Vol. 19 No. 2
2015

Journal of Higher Education Outreach & Engagement

A Publication of The University of Georgia

Journal of Higher Education Outreach & Engagement

Published Through

A partnership of the University of Georgia's Office of the Vice President for Public Service and Outreach, Institute of Higher Education, UGA Extension, and College of Education

Sponsored By

Campus Compact

Engagement Scholarship consortium

Journal of Higher Education Outreach & Engagement

Volume 19, Number 2, 2015

eISSN 2164-8212

Table of Contents

and facilitating agricultural knowledge. This qualitative study took place in a geographically isolated region with potential food security issues to highlight the function and role of agricultural extension as a provider of public good. A key component of the study includes the limitation of evaluation methods in documenting extension as a public good.

Service-learning practitioners design community engagement activities to affect students in powerful and even transformative ways. This qualitative study explores the long-term impacts (3-16 years after graduation) of participation in a senior-level service-learning course. Through interviews with 20 randomly selected participants, the researchers explored whether and in what ways graduates continued to experience impacts from the course, including those that have become interwoven with other life experiences or have catalyzed altered perspectives and/or actions. Graduates were first asked to identify their most significant learning experiences in college in order to gauge the relative importance, if any, of the service-learning course in their college education. Then graduates were asked to recall their experiences in the course and to share what impacts those experiences had at the time and in the intervening years. Findings are discussed through the lens of transformational learning processes and outcomes.

Dewey's concept of enabling children to explore based on their own interests has evolved into investigations and projects using methods of exploration, experimentation, and discovery—three tenets of service-learning. Using mixed methodology, the authors examined the implementation of service-learning in a teacher education program. A total of 155 preservice teachers participated in this study over a 5-year period. Results indicated that preservice teachers believed that their service-learning experiences provided a valuable contribution to the development of pedagogical skills, as well as fostering self-actualization and social-moral development. They also rated the importance of service-learning highly in pedagogical, self-actualization, and social-moral development.

Zachary Constan and Justina Judy Spicer
Michigan State University

Global competitiveness of the United States is often suggested as a key outcome of developing a capable science, technology, engineering, and mathematics (STEM) workforce, a goal supported by many local, state, and national programs. Examining the effectiveness of such programs, however, may require assessment techniques that are outside their organizers' expertise. The physicists conducting the physics outreach program in the current study partnered with education researchers at the same university to achieve a more thorough measure of program effectiveness while also demonstrating how such partnerships represent an opportunity to add rigor to current evaluation. The resulting analyses demonstrated that participants in the outreach program (a) were more likely than nonparticipants to pursue an education and career in STEM, (b) were able to define and execute plans to solidify a strong foundation for pursuing a career in STEM, and (c) persisted in pursuing education in STEM after high school graduation.

Programs with Promise

Joshua C. Hollingsworth, Benjamin S. Teeter, and Salisa C. Westrick
Auburn University

This article describes the development of a service-learning project and analysis of student pharmacists' participation therein. Using a mixed-methods approach, this study analyzed student pharmacists' knowledge and attitudes after volunteering in the inaugural Medicare Outreach Program, a collaboration between the School of Pharmacy and State Health Insurance Assistance Program (SHIP) in which certified student pharmacists assisted Medicare beneficiaries with Part D plan evaluation and selection. Although results did not show a statistically significant difference in knowledge gained by students who volunteered (n = 71) compared to those who did not (n = 72; p = 0.57), thematic analysis of volunteering students' reflections did reveal that they found their volunteering efforts to be meaningful learning experiences. Six major themes were identified overall showing that the program, which was designed to benefit SHIP and the community, also had a positive impact on students' attitudes. Accordingly, the program's sustainability plan is also discussed.

Book Reviews

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 1, (2015)
 eISSN 2164-8212

From the Editor…

Embedding Engagement in Higher Education and Communities

In a beautiful opening essay for this issue, Paul Pribbenow, president of Augsburg College in Minnesota, offers a meditation on why place matters for higher education. From both a theological and a practical perspective, he documents Augsburg's abiding commitment to place as the center of its academic mission and public purposes. He affirms that Augsburg "believes that it is called to be generous and faithful in its place." As Pribbenow describes, Augsburg has more than a story: It has a saga, formed by the sort of people, programs, and values that define an institution, anchor it in its place as an indigenous community, and provide the foundation for its future. Augsburg's saga has led it to its role as a 21st-century urban settlement, a place-based institution rooted in a particular neighborhood, seeking to serve its neighbors and neighborhood in mutually beneficial ways (*Pribbenow, 2014*). Augsburg strives to be "sticking" in its place through authentic work in teaching and learning, being actively present as a neighbor, and taking on "public work," supporting social justice and community-building. Pribbenow encourages us to ask ourselves how we can be "even more generous and faithful in our whereabouts and place."

Other articles in this issue take up this challenge of embeddedness and the evaluation of embeddedness. Rowland and Knapp, a sociology professor and a librarian, point out, through a review of literature, the relatively limited contributions of librarians to engaged scholarship. They advocate for "embedded librarianship" to enhance the information literacy of all those involved in engaged scholarship—faculty, students, research assistants, and community members.

Evaluating the embeddedness of higher education as a public good is discussed by Collins through a study of land-grant extension and its diffusion of knowledge for the public good. He clearly points out the difficulty in documenting and evaluating the construct, particularly the "inherent tension between the demand for accountability and the absence of reliable methods to demonstrate impact for public good."

What about embedding civic engagement into one's life after college? Fullerton, Reitenauer, and Kerrigan's research focuses on the long-term impact of participation in service-learning courses. Their findings confirm that outcomes of service-learning experiences are formative and continue to be realized long after class is concluded, resulting in "shifts in perspectives, skills, and approaches, that . . . could be called positive, justice-enhancing changes. . . ." Indeed, the subjects of this study expressed gratitude for the opportunity to further reflect on their service-learning experiences of 3 to 16 years previously.

In another study of the effects of service-learning, John Dewey's theories of social-moral development, pedagogy, and self-actualization served as a lens for investigating the import and impact of service-learning experiences as part of fieldwork in an early childhood teacher education program. In their research studying 155 preservice education teachers over 5 years of programming, Lake, Winterbottom, Ethridge, and Kelly found Dewey still vividly relevant in today's standards-driven educational systems.

Constan and Spicer examined the results of using outreach to embed career options in precollege students' experiences. Their article tells how a science, technology, engineering, and mathematics (STEM) outreach programmer partnered with an educational effectiveness researcher to rigorously assess the outcomes of programs that increased participants' likelihood of pursuing an education and career in STEM.

Medicare Outreach Program, a collaboration between Auburn University's Harrison School of Pharmacy and the State Health Insurance Assistance Program (SHIP), is featured as a Program With Promise. In this program, certified student pharmacists assist Medicare beneficiaries with Part D plan evaluation and selection. Hollingsworth, Teeter, and Westrick document results for SHIP, the community, and students to evaluate the program's embeddedness or sustainability.

Two Personal Stories are related in this issue. Hicks and Ison Radtke examine community-driven design cases embedded in their respective university design programs. Although grounded in very different sites—one local and the other international—they found that "boundary-spanning methodologies" provided similar outcomes. Back and colleagues relate keen lessons learned by the research team from Texas Tech University as they trained and embedded resident interviewers to conduct over 1,000 door-to-door interviews of a stratified random sample. This article will be helpful for those performing similar activities to meet grant requirements.

The books reviewed in this issue also reflect the embeddedness of community-engaged scholarship within and across academic disciplines and diverse communities. In *Community-Based*

Archaeology: Research with, by, and for Indigenous and Local Communities, author Atalay argues that for philosophical and practical reasons, archaeology must benefit not just archaeologists but communities as well. The book features five cases of community-based participatory research (CBPR) projects that exemplify the approach. Reviewer Vega notes that CBPR is about "decolonizing scholarship and collapsing traditional barriers between scholars and the public. . . ." Coming from Canadian scholar-practitioners, long experienced in CBPR in partnership with indigenous First Nations, is a new edited volume on the topic thoughtfully reviewed by Elizabeth Tryon.

Revisiting boundary spanning, the topic of *JHEOE's* 18(3) special issue, Parish brings us a fresh review of Ernst and Chrobot-Mason's *Boundary Spanning Leadership: Six Practices for Solving Problems, Driving Innovation, and Transforming Organizations.* The practices—buffering, reflecting, connecting, mobilizing, weaving, and transforming—offer methods for administrators, faculty, and community leaders to embed community engagement as a strategy for "reframing boundaries, weaving work and spaces together," and enhancing teaching, learning, and scholarship. Finally, the book *Experiencing Service-Learning*, reviewed by Glenn Sterner, uses the unique vantage of undergraduate and graduate students to assist students in making deeper meaning of their experience in communities, faculty members in understanding service-learning from the student perspective, and community members in recognizing their powerful role in the student experience.

As physical entities, institutions of higher education are geographically embedded in their neighborhoods. Practicing engagement means taking critical steps outside the ivory tower to actively embed ourselves in our communities. We thank the authors, peer reviewers, and associate editors of articles in this issue for advancing the understandings that enable us to embed through our practices and policies as scholars, students, practitioners, and community members.

With best regards,
Lorilee R. Sandmann
Editor

References

Pribbenow, P. (2014). Lessons on vocation and location: The saga of Augsburg College as urban settlement. *Word & World, 34*(2), 149–159.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 5, (2015)

Generosity and Faithfulness: A Meditation on Why Place Matters for Higher Education

Paul C. Pribbenow

Campus Compact Presidential Essay

The intrepid Norwegian-American immigrants who founded Augsburg Theological Seminary (now Augsburg College) almost 150 years ago chose as the institution's founding motto a simple claim from the New Testament Gospel of John: "And the Word became flesh" (John 1:14, NRSV). That has made all the difference for Augsburg's abiding commitment to place as the center of its academic mission and public purposes.

Allow me to explain why. First is the theological claim in that simple passage. The gospel writer points to an incarnational proclamation: God came into human history, lived among us, and loved the world. In theological terms, this incarnation is the ultimate act of generosity and fulfills a covenant promise first made in the Hebrew scriptures. In other words, in this passage from John, we proclaim that God is generous and faithful on the ground, in our midst, and in the places we inhabit.

