produced *The Water Carriers*, an award-winning film about a friendship that developed between an EWB-MSU student and a member of the Khwisero community. The film's premiere in 2007 sparked an even greater awareness of EWB-MSU activities on campus and in the Bozeman community. A larger and more diverse student base within the chapter allowed for an expansion of the organization's engagement mission. Sociology students, specifically, brought an awareness of the need to better understand the challenges of working across cultural and power differentials. Students also attracted two new faculty advisors—a professor of civil engineering and an assistant professor of sociology—whose commitments further fueled student enthusiasm and organizational growth.

Funding the Organization

Perhaps the most immediate organizational impact of greater student involvement and Bozeman community awareness was an increase in fundraising capacity. Fundraising became a way for

non-engineering majors to play an active role in the infrastructural development of the projects, and provided a mechanism for under-classmen to assume leadership roles. Fundraising events such as the Clean Water for Kenya Jubilee (a dinner featuring African cuisine with a live and silent auction), and the Junk to Funk Fashion Show (in which students create and don outfits from recycled material) featuring the Catwalk to Clean Water have since become annual events, which raise approximately $30,000 per year and serve to educate the local Montana community about EWB-MSU work in Kenya. The increase in fundraising has allowed more students to travel to Khwisero and to stay for longer periods (up to 5 months), greatly strengthening the base of trust and relationships between students and the Khwisero community. In summer 2008, for example, 14 students and one faculty advisor traveled there. During their stay three boreholes were drilled, and the first composting latrine was constructed.

Refining Community Needs Assessment

During this time, it became apparent that there was no mecha-nism for identifying which Khwisero schools had the greatest need for water and sanitation. The "community" still consisted pri-marily of associates of Omyonga, and the five schools with which EWB-MSU had worked. In an attempt to broaden Kenyan partici-pation and support, the chapter established an Engineers Without Borders–Kenya Board to develop a mechanism to select schools. The ongoing membership of the board consists of nine commu-nity members representing the school district, headmasters of the first two schools that received boreholes, and members of the local health and water conservation boards. With help from EWB-MSU students, the board developed a survey, which was sent to all schools to collect information on water sources, distances to wells, and sanitation facilities. The board members analyzed the data and ranked the schools based on a balance of need and feasibility of implementation and maintenance. Then, based on the availability of funds, the board selected schools for boreholes or latrines. Board members work with leaders of the selected schools to prepare them for the ensuing EWB-MSU student team visits and construction.

Growth of the Organization

The growth of EWB-MSU has continued (Figure 1). The chapter's membership includes almost 70 students, representing all seven of the colleges on the Montana State–Bozeman campus.

Fundraising has expanded to include submitting grant proposals to national philanthropic organizations. Cumulative fundraising from the organization's founding in 2002 through 2011 has exceeded $500,000, with more than $200,000 raised in 2011 alone. A total of 89 Montana State students have traveled to collaborate with the people of Khwisero in their development efforts. Wells have been drilled at seven primary schools, and a rain catchment system constructed at another. Additional completed projects include 10 composting latrines at nine schools, a biogas latrine, and a distribution pipeline linking one of the wells drilled in 2008 to additional schools. EWB-MSU's work in Khwisero also recently added a public health element. In 2009, Montana State pre-med and nursing students pioneered an eyeglass clinic workshop, where eyeglasses donated from the Bozeman community were distributed by a Kenyan optometrist to Khwisero's schools. This has become an annual activity. Finally, an Engineers Without Borders fellows program has been created, designed to engage younger members of the Khwisero community. Fellows work directly with Montana State student travel teams, acting as guides and liaisons to the non-English-speaking populace, who are primarily older and have low levels of formal education. Water and sanitation education has come to be the core focus of interactions between students and the community. All of these initiatives have developed via collaborations between Montana State students and the Khwisero community. EWB-MSU's geographic reach now spans the entire Khwisero District (see Figure 2).
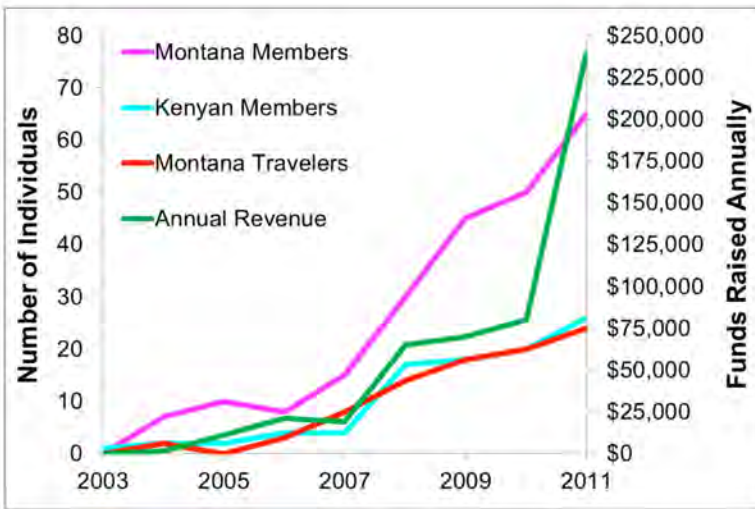
Figure 1. The growth of Montana State University's Engineers Without Borders chapter activities since inception. Note the rapid increase during the 2007–2008 academic year when the organization's focus transitioned from engineering-based service to interdisciplinary community engagement.
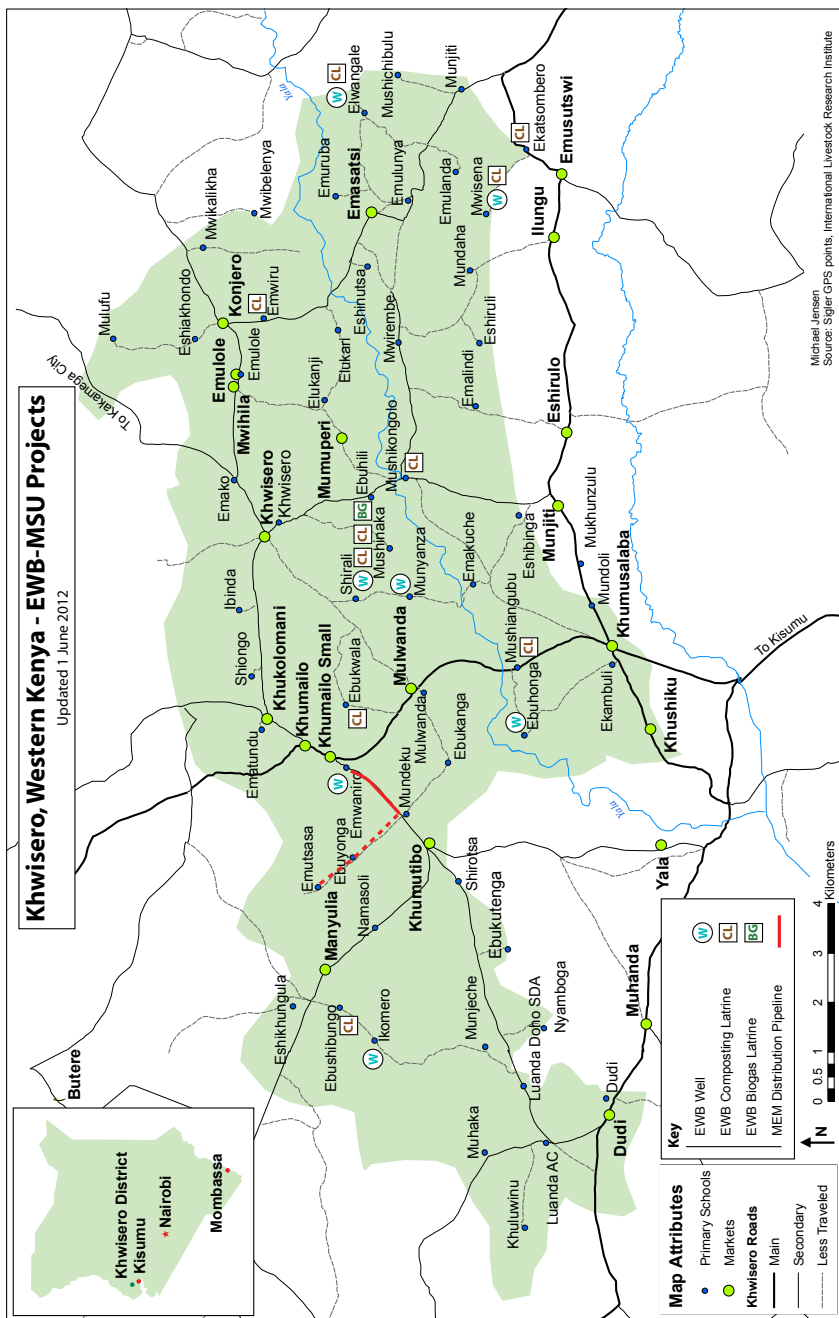
Figure 2. Khwisero, Western Kenya- EWB-MSU Projects