Enough theology. There follows from this theological claim a very real practical guide to life in the world for God's people. If God has been generous and faithful to us, the only fitting response is for us to be generous and faithful wherever we are found. In this way, John 1:14 stands the test of time as a guide to Augsburg's deep commitment to place as a source of its mission and identity. Place matters for Augsburg as it lives out its academic mission in service to the public good. Augsburg believes that it is called to be generous and faithful in its place.

My teacher, Martin E. Marty *(2003)*, taught me that colleges are indigenous communities. That is, they are native to a particular place. They are native to a particular environment and to a particular set of values and practices that define the institution. And that means something for the way they live their lives; it means something for the ways in which they understand what it means to be faithful and generous with their place and values and presence.

As an indigenous community, Augsburg lives out its faithfulness and generosity in a particular place—a neighborhood called Cedar-Riverside in the heart of Minneapolis, Minnesota—that has been its home for 145 years. It is a neighborhood of Native peoples and immigrants—currently, primarily Somalis and Ethiopians, but over the years Scandinavians (our founders), Vietnamese, Koreans, and others. And with these Native and immigrant neighbors we share in what I call the saga of our life as an urban settlement (*Pribbenow, 2014*).

What is a saga? My understanding of the concept of saga comes from research done by Burton Clark on what it is that creates a distinctive character and identity for colleges and universities (*Clark, 1970*). A saga is more than a story—all of us have stories. A saga is more of a mythology—a sense of history and purpose and direction told in vocabulary and narrative that accounts for a community's DNA—its essence, even. A saga abides in the sort of people, programs, and values that define an institution.

Clark contends that not every institution has a saga. Sometimes that is a function of not being true to founding values; at other times, it can be occasioned by a change of location or core mission. Other institutions have still not found a way to link their pasts, presents, and futures in a coherent narrative.

Augsburg College's saga runs deep in the culture and meaning of our work together. An exploration of Augsburg's history reveals several themes that are central to our saga: an immigrant sensibility shaped in an urban neighborhood, freedom through faith to ask tough questions and engage otherness, a moral commitment to access to quality education for all, and the vocational aspiration to be neighbor to and with each other (*Augsburg College, 2008*). Together, these themes inform Augsburg's identity and its abiding commitment to faithfulness and generosity in its place.

These themes also provide the foundation for seeing Augsburg as a 21st-century urban settlement, a place-based institution settled in a particular neighborhood, seeking to serve its neighbors and neighborhood in mutually beneficial ways (*Pribbenow, 2014*). In fact, we have articulated our calling as a college in this way: "We believe we are called to serve our neighbor" (*Augsburg College, 2015*). In that simple formula, we name our commitment to the inextricable links between faith, education, place, and service to and with neighbors.

The novelist Wallace Stegner once wrote that the American psyche is in tension between what he calls "the boomers"—those who go into a place, use it up, and then leave—and "the stickers," those who settle in a place and work to renew it and make it better (*Stegner, 1992, p. xxii, 4*). Augsburg is committed to "sticking," to staying and settling in. At Augsburg, we accompany and settle alongside our neighbors. We pursue education in our place, equipping each other for lives of meaning and purpose. We welcome each other in our place, sustaining a community of hospitality and mutual respect. We love and are faithful to the place that has been our home for almost 145 years.

How do we live out this commitment to "sticking" in and with our place? We begin with the wise words of poet and essayist Wendell Berry, whose work I return to often for guidance, in his prose poem "Damage":

> No expert knows everything about every place, not even everything about any place. If one's knowledge of one's whereabouts is insufficient, if one's judgment is unsound, then expert advice is of little use. (*Berry, 1990*, *p. 5)*

I sometimes think about this quote when talking with all the experts who are happy to offer their advice (for free and for a fee!) about running a college. Our responsibility as "stickers" is to have knowledge of our whereabouts; otherwise, all the experts in the world will be of little use. If we don't know our place, our mission, our history, how can we expect to enlist others in pursuit of our aspirations? We know and care about our whereabouts so that we can be generous and faithful.

There are three simple aspects of our whereabouts, three ways in which place matters and in which faithfulness and generosity are practiced, that are at the heart of Augsburg's mission and identity. Perhaps the central focus of our whereabouts is that wherever Augsburg College is found—in our neighborhood, in the city, or around the world—*our most authentic work is learning and teaching.* And the wonder of learning is that it involves acts of generosity and faithfulness in its every detail—from teachers who teach what they love; to students who seek to learn out of curiosity and passion; to texts that bear the wisdom of the ages for our reflection; to conversations that help us pay attention to the Word, to each other, and to the world.

One of the joys of my life at Augsburg is teaching the senior honors seminar each spring. In the classroom, I witness the generosity of what educator Parker Palmer (*1998*) has called "the grace of great things" *(p. 107)*, the gathering of a community around important issues and problems—great things! I think about a recent course I taught on homelessness and affluence—on income inequality—and how students wrestled with issues of justice and compassion and the social realities of inequity and people living with both too little and too much. These issues were both studied in the classroom and experienced in the neighborhood. And around these difficult issues, we found the grace of great things, the generosity of learning from and with each other, and the connection to our place in the world.

For the Augsburg community, the commitment to teaching and learning and the connection to place are grounded in our mission statement, wherein we say that "an Augsburg education is… shaped by its urban and global settings" *(Augsburg, 2010)*. That mission is part of a historic narrative that led the college in the 1960s to view its urban location as an extended classroom and to choose not simply to be located "in the city" but to embrace what it means to be "of the city" (*Chrislock, 1969, 235).* This important distinction sets a foundation for curricular and cocurricular programs that see our place as central to our academic mission and experience.

A second aspect of our whereabouts is the way in which our neighborhood and city is *a place that demands our presence as neighbor.* This particular neighborhood—much changed since 1869, when the Scandinavian founders of Augsburg lived nearby—now calls for us to be neighbor to those of very different backgrounds. And democracy still is practiced in this place with our neighbors. Education still happens in this place with learners and teachers all around us. Engagement and service still are at the center of our lives with each other in this place. Sustaining this urban place, this urban environment, is an act of generosity and faithfulness—for our diverse neighbors, for our diverse selves, for the whole of creation, now and into the future.

One of my favorite programs at Augsburg is our Campus Kitchen. Campus Kitchen's core work is led by students who collect leftover foodstuffs from our cafeteria and area restaurants, then prepare and deliver to our neighbors more than 2,000 meals a month. It is good and important work. What I have seen in the past several years, though, is that our students have not been content simply to stay the course. They have focused their attention on the important role that food plays in our lives—as sustenance for our bodies, as fellowship for our community, as politics and economics in our neighborhood and world. And the results are staggering—yes, thousands of meals prepared and delivered, but also community gardens on the edge of campus that bring together neighbors and students and children; a farmer's market on campus, which involves relationships with organic farmers from across the region; composting of leftover everything in the cafeteria; and most recently, the opening of a food pantry on campus for students who go hungry. Here is an example of generosity and faithfulness in our place, attention and respect and concern for all of us who inhabit this neighborhood.

Our presence here cannot be passive or defensive. It must embrace the challenge of an indigenous place, loving and caring for the land, the river, the environment, and the people. Our Augsburg colleague Jay Walljasper (*2006*), a senior fellow in the Sabo Center for Democracy and Citizenship, quotes Mexican novelist Carlos Fuentes, who says, "The citizen takes his [*sic*] city for granted too often. He [*sic*] forgets to marvel" *(p. 7)*. We are generous and faithful in our place when we don't forget to marvel at all that is being done in our midst and all that we are called to do in return!

A final aspect of our whereabouts I want to lift up is our commitment to our broader role in what I call our "public work," positioning the work of the college community in the context of claims for social justice and community-building. Higher education institutions long have privileged their academic missions and often have found ways to care for their immediate environs through student service and civic engagement programs. But I want to argue that a commitment to generosity and faithfulness in place demands more of us. It demands bringing our many resources—intellectual, moral, and human resources—to bear in addressing the strengthening of democratic institutions and civic life.

Our public work at Augsburg is best exemplified by our leadership in the anchor institution movement in the Twin Cities of Minnesota. Augsburg has come together with sister higher education institutions, with major health care organizations, and with regional public agencies to understand how our self-interests as institutions can combine to create shared value for the neighborhoods along a new light rail transit line. We now are engaged together in shared purchasing to support local businesses; workforce development, encouraging the hiring of local companies and individuals; and place-making, helping to create healthier and more sustainable neighborhoods. The results thus far illustrate positive economic impact on the region, but perhaps more importantly, they show an intentionality about how the place we share can be strengthened through our collective efforts. This is not charity; this is a network business model that serves all of us and at the same time creates a more robust and vital civic life.

This is about paying attention to our place in ever more sophisticated and effective ways, recognizing that our ability to scale these sorts of place-based initiatives means that our underlying commitment to our place can be extended and made even more central to our work as a college. As Rutgers University–Newark chancellor Nancy Cantor (*Cantor & Englot, 2015*) pointedly challenges us, colleges and universities must be "citizens of a place, not on the sidelines studying it" *(p. 75).*

I'll end with another brief quote from Wendell Berry (*1990*), who, a few years after writing "Damage"—when he clearly was skeptical of our abilities to care adequately for our places in the world—wrote "Healing" to point to a more promising way:

> The teachings of unsuspecting teachers belong to the task and are its hope. The love and work of friends and lovers belong to the task, and are its health. Rest and rejoicing belong to the task, and are its grace. Let tomorrow come tomorrow. Not by your will is the house carried through the night. Order is the only possibility of rest. *(p. 13)*

"The Word became flesh" thus is both a theological and a practical claim for Augsburg College. In response to the many gifts we have been given, we ask how we can be even more generous and faithful in our whereabouts and place. We accompany and settle alongside our neighbors, even when we come from very different cultures and religions and experiences. And together we are creating and sustaining a safer, healthier, more vibrant place where generosity and faithfulness abound. I think our founders would be proud.

References

Augsburg College. (2008). *The Promise of Augsburg College.* Retrieved from http://vimeo.com/79100160

Augsburg College. (2010). *Augsburg College mission statement.* Retrieved from http://www.augsburg.edu/about/mission/

Augsburg College. (2015). *We are called | Auggies.* Retrieved from http://www.augsburg.edu/about/wearecalled/

Berry, W. (1990). *What are people for?* San Francisco, CA: North Point Press.