Core Values

EWB-MSU employs a community-based participatory approach *(Swantz, 2008)* to development work in Khwisero. The chapter entered Khwisero by invitation and continues to collaborate with local community members for the direction, method, and substance of its work. The process is often messy and iterative, and requires patience and persistence. However, the participants have learned that, at least in the context of this partnership, "messy" and "iterative" are essential to achieving long-term sustainability. The unique energy, reflexivity, and commitment of Montana State's students have been critical to maintaining patience and persistence throughout the messiness. Indeed, humility is a core value of EWB-MSU's work and its evaluation.

Practicing humility.

Humility means that members of Montana State's chapter of Engineers Without Borders are comfortable saying that they truly do not know what the best path is to sustainable development for the people of Khwisero, yet they are dedicated to working in solidarity with the people of Khwisero to figure it out *(see also Tervalon & Murray-García, 1998)*. Humility also means that they critically embrace the knowledge and wisdom of experienced scholars and development workers, and embrace the traditional knowledge and expertise of local community members. The importance of humility was not obvious at the beginning of the partnership. It took a few years for the participants to realize that things were not working as well as they had hoped, and that this was likely because *they* (the Montana State members), rather than the Khwisero community members, were dictating the managerial aspects of the partnership. Not enough was being done to engage the community.

Valuing local knowledge.

EWB-MSU experienced a turning point when its members realized the value of local knowledge. It has since been acknowledged that localized solutions, while they may not always seem like the best solutions from the standpoint of development "experts" in the global North, tend to work best in Khwisero. Members of EWB-MSU now prioritize the harvesting of local knowledge, energy, and expertise through collaboration. Additionally, they have come to celebrate sporadic tensions with their Kenyan partners as constructive power shifts.

Being attuned to power differentials.

Acknowledging the complexities of power is essential in the context of the partnership's work. Together the partners have embarked on a collaborative path with the goal of disrupting the entrenched inequalities that are the legacy of colonialism, of decades of failed "Western" development projects, and the inherited privilege of United States-born and -based educators and students *(McMichael, 2012)*. Knowing that power differentials cannot be easily or totally erased *(Dodson, Piatelli, & Schmalzbauer, 2007; Stacy, 1991)*, the partners recognize that the intimacy of true collaboration can put people at risk of being manipulated, exploited, or betrayed *(Behar, 1993)*. This is especially important to recognize in the context of Khwisero, which has a history of failed aid projects, alluded to below, that were employed by well-meaning Kenyans, Europeans, and Americans in partnership with multi-lateral and bi-lateral development/aid organizations.

The guiding principles of humility, valuing local knowledge, and addressing entrenched power inequalities direct not only the program's planning, but also its evaluation. A long-term commitment to the partnership has led to ongoing reflection.

Measuring the Impact of Montana State University's Engineers Without Borders Partnership with the Community of Khwisero

With the guiding principles outlined above as a foundation, the authors are overseeing an ongoing process to evaluate the success of work performed by Montana State University's Engineers Without Borders. Student researchers, with faculty supervision, undertake an action research approach to their work in Kenya, which aims to alleviate the traditional disconnect between social science research and praxis *(Greenwood & Levin, 2000)*. Action research entails using multiple methods, both quantitative and qualitative, to measure and explore phenomena, then using the resulting findings to guide community-based development and social change initiatives *(Boser, 2006; Cornwall & Jewkes, 1995; Kemmis & McTaggart, 2005; Maiter, Simich, Jacobson, & Wise, 2008)*. EWB-MSU employs action research with the specific purpose of ensuring that development projects are being performed in a way that is collaborative, democratic, and sustainable.

Quantitatively, EWB-MSU students have looked at the actual project outputs: for example, how many latrines and pipelines have been installed. They have employed large-scale household

surveys ($n = 750$) to obtain information about water usage in the community. These quantitative methods have been important for ascertaining the level of achievement of the organization's tangible, material goals.

However, many aspects of the work cannot be quantified, and are not tangible. For example, and perhaps most important, EWB-MSU members want to know how the installed pipelines and latrines, and the students' presence and work in Khwisero, have influenced the daily lives of people in the community. What do water and sanitation mean to the people of Khwisero? To this end, student researchers have utilized focus groups, interviews, and participant ethnography. In both the quantitative and qualitative approaches, they have engaged community members at every phase of data collection and analysis. In the subsections below, the specific methods used and how each method has furthered the community engagement aspects of the partnership are outlined. The student researchers who have led the assessment projects have completed human subjects training, and have had their research protocols reviewed and certified by Montana State University's Institutional Review Board.

Household Surveys

In 2008, following 4 years of informal surveying of Khwisero households, EWB-MSU began utilizing interview-assisted household surveys to gain information on the demographic and ritual usages of water in Khwisero. The goal of the surveys was to determine who collects water (gender and age), how often they collect, how far they walk to get water, and how much time they spend collecting water.

Montana State survey sociologists helped create the survey instrument. The survey was piloted among Montana-based Engineers Without Borders members who had spent time in Khwisero, and who could intuit general problems with the survey length, format, and substance. The revised instrument was translated by three of the Kenyan partners to ensure that meaning was not lost in translation. After several iterations, Montana State sociology students trained Khwisero community members to orchestrate the survey's administration.

Implementation of the survey by local community surveyors served practical and philosophical purposes. From a practical standpoint, local interviewers ensured that the survey questions were communicated clearly and accurately. Because respondents

are often more comfortable with interviewers who are "insiders," it was hoped that local interviewers would boost data reliability. More important, however, training local community members to employ the survey helped engage the Kenyan partners in the program. The community members have given critical input and feedback throughout, and were the leaders in administering the survey.

Data entry and analysis of the survey results are an ongoing project for students at Montana State, who are exploring ways to train their Kenyan partners in data analysis techniques. They are currently in discussions with sociologists at Maseno University, which is near Khwisero, to establish a research collaboration in hopes of transferring the data analysis and interpretation from Montana State to Maseno. Montana State students are also in discussion with sociology faculty and administrators at Montana State about how to develop a data analysis course focusing on the Khwisero survey data.

Focus Groups

Household surveys provide data about basic water usage in Khwisero, but survey methods are not conducive to uncovering the meaning of water usage in the daily lives of community members. Focus groups have been used to explore this question of meaning as well as to investigate how local people perceive the work and the presence of Montana State students and faculty members in their community. Focus groups are especially good for entering into conversations with those who might be uncomfortable in one-on-one interaction. They are meant to serve as a safe space for open communication and sharing, which can be especially important when there are power differentials between the researchers and participants *(Madriz, 2000; Morgan, 1988)*. Focus groups can also act as an interpretive method, in which researchers bring preliminary findings back to the community to engage in co-analysis of the data *(Dodson & Schmalzbauer, 2005)*. As a safe space and as an interpretive method, focus groups help shift power and redefine "expert," both of which are at the heart of the EWB-MSU action research approach. Focus groups are typically semi-structured, meaning that the group leader or leaders will use an interview script to guide the conversation but may deviate if a tangent is deemed important. In this way, participants influence the direction and depth of the conversation.