Cantor, N., & Englot, P. (2015). Reinventing scholar-educators as citizens and public workers. In H. Boyte (Ed.), *Democracy's education: Public work, citizenship, and the future of colleges and universities* (pp. 75–79). Nashville, TN: Vanderbilt University Press.

Chrislock, C. (1969). *From fjord to freeway.* Minneapolis, MN: Augsburg College.

Clark, B. (1970). The organizational saga in higher education. *Administrative Science Quarterly, 17*(2), 178–184.

Marty, M. (September 2003). [Unpublished remarks]. Annual meeting of the Federation of Independent Illinois Colleges and Universities, Chicago, IL.

Palmer, P. (1998). *The courage to teach: Exploring the inner landscape of a teacher's life.* San Francisco, CA: Jossey-Bass.

Pribbenow, P. (2014). Lessons on vocation and location: The saga of Augsburg College as urban settlement. *Word & World, 34*(2), 149–159.

Stegner, W. (1992). *Where the bluebird sings to the lemonade springs.* New York, NY: Random House.

Walljasper, J. (2006). *The great neighborhood book: A do-it-yourself guide to placemaking.* Gabriola Island, BC, Canada: New Society Publishers.

About the Author

Paul C. Pribbenow is the 10th president of Augsburg College, Minneapolis, Minnesota. His research interests center around ethics, philanthrophy, and American public life. He earned his Ph.D. from the University of Chicago.

Reflective Essays

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 15, (2015)

Engaged Scholarship and Embedded Librarianship

Nicholas J. Rowland and Jeffrey A. Knapp

Abstract

The authors, a sociology professor and a librarian, draw attention to the relatively limited contribution of librarians to the field of engaged scholarship (ES), which they demonstrate through a review of relevant literature. They contend that the limited contribution of librarians is not the outcome of librarians being consciously excluded from ES projects by faculty. It is their point of view that ongoing exclusion of librarians reflects a lack of awareness among faculty regarding a recent shift in library science referred to as embedded librarianship (EL). Using examples from the EL literature primarily about undergraduate research experiences, the authors identify a viable role for librarians in ES, particularly in instances where enhancing the "information literacy" of students, research assistants, or community members is a learning or research priority. This reflective essay provides readers an opportunity to reflect on how—when and where appropriate—librarians might contribute to ES.

Introduction

March 25, 2014, marked the inaugural *Engaged Scholarship Symposium* at the Pennsylvania State University. Organizers encouraged faculty to provide their students with more "out-of-classroom academic experiences that complement classroom learning," such as undergraduate research, community-based learning, internships, and capstone experiences (i.e., engaged scholarship, also referred to in the literature as community-engaged scholarship; in this article, we will call it engaged scholarship). Engaged scholarship (ES) faculty shared their experiences and fielded questions from the audience. Curiously, after a full day of programming, the library was not mentioned—not once—and that observation prompted this reflective essay.

The authors draw attention to the limited contribution of librarians to ES, which they demonstrate through a review of articles in the *Journal of Higher Education Outreach and Engagement (JHEOE)* and relevant literature from numerous disciplines. In the rare instances where librarians appear in ES literature, they are usually portrayed in a quiet supporting role, for example, as archivists for or curators of ES projects. However, ES faculty are not consciously excluding librarians; rather, this de facto exclusion reflects a lack of awareness on behalf of both faculty and librarians regarding a recent trend in library science called embedded librarianship (EL). Using examples from the EL literature primarily about undergraduate research experiences, the authors identify a viable role for librarians in ES, particularly in instances where enhancing "information literacy," that is, "the set of skills needed to find, retrieve, analyze, and use information," is a learning or research priority *(ACRL, n.d., para. 1).* This reflective essay, therefore, provides readers an opportunity to reflect on how librarians might contribute to ES when appropriate.

Engaged Scholarship

The scholarship of engagement is primarily discussed in literature on higher education; however, a review of the broader literature in the social sciences and humanities also reveals the widespread appeal of ES. With emphasis on librarians, the authors reviewed the entirety of the *Journal of Higher Education Outreach and Engagement (JHEOE)* in view of its mission 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" *(JHEOE, n.d., para. 1)*. In addition to their special attention to articles in *JHEOE*, the authors also surveyed literature beyond journals devoted to ES. These particular articles—52 in total—were selected because they have the highest citation ratings in their respective disciplinary areas. The criterion of citation rating (i.e., a count of the number of times an article is cited in the scholarly literature) is an imperfect measure of impact; however, it is a valuable proxy when considering articles across disciplines that may not share common standards of impact; in this context, citation ratings become a viable criterion for article selection. A wide variety of disciplinary areas were represented in the broader literature, including the following:

- African studies *(Isaacman, 2003; Mahlomaholo, 2010)*
- communications *(Barge et al., 2008; Barge & Shockley-Zalabak, 2008; Cheney, 2008; Deetz, 2008)*
- community research *(Cuthill, 2010; Norris-Tirrell, Lambert-Pennington, & Hyland, 2010)*

- criminology *(Uggen & Inderbitzin, 2010; Weber & Bowling, 2011)*
- cultural studies *(Ang, 2006)*
- higher education *(Hodge, Lewis, Kramer, & Hughes, 2001; Vogelgesang, Denson, & Jayakumar, 2010)*
- human resources *(Franz, 2011; Gelmon, Ryan, Blanchard, & Seifer, 2012; Glass, Doberneck, & Schweitzer, 2011; Tsui, 2013)*
- information (technology) studies *(Medaglia, 2012; Mueller & Lentz, 2004)*
- international education *(Shultz, 2013)*
- Latin American studies *(Webber, 2007)*
- law *(MacKinnon, 2010)*
- medicine *(Calleson, Jordan, & Seifer, 2005)*
- management *(Kenworthy-U'Ren, Van de Ven, & Zlotkowski, 2005; McKelvey, 2006; Van de Ven & Jing, 2012)*
- marriage and family studies *(Small & Uttal, 2005)*
- organizational analysis *(Van de Ven, 2007)*
- policy studies *(Schneider & Sidney, 2009)*
- political science *(Farr, Hacker, & Kazee, 2006; Gearty, 2007; Robinson, 2000)*
- psychology *(Bartlett, 2011; Finkelstein, 2002)*
- public administration *(Bushouse et al., 2011; Martin, 2010; Orr & Bennett, 2012)*
- science and technology studies *(Phaneuf, Lomas, McCutcheon, Church, & Wilson, 2007; Woodhouse, Hess, Breyman, & Martin, 2002)*
- social justice/responsibility *(Kearins & Fryer, 2011; Stanton, 2008)*
- social research *(Torre & Fine, 2011; Van de Ven, 2007; Waddington, 2011)*
- social work *(Fogel & Cook, 2006)*
- sociology *(Kleidman, 2006; LaMarre & Hunter, 2013)*

- speech studies *(Hartelius & Cherwitz, 2010; Pollock, 2010)*
- sport studies *(Schinke, McGannon, & Smith, 2013)*
- teaching *(Peterson, 2009)*
- trust studies *(Ping Li, 2011)*

This list is not exhaustive, but it captures an array of disciplinary areas. A review of these materials follows.

JHEOE

Since 1996, only one piece in the fields we surveyed has featured a library or librarian as its central topic. The reflective essay "A University Library Creates a Digital Repository for Documenting and Disseminating Community Engagement" *(Miller & Billings, 2012)* deserves special attention, as it is the only article published by *JHEOE* that has specified a role for libraries in ES.

The essay is about a digital repository at the University of Massachusetts Amherst. A portion of the repository, ScholarWorks@ UMass Amherst, is set aside for housing digital materials from community-engagement initiatives. According to Miller and Billings *(2012)*, "this innovative application of library science" *(p. 109)* supports assessing and tracking engagement; the repository helps establish "institutional mechanisms for documenting and disseminating information about community engagement" *(p. 111)*, which facilitates promotion and tenure decision making among faculty and constitutes a resource for administrators to measure their success on mission-critical goals regarding engagement.

One-dimensional types of ES assessment measures, such as number of student credit hours logged in the field or amount of external funding obtained with or for community partners, are no longer sufficient to document the dynamic relationships that faculty build with community partners. Administrators, therefore, need more centralized resources to capture the scope of ES across units and leverage new opportunities from those already gained. External forces are also at work. Since 2009, universities seeking the Carnegie Foundation for the Advancement of Teaching's *(2015) community engagement* classification are required to demonstrate their ability track, campuswide, community engagement activities. The combination of external and internal pressures makes digital publishing and archiving an appealing technique for supporting ES on campus. Thus, although

> [t]he traditional role of the library in the academic enterprise has generally been one of disseminating the results of academic work through the acquisition of books and journals.… [l]ibrarians have partnered with faculty members to build and maintain teaching and research resources in either print or electronic form. *(Miller & Billings, 2012, p. 112)*

Archiving ES activities in digital repositories becomes a natural extension of the role libraries have traditionally played in academic environments.

As intellectual property rights change and as faculty host more of their unpublished research online, it becomes imperative that faculty work with librarians to host their work in accessible institutional repositories, such as ScholarWorks@UMass Amherst, in order to "retain the right to distribute their own works more openly" *(Miller & Billings, 2012, p. 114)*. "Recognizing the collaborative potential between emerging library technology and community engagement," Miller and Billings write, "is a significant innovation" and "a functional step toward effective demonstration of collective impact" *(p. 117)*. Still, barriers exist: Faculty would be required to devote significant time to uploading materials, and administration must properly reward faculty for this work.

Miller and Billings's article offers one vision for how ES faculty and librarians might collaborate. Librarians support ES faculty; support comes after ES faculty return from the field flush with materials for the librarian to diligently store and organize. Thus, librarians are—somewhat ironically—only indirectly engaged in ES.

Although it is unfair to depict Miller and Billings as the sole representatives regarding how librarians fit into ES, their work is the sole guide in *JHEOE*, and therefore acts as something of a bellwether. There was once another way. In the inaugural issue of the *Journal of Public Service & Outreach*, which would later become *JHEOE*, Younts *(1996)* stated that "[u]niversities and colleges are becoming more aware of their responsibility to extend knowledge and expertise to society" and referred to this function as the "third mission of the academy" *(p. 2)*. Disseminating knowledge is a mission priority for librarians. Younts also indicated that "analyzing critically the importance of interdisciplinary collaborations" *(p. 7)* was a foundational concern for the journal, which is yet another area of expertise in library science. Neither of these two roles appears to have crystallized for librarians.

Broader Literature

A review of the broader literature confirms that academics view librarians as having a limited role in ES. In general, the library is mentioned either in passing or as a passive storehouse for field materials. The most positive vision of librarians is related to instruction, a theme absent in the Miller and Billings *(2012)* piece. According to Doberneck, Glass, and Schweitzer *(2010;* see also *Glass et al., 2011, p. 12)*, librarians play a role in "publicly engaged instruction" under

> *instruction—noncredit—managed learning environments.* Scholarly resources designed for general public audiences that are often learner-initiated and learner-paced (e.g., museums, galleries, libraries, gardens, exhibits, expositions). *(p. 23)*

Providing the public with resources and firsthand instruction constitutes a way for librarians to participate in ES; however, these lessons are to be aimed at the "general public," so college-based service-learning, undergraduate research, and community-based learning courses appear not to be included. In fact, instruction is the only active role specified for librarians in the broader literature on ES; the rest are passive or implied.

As noted, more passive depictions of libraries persist. Cheney *(2008)*, for example, mentions the library, stating that "we have prominent, theoretically informed scholars among us whose work is as much in the streets as it is in the library" *(p. 281)*. The rare mention of the library is noteworthy; however, on balance, this passing mention functions to reify the cultural boundary between the librarians back home and the faculty engaged in the field. Again, the faculty is active; librarians are passive.

Consistent with Miller and Billings *(2012)*, the librarian is the curator of ES materials. Norris-Tirrell et al. *(2010)*, in research on metropolitan revitalization, noted that "the project developed a community archive at the local public library and a manual for community groups interested in creating participatory video ethnography/oral history programs with youth" *(p. 182)*. The piece did not specify whether any librarian contributed to the establishment of this archive at a local community library. If the role of the librarian is that of curator in ES, then logically the role of the library becomes a storehouse for ES materials.

Pollock *(2010)* also depicted the library as a kind of "bank," this time, like Miller and Billings, as a digital repository. She mentioned libraries twice in her work on collecting oral histories, presumably in North Carolina, of desegregation efforts. Pollock *(2010)* stated that

> we now have the ability to make these interviews available "jukebox" style to anyone who wants to listen; to accommodate people who drop in to offer a life history or to donate family archival materials (some dating to the Reconstruction) to our digital library bank. *(p. 463)*

She also reported on a library collection at a church, St. Joseph's, wherein an "eleven-year-old daughter of the church's pastor is organizing the six hundred volumes that now comprise the John 'Yonni' Chapman Memorial Peace and Justice Library" *(Pollock, 2010, p. 464),* the volumes being digital recordings primarily by local children. To her credit, Pollock nicely balances her depictions of libraries as passive banks with a picture of libraries as supportive and lively places in the community. Still, the role of librarians either is absent or goes unmentioned.

M. Smith's work epitomizes the passive librarian. Smith *(2011)* interrogated the gap between academics and practitioners, identifying the library as stuck between the two; he wrote that

> [a]cademic journal subscriptions have become increasingly expensive, causing many libraries, especially university libraries, to discontinue subscriptions. Few human service agencies can afford subscriptions to all publications in the field. *(p. 88)*

The library is hamstrung between the needs of the community, which it struggles to meet, and the needs of the academic publishing world, which require funding to support active faculty. Later, Smith *(2011)* provided the quintessentially passive role for libraries, which does not even involve librarians: "It is the responsibility of the faculty member to ensure that all collaborators have access to university resources: data, libraries and journals, technology, and students" *(p. 94)*. In this way, librarians appear to be—if unconsciously—actively uninvited. There is another way, however; it is to embed the librarians in ES.

Embedded Librarianship

Embedded librarianship (EL) is the subject of a growing literature and is generally considered one of a number of viable options for the future of the librarian as a profession *(Becker, 2010; Dewey, 2006; Knapp, 2012; Knapp, Rowland, & Charles, 2012; Siess, 2010)*. Although the term itself dates back only to the early 2000s, the embedded librarian concept (i.e., a librarian partnering with researchers outside the traditional library environment) dates back to the 1970s, with medical librarians taking the lead *(Shumaker, 2009)*. Other terms in use for similar arrangements are "informationist" *(Cooper, 2011; Davidoff & Florance, 2000; Rankin, Grefsheim, & Canto, 2008; Thomas, Bird, & Moniz, 2012)* and "clinical librarian" *(Brady & Kraft, 2012; Kesselman & Watstein, 2009)*. The EL model can be viewed as an effort to meaningfully engage with faculty members and undergraduate students.

It is important to recognize, however, that "being embedded" can be defined in different ways. Librarians have embedded in research-intensive classes in order to provide assistance to students over a longer period, becoming a regular part of the class so that they can get the overall picture of what the students are working on. Librarians have also been embedding themselves in online courses via course management systems *(Bennett & Simning, 2010; Kesselman & Watstein, 2009)*. By actively providing office hours and reference services outside the library, librarians are assuming a new role rather than passively waiting in the library to be called upon—their traditional role as commonly understood *(Clyde & Lee, 2011)*. In addition to embedding with undergraduate classes, librarians are also becoming more involved in primary research by integrating into teams of researchers, which serves as another route to contribute to ES, provided the research being conducted engages the community in scholarly ways *(Kesselman & Watstein, 2009; Robinson-Garcia & Torres-Salinas, 2011; Shumaker, 2012).*

The educational imperative of librarians, embedded or not, is teaching students the concept of information literacy. Definitions of information literacy have changed over time and are commonly debated in library circles; however, the most generally accepted definition is that offered by the Association of College & Research Libraries *(2000)*:

> Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning. An information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally. *(p. 2)*

Essentially, librarians are trying to teach students how to learn effectively and efficiently, which is important for any student, but even more so for students in ES.

Librarians' Limited Opportunity to Contribute

Although academic librarians are enthusiastic supporters of information literacy standards (e.g., *Association of College & Research Libraries, 2000; SCONUL Working Group on Information Literacy, 2011),* they often have limited access to students in a classroom environment and especially limited access to students in special curricular arrangements such as independent studies or undergraduate research experiences which, critical to this essay, tend to define the scholarship of engagement. Some institutions offer established library orientation programs for students; others do not. This lack of consistency leaves librarians in the difficult position of "selling" course instructors on the benefits of library instruction for them, their classes, and their students.

Teaching opportunities for librarians usually involve a single in-class session, typically to an introductory or lower division course, with little or no opportunity to reinforce or assess student learning with an assignment afterward or a course reading beforehand. For example, even in innovative research-based first-year seminars, the goal of "enhancing [students'] internet and library research skills" translates to a relatively straightforward single "lecture given by a reference librarian" *(Firmage, Tiegtenberg, & Cole, 2007, p. 89, 94)*. The upshot is clear: The librarian is left to teach, as quickly as possible, the bare necessities of how to use their institution's library system and if time permits, discuss the benefits of scholarly journals and show students how to navigate a handful of specific online databases.

Mainly, librarian instruction is treated more as an occasional add-on to traditional courses than as routine engagement of the librarian in practical day-to-day situations involving information literacy *(Smith, 2007)*. Additionally, these one-time teaching arrangements are typically scheduled around the needs of the course instructor, sometimes as overt "filler" for when they must be away from the classroom, for example, to attend an academic conference. With so many aspects of the instruction outside the librarian's control, it can be difficult for librarians to have an impact on students. There is an implicit message that library skills are crucial on paper but are an add-on in practice, and that one visit from a librarian is sufficient for students to "get" information literacy. A tangible benefit of embedding partnerships is that the librarian can have a greater voice in how (and when) their efforts are utilized.

Embedding as an Alternative

Librarians are increasingly dissatisfied with this one-shot model of instruction *(Mery, Newby, & Peng, 2012).* As an alternative to business as usual, embedding librarians into seminars held in the library, as well as the classroom, would afford them the opportunity to impart information literacy to students at a far deeper level than what might be accomplished during a quick rundown of the library's resources. Librarians can offer multiple, compounding lessons on the ethical consequences of plagiarism or the benefits and pitfalls of using crowd-sourced information hosted by sites like Wikipedia. After all, information literacy skills lace together nearly any lesson in the natural and social sciences, especially with regard to student research opportunities. The literature documents instances of librarians entering the classroom to teach entire credit courses themselves *(Li, 2012)*; assisting subject faculty with assignment design *(Kirkwood & Evans, 2012; Kobzina, 2010)*; and providing detailed, discipline-specific library instruction *(Ferrer-Vinent & Carello, 2011).*

There are those who advocate embedding both librarians and undergraduate research experiences into the college curriculum *(Hagel, Horn, Owen, & Currie, 2012; Husic & Elgren, 2003).* This solution benefits all parties. Librarians gain an opportunity to increase their student impact, students gain important skills in learning and research, and teaching faculty gain valuable partners in the ES enterprise. It is worth noting that the terms "undergraduate research" (UR), "undergraduate research experience" (URE), and "mentored research" are used to describe a concept substantially similar to ES. Each of these terms can describe students, usually with faculty guidance, engaging in their own original research—experiments, archival research, mathematical investigations, and so on—with potentially publishable results *("About CUR," 2011)*. Stamatoplos *(2009)* astutely observed that information literacy "either seems to be assumed or ignored" by teaching faculty in undergraduate research, noting the irony that undergraduate researchers "may have greater and more complex overall need for quality information and evaluative skills than the average student engaged in course-related activities" *(p. 239)*. Smith *(2007)* argued that "efforts to teach and develop information skills should [also] be integrated throughout undergraduate programs" *(p. 137)*, including but not limited to undergraduate research experiences.

A good model exists at the Massachusetts Institute of Technology, in its Terrascope first-year experience. Students are split into teams, and "a librarian [is] assigned to each team by a member of the MIT libraries," where librarians are reportedly seen as "invaluable in identifying and locating resources that will be useful to the team" *(Epstein, Bras, Hodges, & Lipson, 2007, p. 71)*. Additionally,

> in the class [librarians] also play a strong role in helping students evaluate the text that will ultimately appear in their… [projects, and]… [l]ibrarians review these drafts and identify problems in sourcing; in some cases they also review some of the source material themselves to ensure that students have interpreted it accurately. *(p. 71)*

Another example worth considering is a web-based information literacy unit developed at Royal Roads University Library for master of business administration students learning online; according to McFarland and Chandler *(2002)*, "success" depended on the "collaboration of librarians with business school and instructional design staff" *(p. 115)*. For librarians interested in embedding in academic activities associated with ES, Hoffman and Ramin *(2010)* provided a set of purported best practices. Also on library engagement more generally, see Thomas's *(2013)* programmatic and colorfully titled work "Getting in Bed With Our Customers: How Did We Embed Our Services to Push the Library Mission at Vaal University of Technology."