EWB-MSU members learned from observations over years in the community, as well as from the international development literature *(Beneria 2003; Chant, 1995; Moser, 1993)*, that women are the most important carriers of knowledge in terms of water usage and family well-being. Therefore, in 2008, EWB-MSU students, working closely with their Kenyan team members, trained the women from the community how to conduct focus groups and followed the women's lead in terms of recruiting participants. They then organized four formal focus groups, one of older women, one of younger women, and two of mixed-age women. The focus group sessions were digitally recorded, and the sociology students who were part of the focus group process transcribed each session. The transcripts have been block coded, but detailed analysis has yet to be performed. Recognizing the importance of the data from these focus groups, EWB-MSU sociology students are currently revisiting their analysis, coding for key themes in the development literature such as sustainability, empowerment, gender division of labor, and sense of community ownership. They are also coding for themes that they have observed during their work in the development field. These themes include aspirational shifts, public health knowledge, and generational knowledge transmission.

EWB-MSU members recognize the critical importance of ongoing qualitative data assessment to the success of their project. They have come to realize that project barriers are more often social than technical, and that only through an in-depth understanding of community attitudes, aspirations, and concerns about water usage will the project be able to reach its full potential, and, most important, be sustained. A formidable challenge to assessing the impact of the project has been finding the space and time to step back from the hands-on engineering work to reflect on what has been done thus far, and then to determine whether or not the current direction of the partnership needs altering. Assessment is a top priority for the 2012–2013 project cycle.

Participant Ethnography

A third method employed to better understand the outcomes of the partnership has been ethnography, a method of in-depth observation *(Gobo, 2008)*. In participant ethnography, students take part in the rituals and situations that they are observing. Unlike typical participants, ethnographers take in-depth field notes on their observations, staying deeply attuned to the sights, smells, sounds, and emotions of a situation. Basically, ethnographers pay hyper-attention to their environment, and they record their every observation *(Hesse-Biber & Leavy, 2011)*. At its inception, and through

much of the 20th century, ethnography was a colonialist project, in which anthropologists from the "West" spent extended periods of time trying to understand the "exotic" peoples in developing countries. EWB-MSU members recognize the Eurocentrism inherent in traditional ethnography, and approach their observations reflexively, understanding that they are viewing the lives of people in Khwisero through a specific lens. Significantly, they have entered social contexts only upon invitation, and with full disclosure of their desire to better understand the workings of the community.

Following these ethics, sociology and anthropology students from Montana State have embedded themselves in certain households and rituals in Khwisero in order to intensively observe the relationships between water collection and use, and Kenyan daily life. In all cases involving such participant observation, the students have obtained consent from those being observed.

In the summers of 2009 and 2010, anthropology and sociology student Megan Malone undertook an ethnographic study of the ritual of water carrying in Khwisero. She closely followed three women through their daily routines. In addition to observing them and participating in their routines when appropriate (Megan learned early on that water carrying is a strenuous physical task, and shifted from participation to observation to interviewing about water carrying as her time in Kenya went on), Megan assisted the women in keeping weekly time diaries in which they documented how they spent each hour of the day. Megan worked with each woman to conceptualize time in a way that made sense to each. For example, instead of saying "from 6 a.m. to 8 a.m.," they documented what they did between "sunrise and breakfast."

Megan worked with each woman to analyze the time diaries. These diaries became platforms for in-depth discussions about the meanings of "work" and "free time." The combination of diaries, observation, and interviews provided rich data about the centrality of water collection in the lives of women and girls in the community.

In 2010, Eric Dietrich, a civil engineering student, was funded through Montana State's Undergraduate Scholars Program to perform an ethnographic study of the attitudes of local Khwisero residents toward community-based development methods. Through his observations, he uncovered layers of sociological and psychological complexities, which he tied back to colonialism and decades of failed development projects. His study gave program participants a better understanding of how important history is to current development efforts. Indeed, gaining deeper knowledge about the outlooks and thinking of the Kenyan partners has

strengthened the students' commitment to and respect for the Khwisero community.

Preliminary Findings

By triangulating their methods, student and faculty researchers from Montana State's chapter of Engineers Without Borders have begun to identify community needs in Khwisero as well as the potential obstacles and opportunities for meeting these needs. Equally important, the students' commitment to reflexive critical thinking has brought attention to the ways in which EWB-MSU members' work in Kenya has had an impact on Montana State University, as well as what still needs to be done to make the relationship between Montana and Khwisero stronger and more fruitful.

Impact on the Khwisero Community

The quantitative surveys show that as a direct result of Montana State's Engineers Without Borders work, 3,500 Khwisero students, teachers, and staff now enjoy immediate access to clean water and sanitation facilities. The surveys also suggest that surrounding communities are also utilizing the wells, meaning that thousands more enjoy the direct benefits of a clean water supply. Ethnographic observation and data from the focus groups suggest that for some Khwisero youth, the time they previously spent fetching water is now spent in school. Follow-up surveying and in-depth interviewing is needed to measure how widespread the impact of the wells has been on educational participation. More research is also needed to further explore the gender impact of the water projects. Researchers hypothesize that because fetching water is the traditional role of women, gender equity in education is being enhanced. A second and related hypothesis is that because water is now hand-pumped rather than fetched, boys as well as girls participate, further fostering a culture of gender equity.

Ethnographic observation has lent strength to both hypotheses, yet surveys are needed to test them. A new round of surveying in summer 2013 will focus on generational and gender aspects of water usage. EWB-MSU researchers also intend to employ a time-diary method *(Heymann, 2000)* to better quantify the time shifts that have occurred from water collection to schooling, and to better understand how these time shifts break down by age and gender.

As noted above, Khwisero has been scarred by decades of failed attempts by aid organizations to enhance access to potable water. Most schools have broken rain collection systems, and

dozens of hand-dug wells stand abandoned due to lack of maintenance, vandalism, or stolen pump components. Most residents do not even remember which aid organization developed these projects. Student members of EWB-MSU recognized early in their work that a lack of community ownership was a major contributing factor to past failures. This recognition was confirmed by the focus groups and ethnographic research done between 2008 and 2012, in which Khwisero residents deferred to U.S.-based Engineers Without Borders "experts," and expressed doubt in their own abilities. Interviews, focus groups, and ethnographic observation also brought to light a lack of understanding of and enthusiasm for volunteerism. Frantz Fanon *(1963)* in his scathing critique of French colonialism in Northern Africa, emphasized that the psychological scars of colonialism are as important to the well-being of people in "newly independent" nation-states as the physical trauma of colonialism. These psychological scars include damaged individual psyches from centuries of colonial oppression and messages of native inferiority. This theme surfaced predominantly in Eric Dietrich's formal and informal field interviews. He also learned through his field research that traditional development projects compounded local peoples' feelings of marginalization and disengagement.

To subvert the top-down practice of past development attempts and in an attempt to heal colonial scars, EWB-MSU participants engage in grassroots collaboration, living and working in Khwisero, alongside their Kenyan partners. In this spirit, EWB-MSU leaders from Montana and Kenya have also instituted barazas, or local meetings, to encourage local farmers, mothers, and other lay people to take leadership positions in EWB-MSU's projects. This has instilled pride in the water projects, which has inspired local community members to take responsibility for maintaining safety of the wells and water. Through all of these efforts, the Engineers Without Borders–Khwisero partnership is working to rebuild community ties that were eroded by the apathy, corruption, and cronyism that are the legacy of paternalistic development efforts *(Easterly, 2006)*. Omyonga states,

> When we see Montana State students come here and work so hard, it means that somebody cares about us, so we must be friends. And it shows us we can do more for ourselves. A wonderful cultural exchange comes about when we play, work, and stay together. *(R. Omyonga, personal communication, 2010)*.

Today, evidence of increased Khwisero community engagement abounds, and includes the nine-member Engineers Without Borders–Kenya Board. Individual schools must apply to this board for EWB-MSU assistance, ensuring that those schools are able to maintain a project. Water-user committees at schools collect nominal fees to pay for repairs, and residents volunteer for training in well and latrine maintenance. Some school communities have organized so successfully that they have independently constructed composting latrines. The Engineers Without Borders–Kenya Board, in collaboration with EWB-MSU members in Montana, successfully petitioned the local Minister of Parliament for a cost-sharing agreement on the pipeline constructed in 2011. Jackson Nashitsakha, a farmer and member of the Engineers Without Borders–Kenya Board, organized his local community, and successfully applied for an additional Kenyan government grant to develop another water distribution pipeline.