Faculty Reluctance—A Barrier to Library Contributions?

Research on faculty working side by side with librarians is scarce, and support for understanding why faculty might be reluctant to do so is even more scarce. The matter, however, can be mapped out, and perhaps no scholar has reflected on this concern more than Stamatoplos *(2009)*, who wrote:

> Because independent undergraduate researchers generally operate outside the formal curriculum, they can fail to recognize the potential value of interaction with librarians. Though many such researchers likely use libraries and librarians to some degree during their work, the information aspects of their work would certainly improve with greater understanding and formal attention by librarians. Also, faculty members may not instinctively refer their research protégés to libraries or librarians in the same way they might in a course environment. *They may feel fully competent to manage their research students' information and library skills alone, while being themselves unaware of the assistance and value a librarian can bring to the collaborative research process and the student's knowledge of information resources.* As for librarians, since such research is largely separate from coursework, it can be practically invisible because their focus is on supporting the formal curriculum. Therefore, they may exclude it from formal library services or programming and unintentionally neglect or underserve undergraduate researchers. Libraries may currently serve the undergraduate research community incidentally through existing services; however, this is too important an area not to consider and target it specifically when appropriate. *(p. 239)*

Although it is not possible to make strong concluding remarks based on this quote alone, it does not appear that faculty are actively avoiding the aid of librarians in the conduct of ES. This is a two-way street. Librarians need to make their services and willingness known to ES faculty; ES faculty need to reach out—when and where appropriate—to their library support.

Conclusion

In this reflective essay, the authors, a sociology professor and a librarian, began by drawing attention to the limited role of librarians in ES through a literature review, which was then juxtaposed with a recent trend in library science referred to as EL. Librarians often have limited access to students in a classroom environment and especially limited access to students in special curricular arrangements such as independent studies or undergraduate research experiences, which, critical to this essay, tend to define the scholarship of engagement. Using examples from the EL literature primarily about undergraduate research experiences, the authors identify a viable role for librarians in ES, particularly in instances where enhancing the "information literacy" of students, research assistants, or community members is a learning or research priority. In the end, they contend that the limited contribution of librarians does not result from conscious exclusion of librarians from ES projects by faculty. Instead, ES faculty might not know about the recent shift toward embedding librarians and what that might mean for ES; likewise, EL is so new even to library science that librarians might not have made their services and potential contributions known to ES faculty. Hence the utility of this essay for opening up such discussion.

References

About CUR. (2011). Retrieved November 28, 2012, from http://www.cur.org/about_cur

Ang, I. (2006). From cultural studies to cultural research: Engaged scholarship in the twenty-first century. *Cultural Studies Review, 12*(2), 183–97.

Association of College & Research Libraries. (2000). ACRL: Information Literacy. Retrieved from http://www.ala.org/ala/mgrps/divs/acrl/issues/infolit/index.cfm

Association of College & Research Libraries. (n.d.). Introduction to Information Literacy. Retrieved from http://www.ala.org/acrl/issues/infolit/overview/intro-old

Barge, J. K., Jones, J. E., Kensler, M., Polok, N., Rianoshek, R., Simpson, J. L., & Shockley-Zalabak, P. (2008). A practitioner view toward engaged scholarship. *Journal of Applied Communication Research, 36*(3), 245–250.

Barge, J. K., & Shockley-Zalabak, P. (2008). Engaged scholarship and the creation of useful organizational knowledge. *Journal of Applied Communication Research, 36*(3), 251–265.

Bartlett, D. (2011). The neglect of the political: An alternative evidence-based practice for I–O psychology. *Industrial and Organizational Psychology, 4*(1), 27–31.

Becker, B. W. (2010). Embedded librarianship: A point-of-need service. *Behavioral & Social Sciences Librarian, 29*(3), 237–240.

Bennett, E., & Simning, J. (2010). Embedded librarians and reference traffic: A quantitative analysis. *Journal of Library Administration, 50*(5–6), 443–457.

Brady, K., & Kraft, M. (2012). Embedded & clinical librarianship: Administrative support for vital new roles. *Journal of Library Administration, 52*(8), 716–730.

Bushouse, B. K., Jacobson, W. S., Lambright, K. T., Llorens, J. J., Morse, R. S., & Poocharoen, O. (2011). Crossing the divide: Building bridges between public administration practitioners and scholars. *Journal of Public Administration Research & Theory, 21*(Suppl. 1), i99–i112.

Calleson, D. C., Jordan, C., & Seifer, S. D. (2005). Community-engaged scholarship: Is faculty work in communities a true academic enterprise? *Academic Medicine, 80*(4), 317–321.

Carnegie Foundation for the Advancement of Teaching. (2015). Carnegie community engagement classification. Retrieved from http://nerche.org/index.php?option=com_content&view=article&id=341&Itemid=92

Cheney, G. (2008). Encountering the ethics of engaged scholarship. *Journal of Applied Communication Research, 36*(3), 281–288.

Clyde, J., & Lee, J. (2011). Embedded reference to embedded librarianship: 6 years at the University of Calgary. *Journal of Library Administration, 51*(4), 389–402.

Cooper, I. D. (2011). Is the informationist a new role? A logic model analysis. *Journal of the Medical Library Association, 99*(3), 189–192.

Cuthill, M. (2010). Working together: A methodological case study of "engaged scholarship." *Gateways: International Journal of Community Research and Engagement, 3*, 20–37.

Davidoff, F., & Florance, V. (2000). The informationist: A new health profession? *Annals of Internal Medicine, 132*(12), 996–998.

Deetz, S. (2008). Engagement as co-generative theorizing. *Journal of Applied Communication Research, 36*(3), 289–297.

Dewey, B. I. (2006). The embedded librarian: Strategic campus collaborations. *Resource Sharing & Information Networks, 17*(1–2), 5–17.

Doberneck, D. M., Glass, C. R., & Schweitzer, J. (2010). From rhetoric to reality: A typology of publically engaged scholarship. *Journal of Higher Education Outreach and Engagement, 14*(4), 5–35.

Epstein, A. W., Bras, R., Hodges, K., & Lipson, A. (2007). Team-oriented, project-based learning as a path to undergraduate research: A case study. In K. K. Karukstis & T. E. Elgren (Eds.), *Developing and sustaining a research-supportive curriculum: A compendium of successful practices* (pp. 69–86). Washington, DC: Council on Undergraduate Research.

Farr, J., Hacker, J. S., & Kazee, N. (2006). The policy scientist of democracy: The discipline of Harold D. Lasswell. *The American Political Science Review, 100*(4), 579–587.

Ferrer-Vinent, I. J., & Carello, C. A. (2011). The lasting value of an embedded, first-year, biology library instruction program. *Science & Technology Libraries, 30*(3), 254–266.

Finkelstein, M. A. (2002). Engaged scholarship in the classroom: The social psychology of HIV/AIDS. *Journal of Higher Education Outreach and Engagement, 7*(3), 69–80.

Firmage, D. H., Tiegtenberg, T. H., & Cole, F. R. (2007). Research-based learning in an introductory environmental studies course. In K. K. Karukstis & T. E. Elgren (Eds.), *Developing and sustaining a research-supportive curriculum: A compendium of successful practices* (pp. 87–101). Washington, DC: Council on Undergraduate Research.

Fogel, S. J., & Cook, J. R. (2006). Considerations on the scholarship of engagement as an area of specialization for faculty. *Journal of Social Work Education, 42*(3), 595–606.

Franz, N. K. (2011). Tips for constructing a promotion and tenure dossier that documents engaged scholarship endeavors. *Journal of Higher Education Outreach and Engagement, 15*(3), 15–30.

Gearty, C. (2007). Terrorism and human rights. *Government and Opposition, 42*(3), 340–362.

Gelmon, S., Ryan, K., Blanchard, L., & Seifer, S. D. (2012). Building capacity for community-engaged scholarship: Evaluation of the faculty development component of the Faculty for the Engaged Campus Initiative. *Journal of Higher Education Outreach and Engagement, 16*(1), 21–46.

Glass, C. R., Doberneck, D. M., & Schweitzer, J. H. (2011). Unpacking faculty engagement: The types of activities faculty members report as publicly engaged scholarship during promotion and tenure. *Journal of Higher Education Outreach and Engagement, 15*(1), 7–30.

Hagel, P., Horn, A., Owen, S., & Currie, M. (2012). "How can we help?" The contribution of university libraries to student retention. *Australian Academic & Research Libraries, 43*(3), 214–230.

Hartelius, E. J., & Cherwitz, R. A. (2010). The Dorothy Doctrine of engaged scholarship: The rhetorical discipline "had it all along." *Quarterly Journal of Speech, 96*(4), 436–442.

Hodge, G., Lewis, T., Kramer, K., & Hughes, R. (2001). Collaboration for excellence: Engaged scholarship at Collin County Community College. *Community College Journal of Research and Practice, 25*(9), 675–690.

Hoffman, S., & Ramin, L. (2010). Best practices for librarians embedded in online courses. *Public Services Quarterly, 6*(2–3), 292–305.

Husic, D. W., & Elgren, T. (2003). *Curricular structures to support undergraduate research*. Presented at the Undergraduate Research Summit, Bates College, Lewiston, ME. Retrieved from http://www.bates.edu/Prebuilt/chem-curriculum.pdf

Isaacman, A. (2003). Legacies of engagement: Scholarship informed by political commitment. *African Studies Review, 46*(1), 1–41.

Journal of Higher Education Outreach and Engagement. (n.d.) *Journal of Higher Education Outreach and Engagement.* Retrieved from http://openjournals.libs.uga.edu/index.php/jheoe/index

Kearins, K., & Fryer, M. (2011). Relating sustainability theory to practice at Auckland airport: An engaged scholarship endeavour involving students. *Corporate Social Responsibility and Environmental Management, 18*(3), 151–161.