Perhaps the greatest evidence of EWB-MSU's impact on the community comes from the intense bonds that have formed between EWB-MSU students and Khwisero residents. For example, Nashitsakha named his daughter Megan, in honor of student Megan Malone. In contrast to traditional development projects that operated on short timelines, EWB-MSU is committed to being in Khwisero for many years, continuing to foster cross-border collaboration.

Impacts on the Montana State University Community

The regional, and now national, recognition of EWB-MSU has enhanced Montana State's recruitment success, opportunities for students, student research, service-learning, interdisciplinary collaboration, and local community engagement. It has also given Montana State students and community members a better sense of themselves as citizens of an increasingly globalized world.

Recruitment.

EWB-MSU has helped recruit students. Notably, the number of female EWB-MSU members is higher than the number of women in the overall demographic profile of the College of Engineering. Several EWB-MSU students have indicated that exposure during recruitment, or in some cases via high school satellite chapters that EWB-MSU has developed, was a major reason for selecting Montana State above other institutions.

Opportunities for students.

The overall scholarship of EWB-MSU students is above the institutional average; many are part of the University Honors Program and are recipients of prestigious academic awards. The leadership of EWB-MSU students extends beyond organizational boundaries. EWB-MSU students also serve as officers in ASMSU (Montana State's student government body), are editors of the student newspaper, lead initiatives to develop curricula germane to the organization's outreach mission, and have represented the university at state legislative sessions. For example, Joe Thiel, a former Project Manager of Engineers Without Borders,was selected as the student representative to the Montana University System Board of Regents in 2011. Katy Hansen, an EWB-MSU graduate, became a Rhodes Scholar, and another, Hillary Fabisch, a Gates-Cambridge Scholar. Two others were Truman Scholarship finalists. In short, EWB-MSU has become a mechanism for Montana State to recruit, retain, and engage nationally recognized students of the highest caliber.

Student research.

Students in several majors have dedicated their time in Khwisero to conducting research through the Montana State Undergraduate Scholars Program. Select engineering and sociology classes now incorporate EWB-MSU goals in their learning objectives. For example, members of the EWB-MSU student board acted as clients in a civil engineering capstone course. The students proposed a problem requiring an engineering solution (in this case, getting water to a school identified as a high priority by the Engineers Without Borders–Kenya Board but for which a well was geologically impractical). The capstone course's students worked in teams to design alternatives. The EWB-MSU students subsequently presented the alternatives to the Khwisero schools' management committee, which adopted a rain catchment system for implementation. The system was built in 2011.

Service-learning at Montana State.

Indeed, EWB-MSU has been a leader in service-learning on campus, pushing beyond "service" to global action. Engineering and sociology students now study engineering and international development theories, and link them to the work they are doing in Kenya. In the words of social scientists, students are linking theory and practice, and in doing so they are not only providing a service (certainly building water systems is a service), but also engaging in

a transnational, transcultural collaboration. Thus, the service component of service-learning in the EWB-MSU model is happening transnationally and collaboratively. All parties are serving, and all parties are learning.

Interdisciplinary collaboration.

EWB-MSU has also become a model for interdisciplinary collaboration. As an example, in spring 2011, three professors (a sociologist, a civil engineer, and a professor of modern languages and literatures) piloted an interdisciplinary class, Engineering in a Global Context, in which students preparing for travel to Khwisero studied the history, politics, and cultures of Kenya as well as the components of community-based development approaches.

Local community engagement.

EWB-MSU members have engaged the local community through several innovative fundraising activities, increasing Montanans' awareness of conditions in Khwisero and the global south. Members have constructed engineering displays at the Bozeman Children's Museum, helped develop a Dinosaur Playground at the Gallatin County Regional Park, constructed three handicap access ramps and a playground on the Crow and Northern Cheyenne Indian Reservations, actively participated in outreach programs (e.g., Science Olympiad, Bridges and Dams K-12), set up workshops for Montana State Extension 4-H Congresses, and developed a pen-pal program between grade schools in Khwisero and Gallatin County, Montana. EWB-MSU students also routinely mentor regional K-12 school youth. One EWB-MSU high school satellite chapter raised over $25,000 for the boreholes in Khwisero. Two Bozeman High School students traveled with EWB-MSU to Khwisero in 2009, and two more again in 2010. In 2012, EWB-MSU students began working with the Crow Nation to test well water quality across the reservation. In summary, EWB-MSU students are fond of saying that they are engaged in "a social project with an engineering component."

Conclusion

Montana State University's Engineers Without Borders organization did not start as a top-down university initiative. After the tremendous growth of the organization, and the increase in the diversity of participating students, the organization came to be recognized on campus as one model of university-community

engagement scholarship. The Engineers Without Borders–Khwisero partnership has since had a transformational effect on the Montana State community.

In 2010, President Waded Cruzado arrived at Montana State with a passionate commitment to invigorate the university's engagement mission, asserting it as central to the university's identity and responsibility as a land-grant institution. EWB-MSU was positioned perfectly to take a leadership role in this endeavor. The administration responded by showcasing EWB-MSU in institutional development initiatives. For example, the organization was one of several community-based initiatives that were recognized by Montana State in seeking the Carnegie Community Engagement Classification designation. The energy and excitement that EWB-MSU brought to the campus and community led Montana State administrators to nominate it for the 2011 Outreach Scholarship/W. K. Kellogg Foundation Engagement Award (Western region). A newly established leadership and engagement working group will provide advice and recommendations for the development of an organizational structure needed for future growth and success of community engagement scholarship on campus.

The success of EWB-MSU serves as a model for partnerships between universities and communities. Three lessons have been learned from this program that may be helpful to readers in creating university-community partnerships: the importance of student-led initiatives, of interdisciplinary collaborations, and of building long-term relationships with the community partner.

Student-Led Initiatives

It is important to note that the current success of Montana State's Engineers Without Borders chapter was not created from a strategic plan, a faculty initiative, or an established organization within the Khwisero or Montana State communities. In 2003, it would have been easy to conclude that success was highly unlikely (in fact, the lead author so concluded at the time); the collaboration seemed nothing more than one man's dream to improve conditions in his birth community and the naïve but passionate interests of a group of students half a world away. But that initial analysis ignored what was, and still is, at the core of EWB-MSU's success: the unbridled enthusiasm of a self-selecting set of students willing to work as a team for a cause in which they believe, and their ability to draw others, including peers and appropriate mentors, to their cause. The story of EWB-MSU's success is really a story of how students

can use experiential learning, and adapt, incorporate, and apply lessons learned to meet their engagement goals. An important lesson for faculty and administrators is that successful community engagement can be achieved by allowing appropriately motivated students the latitude to define the community with which they want to work and how they will work in the community, hence allowing students the space to make mistakes—true experiential learning—while providing guidance to keep mistakes to a minimum. In fact, experience suggests that allowing students to be at the forefront of the EWB-MSU project more effectively engages the community, as students' altruism and genuine humility lay an organic foundation for trust and mutual learning.

All EWB-MSU decisions are made by a student board, elected by student members. A faculty advisor serves as a board member. This board communicates on a weekly basis with the Engineers Without Borders–Kenya Board to plan future projects and develop better integration of student travel teams within the Khwisero community. This arrangement has created student leaders with the confidence to push for the integration of service and global learning initiatives into their programs of study, and has given students insight into how to make these initiatives more effective. In response, administrators have invited EWB-MSU leaders to sit on academic committees charged with improving outreach education.

Indeed, the community engagement of the Montana State chapter of Engineers Without Borders offers a model for successful student-led, university-community engagement. The model requires that the university provide the students with

- a forum for students to connect with communities;

- support to build a long-term community partnership;

- resources to foster leadership skills; and

- academic guidance and support to meet the engagement objectives they and the community have identified.