Kenworthy-U'Ren, A., Van de Ven, A. H., & Zlotkowski, E. (2005). Toward a scholarship of engagement: A dialogue between Andy Van de Ven and Edward Zlotkowski. *Academy of Management Learning & Education, 4*(3), 355–362.

Kesselman, M. A., & Watstein, S. B. (2009). Creating opportunities: Embedded librarians. *Journal of Library Administration, 49*(4), 383–400.

Kirkwood, H., & Evans, K. (2012). Embedded librarianship and virtual environments in entrepreneurship information literacy: A case study. *Journal of Business & Finance Librarianship, 17*(1), 106–116.

Kleidman, R. (2006). Public sociology, engaged scholarship, and community organizing. *Journal of Applied Social Science, os-23*(1), 68–82.

Knapp, J. A. (2012). Plugging the "whole": Librarians as interdisciplinary facilitators. *Library Review, 61*(3), 199–214.

Knapp, J. A., Rowland, N. J., & Charles, E. P. (2012, October 4). *"Sensible shoes" on the ground: Embedding in an undergraduate research experience.* Presented at the Library 2.012 Worldwide Virtual Conference. Retrieved from http://www.library20.com/page/2-012-conference

Kobzina, N. G. (2010). A faculty–librarian partnership: A unique opportunity for course integration. *Journal of Library Administration, 50*(4), 293–314.

LaMarre, A., & Hunter, L. (2013). The use of community engaged learning in the teaching of the sociology of deviance. *Teaching and Learning Innovations, 15*. Retrieved from https://journal.lib.uoguelph.ca/index.php/tli/article/view/2702

Li, J. (2012). Serving as an educator: A Southern case in embedded librarianship. *Journal of Business & Finance Librarianship, 17*(2), 133–152.

MacKinnon, C. A. (2010). Engaged scholarship as method and vocation. *Yale Journal of Law and Feminism, 22*, 193–205.

Mahlomaholo, S. M. G. (2010). Towards sustainable empowering learning environments: Unmasking apartheid legacies through scholarship of engagement. *South African Journal of Higher Education, 24*(3), 287–301.

Martin, S. (2010). Co-production of social research: Strategies for engaged scholarship. *Public Money & Management, 30*(4), 211–218.

McFarland, D., & Chandler, S. (2002). "Plug and play" in context. *Journal of Business & Finance Librarianship, 7*(2–3), 115–129.

McKelvey, B. (2006). Response: Van de Ven and Johnson's "Engaged Scholarship": Nice try, but… *The Academy of Management Review, 31*(4), 822–829.

Medaglia, R. (2012). Engaged scholarship in research on information technology in government. *Information, Communication & Society, 15*(2), 246–259.

Mery, Y., Newby, J., & Peng, K. (2012). Why one-shot information literacy sessions are not the future of instruction: A case for online credit courses. *College & Research Libraries, 73*(4), 366–377.

Miller, W. A., & Billings, M. (2012). A university library creates a digital repository for documenting and disseminating community engagement. *Journal of Higher Education Outreach and Engagement, 16*(2), 109–122.

Mueller, M., & Lentz, B. (2004). Revitalizing communication and information policy research. *Information Society, 20*(3), 155–157.

Norris-Tirrell, D., Lambert-Pennington, K., & Hyland, S. (2010). Embedding service learning in engaged scholarship at research institutions to revitalize metropolitan neighborhoods. *Journal of Community Practice, 18*(2–3), 171–189.

Orr, K., & Bennett, M. (2012). Public administration scholarship and the politics of coproducing academic–practitioner research. *Public Administration Review, 72*(4), 487–495.

Peterson, T. H. (2009). Engaged scholarship: Reflections and research on the pedagogy of social change. *Teaching in Higher Education, 14*(5), 541–552.

Phaneuf, M.-R., Lomas, J., McCutcheon, C., Church, J., & Wilson, D. (2007). Square pegs in round holes: The relative importance of traditional and nontraditional scholarship in Canadian universities. *Science Communication, 28*(4), 501–518.

Ping Li, P. (2011). The rigour–relevance balance for engaged scholarship: New frame and new agenda for trust research and beyond. *Journal of Trust Research, 1*(1), 1–21.

Pollock, D. (2010). Doorjambs and the promise of engaged scholarship. *Quarterly Journal of Speech, 96*(4), 462–468.

Rankin, J. A., Grefsheim, S. F., & Canto, C. C. (2008). The emerging informationist specialty: A systematic review of the literature. *Journal of the Medical Library Association: JMLA, 96*(3), 194–206.

Robinson, T. (2000). Service learning as justice advocacy: Can political scientists do politics? *PS, Political Science & Politics, 33*(3), 605–612.

Robinson-Garcia, N., & Torres-Salinas, D. (2011, June). Librarians "embedded" in research. *CILIP Update,* pp. 44–45.

Schinke, R. J., McGannon, K. R., & Smith, B. (2013). Expanding the sport and physical activity research landscape through community scholarship: Introduction. *Qualitative Research in Sport, Exercise and Health, 5*(3), 287–290.

Schneider, A., & Sidney, M. (2009). What is next for policy design and social construction theory? *Policy Studies Journal, 37*(1), 103–119.

SCONUL Working Group on Information Literacy. (2011). *The SCONUL seven pillars of information literacy: Core model for higher education*. London, England: Society of College, National and University Libraries (U.K. & Ireland).

Shultz, L. (2013). Engaged scholarship in a time of the corporatization of the university and distrust of the public sphere. In L. Shultz & T. Kajner (Eds.), *Engaged scholarship* (pp. 43–53). Boston, MA: SensePublishers.

Shumaker, D. (2009, January 24). The unasked question—The unrecognized need [Web log post]. Retrieved from http://embeddedlibrarian.com/2009/01/24/the-unasked-question-the-unrecognized-need/

Shumaker, D. (2012). *The embedded librarian: Innovative strategies for taking knowledge where it's needed.* Medford, NJ: Information Today.

Siess, J. (2010). Embedded librarianship: The next big thing? *Searcher, 18*(1), 38–45.

Small, S. A., & Uttal, L. (2005). Action-oriented research: Strategies for engaged scholarship. *Journal of Marriage and Family, 67*(4), 936–948.

Smith, E. M. (2007). Integrating information and scientific research skills training within a research-supportive undergraduate curriculum. In K. K. Karukstis & T. E. Elgren (Eds.), *Developing and sustaining a research-supportive curriculum: A compendium of successful practices* (pp. 137–174). Washington, DC: Council on Undergraduate Research.

Smith, M. (2011). A reactive, radical approach to engaged scholarship. J*ournal of Higher Education Outreach and Engagement, 15*(4), 87–100.

Stamatoplos, A. (2009). The role of academic libraries in mentored undergraduate research: A model of engagement in the academic community. *College & Research Libraries, 70*(3), 235–249.

Stanton, T. K. (2008). New times demand new scholarship: Opportunities and challenges for civic engagement at research universities. *Education, Citizenship and Social Justice, 3*(1), 19–42.

Thomas, E. A., Bird, N., & Moniz, R. J., Jr. (2012). Informationists in a small university library. *Reference & User Services Quarterly, 51*(3), 223–225.

Thomas, N. (2013). *Getting in bed with our customers: How did we embed our services to push the library mission at Vaal University of Technology.* In *Proceedings of the IATUL Conferences*. Retrieved from http://docs.lib.purdue.edu/iatul/2013/papers/19

Torre, M. E., & Fine, M. (2011). A wrinkle in time: Tracing a legacy of public science through community self-surveys and participatory action research. *Journal of Social Issues, 67*(1), 106–121.

Tsui, A. S. (2013). Making research engaged: Implications for HRD scholarship. *Human Resource Development Quarterly, 24*(2), 137–143.

Uggen, C., & Inderbitzin, M. (2010). Public criminologies. *Criminology & Public Policy, 9*(4), 725–749.

Van de Ven, A. H. (2007). *Engaged scholarship: A guide for organizational and social research.* Oxford, England: Oxford University Press.

Van de Ven, A. H., & Jing, R. (2012). Indigenous management research in China from an engaged scholarship perspective. *Management and Organization Review, 8*(1), 123–137.

Vogelgesang, L. J., Denson, N., & Jayakumar, U. M. (2010). What determines faculty-engaged scholarship? *The Review of Higher Education, 33*(4), 437–472.

Waddington, K. (2011). Watch this space: Working between disciplines and paradigms in the scholarship of organizational gossip. *International Journal of Interdisciplinary Social Sciences, 5*(9), 323–330.

Webber, J. R. (2007). Indigenous struggle in Latin America: The perilous invisibility of capital and class. *Latin American Politics & Society, 49*(3), 191–205.

Weber, L., & Bowling, B. (2011). Stop and search in global context. *Policing and Society, 21*(4), 353–356.

Woodhouse, E., Hess, D., Breyman, S., & Martin, B. (2002). Science studies and activism: Possibilities and problems for reconstructivist agendas. *Social Studies of Science, 32*(2), 297–319.

Younts, S. E. (1996). JPSO: A forum for outreach. *Journal of Public Service and Outreach, 1*(1), 2–8.

About the Authors

Nicholas J. Rowland is associate professor of sociology at Penn State Altoona. His interest in engaged scholarship, with special emphasis on undergraduate research, motivates his collaborative work with Jeffrey A. Knapp. He received his Ph.D. from the Department of Sociology at Indiana University.

Jeffrey A. Knapp is the Larry & Ellen Foster Communications Librarian for the Penn State University Libraries in University Park, Pennsylvania. His research interests include librarian involvement in interdisciplinary research and envisioning new roles for academic librarians in a constantly shifting landscape. He received his master of science in library science at Clarion University of Pennsylvania.

Research Articles

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number2, p. 37, (2015)

Land-Grant Extension: Defining Public Good and Identifying Pitfalls in Evaluation

Christopher S. Collins

Abstract

Land-grant extension is an ongoing example of higher education outreach and community engagement. Population, food, climate, and geographic isolation all factor into the importance of producing and facilitating agricultural knowledge. This qualitative study took place in a geographically isolated region with potential food security issues to highlight the function and role of agricultural extension as a provider of public good. A key component of the study includes the limitation of evaluation methods in documenting extension as a public good.

Introduction

The flow of knowledge between researchers and practitioners is an essential component of higher education's contribution to society. Researchers learn from practitioners, develop new forms of knowledge and innovation, and then extend the knowledge back into the practitioner community. Although knowledge extension occurs in many forms, agricultural extension represents the first type of extension utilized in U.S. higher education. The study for this article took place in the setting of agricultural extension work, which is a very broad category that includes a robust number of programs and topics. As a result, the terms extension, agricultural extension, and cooperative extension are used interchangeably. They are all meant to identify the work of connecting university-based research and service with the surrounding community. Land-grant agricultural extension is a crucial element in providing education for the agricultural sector, both formally and informally, and connecting research-based developments to farmers. Through agricultural extension, the development of land-grant institutions eroded the elitism of the ivory tower. With this erosion, universities were connected to food-producing communities in new and innovative ways and were recognized as providing broad public benefits.

For several decades, critical theorists have maintained an argument for the centrality of the university as a producer of public good through the performance of research and the exchange of critical perspectives *(Marginson, 2007; Pusser, 2006; Slaughter & Rhoades, 2004)*.

Public good is generally defined as the well-being of society or a benefit thereunto. Articulating the centrality of the public good mission proves to be an easier task than understanding the degree to which the mission is being fulfilled. According to Bowen *(1977)*,

> The outcomes from research and public service cannot be measured with any precision, and so conclusions will inevitably be subjective and judgmental. It is possible, however, to describe these activities in some detail. Indeed, a mere recital of them strongly suggests they yield important benefits. *(p. 291)*

The results of this study reflect three guiding questions: (1) What is the perception among extension faculty and community partners regarding the purpose, function, and potential for public good of agricultural extension? (2) What role does evaluation and assessment play in a sector that was developed for broad public benefits (a notoriously difficult mission to measure)? (3) How is value understood and described as it relates to the impact of extension programs? The findings of the study include an in-depth description of the function, value, and perception of land-grant extension and the role it plays in producing public benefits. Furthermore, this article demonstrates the pressure to assess and evaluate the most crucial component of extension (public good), which is in fact difficult or even impossible to measure with precision.

Due to the difficulty of measuring public good, it is a challenge to frame higher education's social impact in broad terms that validate collaboration and partnerships with other institutions and individuals. It is also a challenge for higher education institutions to act in accordance with a mission to serve society. Wider recognition of a narrative reflecting higher education's support of public good has the potential to increase retrenchment in public support with implications for financial, political, educational, and civic sectors of higher education and society *(Kezar, Chambers, & Burkhardt, 2005)*.

The agriculture sector, universities, and many other operations are faced with pressure to do more with less. Growing populations (which increase the need for food production) and increasingly scarce water resources have led to the phrase "produce more crop with less drop." Funding reductions from state and federal sources are placing budgetary pressures on public land-grant universities. At the same time, all aspects of the university, including all forms of extension, are being asked to produce evidence to demonstrate their value. The assessment movement is a reality for all aspects of the university, and especially for units with diverse sources of funding, like grants and guaranteed federal funds. This study considers the intersection of the public good mission and the pressure to evaluate and substantiate value.

Qualitative methods were used to examine the role and impact of agricultural extension as a public good in a state with high levels of food imports and to understand how partners in the community (typically farmers) and university faculty perceive the work of extension. Hawai'i presents a potentially significant food security scenario, as 90% of the food in the state is imported. This situation makes Hawai'i a good location for studying the intersection of land-grant extension, public good, and the ability to evaluate or measure public good.

The design of the study involved 52 individual interviews as well as 24 site visits to farms, extension offices, field days at demonstration farms, and other relevant locations. In an era of austerity, this study investigated whether evaluation methods effectively determine and communicate the broadest and deepest benefits of this historical mode of education. Although the parameters of this study focus on a particular model of extension, the findings may be useful for multiple modes of extension and university outreach that are focused on providing public benefits. Findings from the study are organized around the following themes: the perception and function of extension, evaluation, understanding value, and the future of extension. Collectively, these categories highlight the challenges facing extension as a component of the public land-grant university.

Literature Review

Public Good

The notion of public good(s) or contributions are contested and considered problematic, as the notion shares space with common good and public interests *(Mansbridge, 1998; Pusser, 2002)*. Marginson *(2012)* distinguished between public goods (plural), public good (singular), and the public sphere. Public and private goods are objectivist economic terms, distinguished in character by Samuelson *(1954)*. Whereas private goods are benefits accruing to an individual, public goods are free of exclusion and rivalry, which means they can be consumed by an infinite number of people without being depleted (e.g., clean air or comprehension of a mathematical theory). Information and knowledge are public goods produced in higher education, the latter of which has been identified as an almost pure public form *(Stiglitz, 1999)*. The notion of public goods is more closely associated with social rates of return *(McMahon, 2009)*. For example, Plastina and Fulginiti *(2012)* estimated a 27% rate of return on public agricultural research in the 48 continental United States. The percentage is a return on investment in the form of publicly available goods.

Public good (singular) is more normative and collective in emphasis, a wide-ranging concept that is covered and maintained by various literatures *(Calhoun, 1998)*. The singular public good is often linked to higher education as a process of democratization and human development *(Marginson, 2012)*. For example, if higher education plays a role in promoting public good, it ought to be open, equal, and purposed for a larger community beyond colleges and universities. In the case of land-grant extension, a primary purpose is to serve the agriculture sector and the broader population that ultimately receives food from that sector.

Habermas *(1989)* located the public sphere as a forum and space for civil discourses—spaces where people meet, communicate, and form opinions on contemporary issues. Higher education has served as a medium for public transformation and a space for debate and contention (see broadly *Rhoads, 1998*). Pusser *(2002, 2006)* argued for continued attention to the preservation of the university as a public sphere, especially in the wake of political and economic forces that shape higher education. Increasingly restricted space for dialogue and open exchange of ideas are symptoms of deeper problems that undermine the potential social and cultural contributions of the university *(Rhoads, 2011)*.

With limited ability to measure public good, the value of and any consensus around higher education as a public good occur in public perception, policy, and debate. Various conditions affect the degree to which public good and goods emerge in higher education *(Marginson, 2012)*. Pusser *(2002)* identified the land-grant movement as an often-cited condition that promotes public good through public investment in higher education. Land-grant institutions widened the scope of university disciplines to perform research and apply its results, which led to a social contract for research *(Feller, 2000; Pusser, 2006)*. With resources and a broad sanction from the federal government, a set of institutions began producing research for the common good and trained teachers, civil servants, engineers, and agronomists. However, the evaluation and perception of university connections to public good present a problematic nexus and a central issue for the study of land-grant extension. Franz *(2011, 2014)* wrote extensively about the history and function of public good and the need to articulate its value. Although accountability, evaluation, and the political process are essential to public good, they constitute an imperfect apparatus for recognition. The difficulty associated with recognizing the collective benefits created in higher education (e.g., agricultural extension) can render them "invisible, undefended, and underfunded" *(Marginson, 2012, p. 16)*.

Higher education institutions need a "larger purpose that underpins their existence" *(Marginson, 2012, p. 8)*. Publicly owned institutions are more open to democratic policy involvement and are more likely to practice a collective approach *(Marginson, 2007)*. Given that hierarchy and market competition tend to produce private goods and that public goods can be appropriated to private goods, the public nature of higher education is in question. There is an ongoing need to measure public benefits and to communicate the macro historical impact of higher education that has eluded a clear definition. Today, assessment and evaluation are the accepted approaches to measurement.

Land-Grant Extension

The Morrill Act of 1862 granted federal support to states in order to develop college curricula that included agricultural instruction. Over time, the state land-grant colleges and universities evolved into new types of universities. These institutions developed the ability to deliver practical instruction and services as promoted by populist and egalitarian advocates in the nation. A second Morrill Act was passed in 1890 to provide additional support and to include previously excluded populations.

The land-grant idea is connected to a shift in access from the privileged to the working class, a transformation in the curriculum from the liberal to the useful, and a reorientation in purpose from theoretical knowledge to applied knowledge. However, land-grant institutions have also produced unequal benefits along racial and rurally segregated lines. Funding inequities for Historically Black Colleges and Universities (HBCUs) have been extensively chronicled and criticized as the antithesis of the purpose of land-grant institutions *(Berry, 1977; Collins, 2012; Hightower, 1973; McDowell, 2001)*.

The land-grant model flourished with its tripartite emphasis on instruction, research, and extension: the idea of making the production of knowledge created through research available to the surrounding community. In 1914, the Smith-Lever Act created the Cooperative Extension Service. The act did not invent the idea of extension, as institutions that were given land grants in the 1862 and 1890 Morrill Acts began extension work soon after they were established. According to Hightower *(1973)*, the extension movement was a reflection of a need to

> [t]ake the teachings of the college and the research of the experiment stations directly into the rural areas for the benefit of the people there… to go to people where they were, to help them solve problems they were facing in their work, in their homes and in their communities. *(p. 13–14)*

In the field of agriculture, this movement consisted of applying the scientific approach to farming. Bogue and Aper *(2000)* noted that this new connection resulted in increased agricultural productivity. Extension implemented appropriately is an effective way to engage the community and fight rural poverty *(Mayes, 1992).*

Berry *(1977)* described the purpose of the land-grant institutions as one that combines agriculture and education to preserve the land and the people. There is a growing perception that land-grant institutions have abandoned their initial role of providing education to the working classes and connecting research and service to rural communities to instead serve the interests of agribusiness *(Hightower, 1973; Young, 2001)*. Institutions that try to mirror elite research institutions and focus less on the diffusion of knowledge or cater to large businesses that provide significant funding are susceptible to critique. Even amid criticism and mission threats, the land-grant extension function is incredibly unique in the history of higher education and maintains the highest levels of knowledge diffusion and outreach of any college type in existence today.

The role of the land-grant institution is deeply connected to the ways in which postsecondary institutions can contribute to society. Marginson *(2012)* asked: What greater good would be lost if higher education ceased to exist? The answer lies in the connection to public purpose. Public good should tie universities into a larger process of democratization and human development and avoid "empty self-marketing claims about the social benefits of education or research with no attempts to define, identify, or measure the alleged benefits" *(Marginson, 2012, p. 9)*.

According to McMahon *(2009)*, the largest and most important social benefit of higher education emerges from the creation and dissemination of new knowledge. Often, research results and new knowledge cannot be absorbed, utilized, or implemented without specific and extensive training. The impact of agricultural extension is a key component of the land-grant contribution to public good. However, this benefit is most often captured in macrolevel studies as opposed to program evaluation, as demonstrated in the following section, which also explores the centrality of extension.