In short, the university must allow students and community partners the latitude to mutually define the goals and objectives of the engagement. The university provides the support structure and resources that are critical for the relationship to flourish. In the Montana State–Khwisero partnership, community members and faculty members without direct ties to EWB-MSU continue to respond enthusiastically to student passion and leadership.

Interdisciplinarity

The experience of EWB-MSU points to the importance of nurturing true interdisciplinarity. Although there is discussion within the disciplines of engineering and the social sciences about the need for more interdisciplinary collaborations, it is still rare for engineering students and faculty members to engage directly with social science students and faculty. And yet, when the space is created for this to occur, exciting things happen. Students and faculty can literally begin to see the world in new ways. This is not to say that interdisciplinary work is not messy. It is! But out of the complexity of such collaborations emerge new and more sophisticated lenses through which to analyze problems and strategize solutions.

Long-Term Relationships

Finally, a significant lesson to glean from Montana State University's Engineers Without Borders experience is the importance of building long-term community partnerships. EWB-MSU's relationship with Khwisero, Kenya, has evolved over 8 years. The Kenyan partners know that Montana State is not going anywhere. The partners share mutual commitment to each other that has provided the space to develop the partnership organically. When tensions arise over decision-making processes or project priorities, this long-term commitment provides the security to have the difficult conversations that true collaboration necessitates. It is often due to these difficult discussions that the partnership evolves to the next level. Because of the trust and commitment by both partners, they are able to challenge each other, to allow project roles to shift and leadership to change. For example, today empowerment is happening in Khwisero, where enthusiastic new leaders are emerging who are affecting traditional decision-making processes and structures. It is because of mutual commitment that power can and does shift, and when this happens, true engagement is under way.

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BOOK REVIEWS

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Altbach, P. G., Gumport, P. J., & Berdahl, R. O. (Eds.). (2011). *American Higher Education in the Twenty-First Century: Social, Political and Economic Challenges* (3rd ed.). Baltimore, MD: The Johns Hopkins University Press.

Review by David J. Edelman

*T*his excellent compendium is an indispensable reference volume for those concerned about higher education philosophy, theory, and practice. It provides a cogent review of the critical historical basis to university outreach and engagement. As the third edition of a book that first appeared in 1995 and again in 2005, it updates the material of the previous editions, and points to likely future developments in higher education from the perspective of 2011. Since changes in higher education are occurring at an ever faster pace, a fourth edition would be expected in 5 or 10 years. Having the entire series on one's reference shelf would provide a comprehensive history of higher education with a discussion of the most pertinent issues at specific spaced points in time.

American Higher Education in the Twenty-First Century is divided into four parts: the setting, external forces, the academic community, and central issues for the 21st century. Each part contains three to six detailed, well-written, scholarly chapters. The book is well-organized and relatively easy to read, although one would not be likely to read it straight through. Rather, one would read particular chapters for specific research information or to provide content for lectures. Consequently, some chapters make general points that are discussed in detail in other chapters. Each chapter thus can stand alone as well as contribute to the fabric of an ambitious chronicle of higher education in America since the 17th century. Roger Geiger's chapter on what he refers to as the ten generations of American higher education is particularly useful. He presents and aggregates various processes of change over time to discern fundamental changes in the entire system of U.S. higher education. In addition, each chapter is meticulously cited, and provides extensive notes to enable academics and students to pursue further research on the issues it raises.

Thus, the book gives the reader the luxury of having the historical record of American academia in one volume. It presents the social, political, and economic challenges to higher education over time so that current issues can be understood and confronted within the context of accumulated experience. Chapters on the development of American higher education, autonomy and accountability,

academic freedom, the roles of the federal government and the states, the legal environment, external constituencies, professors, students, and university presidents, which form the first three parts of the volume, provide the historical lens through which the reader can internalize the book's fourth part dealing with present-day challenges and future actions. The challenges to be confronted (e.g., financing higher education, coping with rapid technological change in teaching and research, integration of graduate education with research, curriculum reform, market developments in higher education, the diversity imperative) point to the need for an increasing effort by university administrators and faculty members regarding outreach to and engagement with constituencies whose importance to the university and within society, as well as their interrelationships, are ever changing. The constituencies include legislators at both national and state levels who demand accountability, and provide less funding to universities each year; parents who are hard pressed to pay for their children to attend college; and undergraduate and graduate students who are increasingly diverse, not only in the traditional differences of race, ethnicity, and gender, but also in immigration status, English language ability, culture, religion, age, and sexual orientation.

Consequently, Part 4 of the book is the most salient. It provides fodder for passionate discussion among educators, administrators, and students. Although the first three parts are extremely useful, the part on 21st-century issues comes alive. Daryl G. Smith's chapter on changes and the future outlook for diversity in higher education is noteworthy. Its approach has an edge that some readers may consider too political. The chapter will stimulate thought and discussion.

A little more "point of view" in each of the chapters, rather than their impartial and somewhat staid tone, would have made the book special indeed. Given the magnitude of challenges to higher education in this century, a book that generates controversy through differing viewpoints on the same set of issues, and simultaneously presents impeccable academic work, would be a major contribution. This is, however, a minor criticism of an impressive volume that those concerned with the future of American colleges and universities should acquire.

About the Reviewer

David J. Edelman is a professor of planning at the University of Cincinnati. His research interests include urban environmental management, energy policy planning, development planning

and management, environmentally sensitive planning and urban design, and international planning. He earned his bachelor's degree in history from the University of Rochester, and his master's degree in city and regional planning and his Ph.D. in policy planning and regional analysis from Cornell University.

Acknowledgment

Yankelovich, D., & Friedman, W. (Eds.). (2010). *Toward Wiser Public Judgment*. Nashville, TN: Vanderbilt University Press.

Review by Timothy J. Shaffer

We face public issues and challenges that are increasingly labeled "intractable." To address and respond to these problems, many have called for greater citizen participation in decision-making processes. However, individuals' lack of knowledge to make informed decisions about public issues often serves as an argument against greater citizen involvement. The public is uninformed, so the argument goes, and those in higher education have limited expectations of them. Further, information affecting us both individually and collectively typically comes through commercialized channels (e.g., media outlets) or from entrenched partisan camps (e.g., political parties, politically aligned think tanks and foundations). Nonetheless, work exists that offers insight into various organizations that have taken it upon themselves to engage the public to address this notion that citizens are unable to make decisions together.

Toward Wiser Public Judgment brings "up to date" the findings and insights of Daniel Yankelovich's *Coming to Public Judgment (1991)*. In both volumes, Yankelovich argues (along with others in the second volume) that citizens must "work through" complex issues, and must move beyond answers that are expedient but ineffective for challenging issues facing communities, states, and the nation. To do so, citizens must engage in "public learning" to make sense of conflicting and competing values. Standing in the way of this public learning are media that rely on public opinion polls to assess and understand the positions of citizens.

The book is organized in three parts:

1. an introduction to the concept of public judgment;

2. examples of the application of public judgment; and

3. next steps for strengthening impacts from public judgment.

The first part of the book includes a chapter by Yankelovich about how to achieve sounder public judgment, and then a further reflection on the topic in a dialogue between the book's two editors. Yankelovich builds on his work of the early 1990s in *Coming to Public Judgment* by stressing that relying on public opinion did little to help make "democracy flourish as it should" *(p. 11)*.

Public opinion dominates the United States' expert-focused culture. Many professionals within institutions—including higher education—often rely on assessments of public opinion without investing the time necessary to move beyond a snapshot and to actually engage in learning with others. Yankelovich departs from his earlier work and offers a framework based on the concept of the "public's learning curve," helping the reader understand more fully the ways in which citizens come to wiser public judgment.

Exercising sound judgment requires more time than complex and emotion-laden issues typically receive from media and experts, who often rush the process to come to resolution. Moving beyond uninformed and unorganized public opinion into the realm of public judgment is one of the biggest hurdles citizens face. When issues are complex and there is conflict, people need to go through what Yankelovich calls the learning curve, which includes three stages: (1) consciousness raising, (2) "working through," and (3) resolution *(pp. 18–19)*. The second stage, "working through," requires time, energy, and commitment, because it is here that citizens wrestle with the tensions present in the options and what these mean for them and for others. We, as a society, are good at raising consciousness and coming to resolution (although the results of these actions toward resolution are questionable). We are, however, "seriously lacking in institutions that can midwife the Stage II phase of *working through*" *(p. 19)*. This is the space in which higher education has an opportunity to function as an important institution in democracy.

More than simply providing information, institutions have a role to play in actually bringing citizens together to engage in deliberative discussions on what they care about, and on how to reconcile tensions attributable to these public issues. Rather than simply wishing for institutions to do this type of work, many within the land-grant system and the Cooperative Extension system have embraced this role in public life. Many others in higher education take seriously the belief that their scholarship is connected to communities dealing with "wicked" problems. Some examples from later chapters demonstrate how faculty members and Cooperative Extension educators have utilized particular processes and methods to work with communities to address contentious public issues.

The second part of the book focuses on the application of "working through" public issues through the work of the National Issues Forums, the Kettering Foundation, Public Agenda, and Viewpoint Learning, Inc. Each of these organizations approaches public judgment differently, but they all draw strongly on Yankelovich's work

and approach to conceptualizing—and implementing—work that takes seriously the voice and thought of citizens. They have also intentionally incorporated a public judgment framework into their efforts. This section of the book offers the reader an opportunity to listen to, and learn from, those who have been engaged in public judgment work in a sustained way. The National Issues Forums, for example, were created to challenge the dominant mode of adversarial public discourse *(p. 55)*. An important theme that emerges from the chapter on the National Issues Forums is the idea of "choice work" as well as "naming and framing" of public issues. Often, issues are "named and framed" by the media or content experts, leaving little work for citizens aside from agreeing with how an issue has been framed.

In their chapter focusing on the work of Public Agenda, Alison Kadlec and Will Friedman articulate a theory of change that goes beyond simply involving citizens in deliberative democratic work to position those doing public engagement within an iterative, multilevel process that creates conditions for citizens, local leaders, and organizations to "not only work *through* issues but also actively work *on* them" *(p. 77)*. In this sense, this work is about engaging in meaningful relationships with multiple community actors to strengthen capacity to engage in public work. The authors' examples highlight how those engaged in this field work *with* communities—not *for* them—to create spaces in which citizens can participate in public life by deliberating, and then making decisions that lead to action.

Academic professionals engaged in public work can learn from the experiences of individuals in these various organizations that take seriously the commitment to work with citizens as they "name and frame" issues and take action to address challenges. The stories presented in the book tell of professionals taking time to work with communities—seeking ways forward in response to hard choices rather than turning to easy answers, or falling back on outside experts. In their chapter focusing on Viewpoint Learning, Steven A. Rosell and Heidi Gantwerk stress the importance of working through issues by using dialogue in a way that does not talk issues to death nor try to reach consensus when such a goal is artificial. Those engaged in public work should often be reminded of the importance of ensuring that tensions and disagreements are based on real differences, and not simply on misunderstanding or mistrust. Working through contentious issues does not mean that we reach consensus easily or at all. But recognizing and building on shared interests and values and dealing with differences in constructive ways can sometimes lead to unexpected common ground.

The third and final part of the book is a reflection by Will Friedman on two central questions on public judgment politics and deliberative democratic work: (1) How can we strengthen the impacts, both on policy making and on other forms of public problem solving, of efforts to help citizens come to public judgment? And, (2) How can this work, which has been manifested most strongly on the local level, become more central and meaningful to national politics *(pp. 7–8)*?

One limitation to this volume is that the examples are from nonprofit organizations that have missions somewhat different from those of higher education. While those in higher education share many interests with those seeking to increase civic capacity and engagement, the challenges facing this type of work in higher education offer their own dilemmas. These include professional expectations of faculty members, limited resources for engaging citizens in political processes and/or community-based scholarship (the Viewpoint Learning chapter highlights the costs associated with greater citizen participation), and the central question about the "proper" role for academic professionals in public higher education institutions doing engagement work.

Those interested in engaging in public life, and helping to create and sustain spaces in which community members might listen to, talk to, and learn from one another, have a great deal to learn from the stories collected within this volume. As two of the authors wrote, we are challenged because we live in a world that tends to focus on conflict and extreme views rather than on common ground. In one particular instance, citizens who participated in a dialogue with Viewpoint Learning were asked about the points of disagreement among them for a syndicated radio program. During the interview, the citizens (comprised of both Democrats and Republicans) stressed the commonalities they found rather than an expected rigid division of views. The interviewer did not know how to tell the story of what they had done because there was not an easily identifiable "wedge" issue *(pp. 125–126)*. A commitment to democracy may not satisfy short-term expectations for easy, media-oriented answers. However, this story illustrates that, given resources and opportunity, citizens can indeed exercise public judgment and accomplish serious public work.

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About the Reviewer

Timothy J. Shaffer is a Ph.D. candidate at Cornell University. His research interests include historical and contemporary forms of engagement by professionals from institutions such as land-grant universities and the USDA's former Program Study and Discussion initiative. Shaffer earned his bachelor's degree in theology from St. Bonaventure University, and his master's degrees in public administration and theological studies from the University of Dayton.

Acknowledgment

Review by Melvin B. Hill, Jr.

In the interest of full disclosure, I must admit at the outset that this book "had me at 'hello'" *(Jerry Maguire, 1996).*

*T*here are several reasons why *Civic Service: Service-Learning with State and Local Government Partners* by David P. Redlawsk, Tom Rice, and associates prompted an immediate positive response. First, it is a handsome volume, with a bright orange and purple jacket and large, bold, white lettering. Second, the title is clear and thoroughly descriptive, and includes some of my favorite words: "civic," "service," "learning," "state and local government," and "partners." And third, back in my youth I was the beneficiary of several service-learning opportunities with local governments that helped set the course for my life's work. Because of these early opportunities, I understand clearly the direct impact that positive service-learning experiences can have on one's career trajectory. I was anxious to read this book. I was not disappointed.

To ensure clarity of terminology, the authors begin by defining "service-learning" as "an educational method that combines out-of-classroom service experiences with reflective in-class instruction to enhance student learning and build stronger communities" *(p. 1)*. They acknowledge that there has been an explosion of interest in this subject over the past decade, and that much has already been written about it elsewhere. Appendix A provides examples of other service-learning projects, grouped into four major categories: service-learning with public schools, environmental projects, community planning and improvement, and policy research and legal issues. Appendix B provides a helpful list of current service-learning resources, although the authors admit that the list is not intended to be exhaustive.

Our understanding of service-learning today is broader than it used to be. These are not the service-learning projects that your father and mother had—or this author, for that matter! The academic rigor of today's service-learning projects is a new ingredient, and makes service-learning projects more appealing to faculty. Academic rigor is what distinguishes service-learning from traditional internships or experiential placements. Whereas traditional internships were valuable for both the students and the agencies served, they were generally student career-oriented, and were not

viewed as also having relevance as pedagogical tools. Today, service-learning seeks to offer students not only exposure to potential career opportunities, but also reflection and academic rigor. The growth of interest in the subject of service-learning stems at least in part from this shift in emphasis to academic enhancement. As Kay Barnes, former city manager of Kansas City, Missouri, and now Distinguished Professor of Public Leadership at Park University, says in the book's foreword, "An important component of those service-learning experiences is the integration of the hands-on activity with the academic rigor necessary to maximize the learning process" *(p. xi)*.

In this book, the authors wish to provide new information about a variety of successful service-learning programs and projects. It is a practical, "how-to" handbook, with excellent suggestions on how to put together a reflective service-learning program. It is a veritable cookbook of worthwhile service-learning projects. The authors make no apologies for its being about action and not theory. They are anxious to spread the word so that new opportunities for campus-community collaboration can be tapped. They believe in the importance and effectiveness of service-learning as a teaching tool and are unrepentant evangelists for their cause. Frankly, I think they will attract many converts.

The diversity, scope, depth, and sophistication of the projects discussed in this book are impressive. A few examples from the chapter titles themselves are illustrative:

- Linking Advanced Public Service-Learning and Community Participation with Environmental Analytical Chemistry: Lesson from Case Studies in Western New York

- Pandemic Flu Planning Support for the Commonwealth of Massachusetts

- Service-Learning in an Urban Public School District: The Buffalo Experience

- Students as Policy Researchers for State Legislatures

- Service-Learning in the Engineering Sciences

The variety of authors and contributors in this book is also impressive. They include not only political science professors, whom one would expect to find in a book on this topic, but also chemistry, math, and engineering professors; a public health official; a university president; a state legislator; an elementary school science teacher; a securities analyst; and several graduate and law students.

One reason for this wide array of perspectives is an excellent section that is part of each chapter called "Voices," in which members of a service-learning partnership provide their own reflections on the value of the project. It occurred to me that in future research projects of this type one might consider the possibility of co-authorship by faculty members, students, and community members. The community members may have no previous writing experience. Nevertheless, what they have to say is important. Student participants could help introduce community members to the value of documenting their thoughts and discoveries.

In this book, the authors focus on local and state governments as partners, and there are excellent reasons for doing so. First, they are accessible. With over 80,000 local government entities across the United States, at least one of them is within arm's reach of virtually every college or university. (When de Tocqueville talked about the states being "laboratories of democracy," he never envisioned that these laboratories would swell to an additional 80,000 local government entities!) Second, local governments offer great diversity, just by virtue of being public agencies. They offer diversity in scope, content, composition, and purpose. The genius of the American political system is its multiple entry points for citizen participation. Third, everyone in a public agency is presumably there to make things better; a positive reaction to overtures for service-learning projects is virtually assured. Of course, state and federal government agencies can also make good governmental partners.

The authors provide a useful diagram that shows five principal parties to a service-learning partnership with a government agency: university faculty, students, governmental agency members, educational administrators on campus, and community constituents. Each of these parties enters into service-learning partnerships with questions and concerns. For example, many faculty members may be reluctant to incorporate service-learning projects into their teaching. They may feel, perhaps justifiably, that service-learning pedagogy is not valued on campus. It may not "count" toward their promotion or tenure, for example. Concluding his review of C. R. Hale's book *Engaging Contradictions: Theory, Politics, and Methods of Activist Scholarship*, John Saltmarsh *(2010)* states that "the battle over epistemology is under way even as the institution remains locked into the tyranny of outdated and counterproductive structures and systems" *(p. 111)*.

Those committed to the outreach and engagement mission of the university are familiar with this struggle. Despite the growth and maturation of the outreach and engagement mission over the

years—from "public service" broadly conceived to Extension, out-reach, engagement, and now reciprocal partnerships—many still feel that they are outside the gates, throwing pebbles at windows. The message they have been trying to convey is a relatively simple one, namely, that authentic knowledge is generated outside the academy as well as inside. They do not believe that the university should sit at one end of a catapult and periodically toss its mis-sives of enlightenment, like sacks of potatoes, out to a waiting and grateful public. Instead, they have embraced the notion that knowl-edge about the community is best generated with input from, and preferably in partnership with, the community itself. After reading this excellent book, the reader may conclude that the tyranny John Saltmarsh talks about in his review is beginning to erode.

Students represent a second party of a service-learning rela-tionship. They, too, can bring preconceived notions about what to expect from service-learning projects. Thus meetings from the outset to clarify goals and expectations by the professor and the community partner are needed. What are the community partner's needs? How can they be addressed? What has been done already? What else can be accomplished? These and other practical ques-tions need to be addressed early on.

On the part of the community, there could be skepticism and even cynicism, if promises have been made in the past and not kept by the university. There may also be resentment of university people because of their perceived attitude. Some academic profes-sors may conduct themselves with an air of superiority. Not all professors are good listeners *(Hill, 1999)*. They have studied their subjects, have great knowledge, and are anxious to share it. They are professors, after all, and they like to profess! This does not always go over well in service-learning settings. If one message comes through loud and clear in all of the chapters in this book, it is the necessity of listening to what the community has to say. David Maurasse *(2006)* makes this case convincingly in his book *Listening to Harlem: Gentrification, Community, and Business.*

Educational administrators, in an ideal situation, can facili-tate and encourage new and innovative service-learning projects. Of course, they can also stand in the way and make these ser-vice-learning activities difficult and ineffective. As with all other members of the partnership, early communication about the parameters and expectations of a service-learning project is essen-tial. Educational administrators do not want to be the last to know about projects that are having a direct impact on the community.

For the governmental agencies themselves, the receptivity to having "outsiders" working in close proximity to the agency officials and employees will vary. The agency may have concerns about confidentiality of its work product or the lack of expertise of the service-learners. Those most likely to embrace service-learning projects may well be the ones who have benefitted from them in the past.

In any event, the best way to address these kinds of challenges is by breaking down some of the natural and inherent biases on campus and in the community through university faculty and administrators, governmental agencies, and community constituents working on a project shoulder to shoulder. This is what the chapters in this book document. As Barbara Seals, the student whose "innocent question" prompted the Hammond Heights community project described in Chapter 8, observed about the interaction of the students and the community, "they have made a connection by working and laughing together" *(p. 186)*.

The authors make an excellent point about the initiation of service-learning projects. They argue that they can actually begin at any point on the pentagon of principal parties. They can come from the professor, the students, the administrators on campus, the government agencies, or from the community itself. The book provides examples of each. As the authors state, "with an idea and a little energy, almost anyone can be the catalyst for a service-learning project" *(p. 6)*.

What are the key "lessons learned" from this book? Here are five.

1. Receptivity and institutional support. A key prerequisite of successful service-learning programs and projects is institutional support, from higher administration, from department heads, and from the faculty generally. Faculty members will simply not want to use service-learning projects in their courses unless they are valued in the academy.

2. Inclusion. A service-learning project cannot be a top-down or even an orchestrated campus-to-community initiative. Rather, it must represent a true partnership, where the partners are valued and included from the beginning of the project. Empowering the community without paternalism from the university partner can also present a challenge. In her fascinating chapter about how much difference "a white woman and her notebook" could make in a predominately black neighborhood, even in the face of institutional inertia and prejudice, Christine Pappas shares the

concerns of one citizen in the Hammond Heights, Oklahoma, project: "I am opposed to communities being treated like third world countries and that someone has to come in and take care of them. . . . Hammond Heights needs leadership within" *(p. 181)*.

3. Communication. The overarching theme of this book, as reflected by the title, is partnerships. As Scrooge and Marley could attest, partnerships face many difficulties, even among friends. Partnerships between campus and community face special challenges. First of all, it is not just a two-way partnership, but at least a three-way collaboration. As Frederic A. Waldstein points out in Chapter 12, "Triangulated Learning" at Wartburg College, with only two people involved (the instructor and the student), there are only two lines of communication that need to function effectively—professor to student and student to professor. When a community partner is brought into the mix, four more lines of communication are added, the two between the professor and the community partner and the two between the student and the community partner. When a governmental agency is added into the mix, the number of lines of communication keeps growing. Obviously, ongoing and effective communication is essential.

4. Reciprocity. Similar to the requirement of "inclusion," there must be respect among all members in a partnership. All must embrace a holistic approach to problem solving. As stated by the authors of Chapter 14, "Reciprocity: Creating a Model for Campus-Community Partnerships," when describing the Community Neighborhood Renaissance Project between the Apalachee Ridge Estates neighborhood in Tallahassee, Florida, the City of Tallahassee, and Florida State University, "The hallmark of a successful program is that all parties work as a team, engage in a holistic approach, and are proactive in regard to the associated structured activities" *(p. 308)*.

5. Sustainability. Successful service-learning projects are not one-shot propositions. They are not short-lived. Rather, they should be intended for the long term. It is not about doing a good deed for the day, and then moving on to another good deed. Rather, it is about long-term sustainability, so that the community and the campus can feel that they are engaged in a reciprocal relationship in which each party benefits from the collaboration over time. Sustaining service-learning projects is thus not for the faint of heart. Such projects require long-term institutional and programmatic commitment. Perhaps Samuel Johnson's *(1791)* advice to Sir Joshua Reynolds applies here: "A man, Sir, should keep his friendships in constant repair."

One additional important conclusion drawn from reading this book: Service-learning projects of this kind can benefit all students. As the authors of Chapter 2 note,

> one myth that was dispelled was that only the best students should take advantage of these opportunities . . . . Another valuable lesson was that the best students do not always make the best team leaders, and the most diligent team workers are not necessarily the hardest-working students. . . . Often group leadership and highly productive and dedicated work emerges from academically less-than-stellar students. *(p. 34)*

Let's let an engineer wrap this up. The author of Chapter 13, "Service-Learning in the Engineering Sciences," William Oates, says,

> A final piece of advice to those who are new to the field is to start small and build successes. Start with a partner and project that you feel good about, and do not worry if it has all the attributes of a perfect service-learning project. We and others in the field have found that getting started provides experiences to equip us to advance and improve each time we teach. We, like the students, continue to learn and grow. Done right, it has the potential to be one of the most rewarding and exciting experiences of your career. *(pp. 301–302)*

Service-learning actually has the potential to do even more. As Kay Barnes says in the foreword, "Service-Learning with state and local government partners can have a crucial impact on the country's future" *(p. xii)*. The book's editing authors Redlawsk and Rice add this: "The bottom line is that service-learning offers hope for reversing the troubling downward trend in civic engagement" *(p. 3)*.

In closing, let me say that I choose to align myself with these evangelists for service-learning. And like other evangelists, I have difficulty seeing the beam in my own eye, so I will leave criticism of this volume to others. For me, it was captivating and even inspirational. Well done, team!

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Reviewer Acknowledgment

About the Reviewer

Melvin B. Hill, Jr. is a former faculty member and administrator at the University of Georgia. He served as the Stephens Fellow in Law and Government in the Institute of Higher Education (1996-2009), and prior to that was director at Carl Vinson Institute of Government (1983-1996). He served as editor of the *Journal of Higher Education Outreach and Engagement* from 2000 to 2009. His administrative and teaching interests centered on working with state and local government officials and citizens generally to promote improved understanding, policy-making, and administration of government in a democratic society. Hill earned his bachelor's degree in Economics from Bucknell University, and his M.P.A./J.D. degrees from Cornell University.

Acknowledgment

Jentleson, B. C. (2011). *Better Together: A Model University-Community Partnership for Urban Youth*. New York, NY: Teachers College Press.

Review by John Byrnes

Overall, *Better Together* is a wonderfully told, tightly organized success story about the development of the Duke-Durham Neighborhood Project. It does a tremendous service for those involved in higher education outreach and engagement by providing a window into the process of developing successful partnerships in an urban setting. The author grabbed my interest right away by posing the key questions that the project hoped to address. I also found it helpful that the book was organized by issue, not chronologically. The challenges faced by those involved in this project came across as real and pressing. This opportunity to experience how the project leadership faced each issue one by one was truly a gift.

My experience as an Extension director in a large urban setting has led to a particularly meaningful appreciation of this book. My staff and I are often at a loss for words when pressed by university staff and leaders to share our experiences in the field. We have each spent many hours encouraging Pennsylvania State University College of Agriculture Sciences researchers, professors, and administrators to appreciate the need for developing partnerships first when attempting to develop projects in Philadelphia. The mantle of "expert" is not easily set aside; over time, however, we have demonstrated that truly listening and establishing trust with local, urban partners opens doors to a world of opportunity for engagement.

It was particularly fascinating to me that the author began by directly addressing the question of benefits to the university from the Duke-Durham Neighborhood Partnership. It seems to me that this basic question formed the foundation of all that followed. I also imagine that the answers helped to quickly assure skeptics that the Duke-Durham Neighborhood Partnership was indeed a worthwhile endeavor. This sort of "what's in it for us?" thinking seems crass on the surface, but fully exploring such topics helps sustain energy for a project when the inevitable challenges surface. The question also leads to its follow-up: "What's in it for the community?" Honest answers to these research questions ultimately gave all involved the opportunity to create the "bottom up" approach that Duke-Durham Neighborhood Partnership leadership so astutely realized was essential to the project's eventual success.

I was also grateful for Jentleson's willingness to highlight both formal and non-formal outcomes of the Duke-Durham Neighborhood Partnership project. Documenting concrete success in terms of school attendance and achievement, community health, and other indicators is, of course, important to a project of this magnitude. However, the hard work of making a university relevant in an underserved community can lead to "softer impacts," which are difficult to measure. For example, how does one measure trust? The leadership of the Duke-Durham Neighborhood Partnership seems to understand that empowering afterschool program leadership, Duke students, and the youth themselves provided the oxygen that kept this project thriving. In other words, the path to the outcome is often more worthwhile than the outcome itself.

At our Extension office we live this every day. Our frustration regarding the occasional inability to bring quantitative impact data back to the university's leadership is tempered by the ongoing experience of knowing that our day-to-day work at partnership development does the community and the university a world of good. Through our relationships, our partners are often inspired to think beyond the current reality and stretch the boundaries of their vision for their organizations and operations. In turn, university staff have the chance to analyze their expertise to find the best fit for their skills and knowledge. Penn State Extension staff in Philadelphia have been told many times by students and professors alike that working with our Extension partners energizes their sense of creativity and resourcefulness; that it is freeing to be considered relevant in the world of real and present challenges and limitations. I commend the author on her ability to give life to this benefit of successful university engagement.

One of the more remarkable aspects of the Duke-Durham Neighborhood Partnership story is the seamless and ever-deepening flow of Duke University's involvement in this project, from the early needs assessment through the eventual purchasing and development of community centers. At Penn State, we struggle to develop continuity with our on-campus partners. The contrast with Duke's experience left me wondering what parts of their story were left on the cutting-room floor. On the surface, this development of an institutionalized approach comes across as the greatest impact of the Duke-Durham Neighborhood Partnership, but how well does the narrative reflect the origins of Duke's commitment? Has the story been polished just a bit? It would be helpful for the reader to know more about Duke's struggles. How, specifically, did Duke's leadership determine that the project was deserving of greater

and greater commitment? The book provides only brief coverage of the transition from a Kellogg Foundation-supported project to an institution-supported Office of Student Learning project. Were the decision makers at Duke all in agreement that funds for this project should be re-directed from one area of the university to the Duke-Durham Neighborhood Partnership? If not, what were the arguments for doing so? Today, is there a sustainable funding plan for the Duke-Durham Neighborhood Partnership?

Of course, this skepticism comes from my experience at Penn State. Here, public funding for education is questioned at every turn; university departments develop "business plans," and—in many cases—funding for urban outreach programs is the last thing considered in budget-setting discussions. The story of the Duke-Durham Neighborhood Partnership, as told in this remarkable book, could provide new energy to university leadership and legislators alike as they re-envision the role of publicly funded education in the new U.S. economy.

About the Reviewer

John Byrnes is the director of Penn State Extension in Philadelphia, where he works to engage university staff in Extension programs in the areas of Youth Development, Horticulture, Agricultural Entrepreneurship, and Family and Consumer Sciences. Byrnes earned his bachelor's degree from State University of New York at Albany, his master's degree from Teachers College/Columbia University, and his Ph.D. from Temple University.

Acknowledgment

Mission

The mission of the *Journal of Higher Education Outreach and Engagement* is to serve as the premier peer-reviewed, interdisciplinary journal to advance theory and practice related to all forms of outreach and engagement between higher education institutions and communities.

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- have a separate cover page that includes the names, institutional affiliations, addresses, phone numbers, and e-mail addresses of all authors, and mask all of this information throughout the manuscript to ensure anonymity in the reviewing process;

- include a brief abstract (not to exceed 150 words);

- be typed, double-spaced throughout, and include block quotes (when necessary) and appropriate references;

- be formatted using American Psychological Association (APA) style, 6th edition;

- have photos and graphics submitted as .jpg, .tif, or .eps files, not placed into the Word document. Tables, however, may be placed in Word documents;

- be formatted and saved in Microsoft Word 2003, or higher; and

- be read by someone that is not familiar with the topic of the manuscript (for content clarity) as well as copy edited (for grammatical correctness) prior to submission.

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