Evaluation and Assessment

Agriculture is an avenue in which land-grant institutions promote economic growth. As a vocational sector, agriculture is the primary source of income for roughly 2.5 billion people in the developing world *(FAO, 2003)*. The poorest half of the population benefits more from agricultural growth than any other economic sector *(UN, 2008; World Bank, 2007)*. Despite macrolevel evidence for the impact of agriculture, there has been a decline in public spending on agriculture since 1980 *(Akroyd & Smith, 2007).*

Agricultural extension can positively contribute to the welfare of farmers and other people living in rural areas *(Alston, Wyatt, Pardey, Marra, & Chan-Kang, 2000)*. Anderson *(2007)* noted that agricultural extension is a set of organizations and activities working to support engagement in agricultural production to “solve problems” and harness information and skill so that people can “improve their livelihoods” *(p. 6)*. The central focus is to increase farmers’ productivity and income. Extension can increase the pace of knowledge and technology transfers and assist in improving farm management practices *(Feder, Murgai, & Quizon, 2004)*. In addition, extension services are crucial components in the two-way information flow between farmers and scientists *(Anderson, 2007)*.

The current economic condition in the United States, competing government bodies, increased privatization, and a negative political climate all present serious threats to the future of extension *(Hoag, 2005; King & Boehlje, 2000)*, despite its impressive returns. For example, agricultural productivity increased about 2% per year in the latter half of the 20th century. Even without increasing inputs, output increased by 150% over this 50-year period *(Hoag, 2005)*. Although this productivity was financed with tax revenue, the recognition of such high returns is sparse and disconnected from the assessment and evaluation movement.

Waddington, Snilstveit, White, and Anderson *(2010)* noted that rigorous impact evaluations of agricultural extension programs are infrequent. This infrequency is due to the complexity of assessing interventions that include a wide range of factors that impact agricultural outcomes (e.g., climate/weather patterns, input and supply costs, market trends, and farmer aptitude). Alston et al. *(2000)* compiled a comprehensive review of the economic returns to agricultural research and development. Results of the analysis demonstrated an average rate of return of 47% for research and extension investments, with a higher rate for extension-only investments (80%). As with many extensive reviews, the methodology of the studies is wide-ranging, highlighting the difficulty of assessing influence for interventions with no comprehensive, collaborative framework or method.

In comparison to extensive rate of return analysis and meta-analysis, the institutional level of evaluation and assessment presents a more microlevel view of extension. Program-level evaluation is a determination of the extent to which programs achieve their goals and objectives. Program evaluation is also used to assess merit or worth. The idea of merit includes providing stakeholders (e.g., politicians, government officials, university officials, and community members) information that will contribute to evidence-based decisions about extension's present and future status *(Worthen, Sanders, & Fitzpatrick, 2004).* In practice, Douglah *(1998)* noted that it is important for extension professionals to recognize the importance and complexity of program evaluation in a way that moves beyond postactivity surveys, but also involves asking questions about program design, how information is delivered to its intended audiences, and the extent to which the program is producing desired results. Given the attention placed on validating investments, public officials, donors, and administrators are expecting more formal program evaluations. Douglah *(1998)* noted, "The more resources (time, energy, money) you invest, and the more critical thinking processes you employ, the more formal, and consequently more credible, your evaluation will be" *(p. 3).*

The extension logic model includes the following components: (1) inputs: staff, money, and partners; (2) outputs: activities and participation; (3) outcomes: short-, medium-, and long-term changes in behavior or action that produce a change in results *(Taylor-Powell, Jones, & Henert, 2003)*. The highest standard for assessment and evaluation is to be outcome-centered. The highest level of achievement for assessment and evaluation is to be outcomes-centered, as opposed to inputs- or outputs-centered. This standard, however, is the most difficult aspect of any evaluation, as it involves demonstrating a causal relationship between a program and a result.

Although the evaluations noted in the preceding paragraphs focus on extension, a variety of internal and external pressures are calling for evidence to "prove" the impact of investments in higher education programs. Legislatures and government agencies are increasingly observing institutional practices and then becoming involved in institutional decision making. This shift is true not only for extension, but in many programs and departments at higher education institutions. The larger issue at stake for extension is the distance between measurement tools and recognition of a contribution to public good.

Methodology

This qualitative study used qualitative tools to better understand the role and value of extension. Case studies are typically explored within specific parameters and help elucidate details of the site that may be applicable to other settings *(Yin, 2003).* This case is about agricultural extension in Hawai'i, an isolated state that imports 90% of all food. Given Hawai'i's potential food security risk, the value of knowledge produced for the agricultural community is extremely relevant, making the island state an ideal setting for the study. In this setting, agricultural extension agents at the University of Hawai'i at Mānoa (UHM) and farmers played the largest role in the knowledge exchange and were the primary participants in the study. On a global level, Hawai'i may be a microcosm for examining the role of agricultural extension in places that are highly dependent on imports and therefore vulnerable to the adverse impact of natural disasters and economic instability of food prices. The methodological emphasis is on the voice of the participants, and the primary intent is for their words, descriptions, and frameworks to build a perspective on the role of extension, evaluation, and the essence of public good.

Given that perception and understanding are key elements of realized public good, the research questions are as follows: (1) What is the perception among extension faculty and community partners regarding the purpose, function, and potential for public good of agricultural extension? (2) What role does evaluation and assessment play in a sector that was developed for broad public benefits? (3) How is value understood and described as it relates to the impact of extension programs? Given the first research question, the relationship between the university and the community through the role of extension in the life of farmers and growers was a large focus of this study. As a result, the participants in this study include both faculty and farmers. University faculty included instructors, researchers, specialists, and extension agents. Each farmer quoted in the study has been involved in some way with extension services. This study was approved by the Institutional Review Board.

Data Collection

Using qualitative methods, a variety of sources of evidence were used (e.g., direct and participant observation, interviews, and document analysis). Over the course of 7 months, a total of 52 interviews were conducted at multiple locations. Thirty-six interviews were conducted with university faculty (agents, specialists, researchers, and instructors). All participants were asked open-ended questions about the nature of their work and the value of extension. Interviews were recorded (with permission) and transcribed verbatim. These interviews coincided with 14 visits to extension offices, field experiment stations, demonstration farms, and other relevant locations in every county of the state. Field activities included 10 farm visits, interviews with 16 growers, and conversations with another 10 growers at field day events at demonstration farms. Two of the farmer interviews were recorded (with permission) and transcribed verbatim. Recording was not feasible for the other interviews due to their settings. For example, speaking with many of the growers required on-the-farm activities like cleaning onions, pulling cabbage, or walking through fields. These farm visits were also considered participant observation. During the visits, handwritten notes and memos constituted the data collection method. Multiple visits to farms helped to establish rapport, and careful attention was given to respecting the busy lives of farmers. To better understand how participants construct reality and think about the topics presented, each interview was flexible in format. Each participant was assigned a coded designation (e.g., A1) to maintain anonymity.

Analysis and Trustworthiness

The data analysis procedure used in this study was cyclical in nature, as it was "organized chronologically, reviewed repeatedly, and continually coded" *(Creswell, 2003, p. 203)*. Pattern analysis was utilized to identify major patterns within the findings and match them with predicted patterns *(Yin, 2003)* based on the frameworks mentioned in the literature review. These frameworks centered around the concept of public good as it relates to the role of extension and evaluation. All interview transcripts, field notes, and memos were uploaded to a qualitative coding program (Atlas TI) to apply the consecutive rounds of coding and to organize the emergent patterns. The analysis involved "sorting out the structures of signification" *(Geertz, 1973, p. 9)*.

Throughout the data collection and analysis process, various measures were used to ensure the trustworthiness of the findings from the perspective of the researcher as well as the perspectives of the participants. The first measure, triangulation, is evidenced in the multiple vantage points within the case study. Triangulation is the use of multiple theories, data sources, and methods to evaluate a phenomenon *(Denzin, 1970)*. Denzin identified three types of data triangulation (time, space, and person), all of which were applied in this study. The central focus of the study was evaluated at different points in time, with participants holding different roles and perspectives, and in various geographic locations.

Finally, discrepant findings running counter to the themes are presented as part of the inductive analysis strategy. Faculty and farmers from various backgrounds typically provide perspectives that do not necessarily coalesce. The analysis included a search for discrepant responses. The presentation and discussion of contrary information adds an element of authenticity to this investigation and allows a better reflection of the complex reality of different perspectives.

Findings

Four dominant themes that are relevant to the research questions emerged in the interviews. The following sections cover the perspectives on the role and function of extension, evaluation/assessment, value, and the major challenges for agriculture and extension. Each theme represents the sentiments of faculty at UHM and farmers around the state. Thick, descriptive quotations are used to highlight each theme in the findings.

The Role and Function of Extension

Although university extension has a long and notable history (largely due to the land-grant legislation), the role of extension is often unclear. This absence of clarity exists not only in the public's perception, but also within university communities. Public land-grant institutions' connections with their original mission range from strong to vague, with the latter reflecting a focus more on the historical record than current institutional identity. Given that public good relies upon recognition, the lack of clarity about this historical sector is a foundational issue for conveying a primary benefit of extension. One university extension employee noted:

> I'm an extension agent. And [people] ask, do you teach classes? Are you a professor? No, I'm not a professor.… Although I do a guest lecture now and then, I'm not a lecturer. I kind of do research but it's hard to describe what extension is. People ask, what is extension? I love it, though, because I have one foot in the academic world here and one foot in the real world, I guess, out of the ivory tower, and kind of go back and forth between the two.

The role of a university is typically perceived as an environment where students obtain a degree that leads to more income and a better life (an individual return on investment). However, extension has such a strong community connection that it often exists outside the typical conception of the role of a university. When the role of extension is considered minor or is overlooked, the gap between the "academic world" and the "real world" is larger.

Extension agents and specialists characterized extension as a unique space that connects academic knowledge with practical purposes. One extension agent noted:

> The whole idea of extension is that there's always information here at the university that people out there need. However, with so much information out there, people don't always know what they want or need. So they have somebody that comes along and can actually just spell out for them or be able to analyze their problem.… I like it because it's taking all of that research and actually putting it to good use.

Another agent said, "We translate scientific information into usable information for the general public and that's a fairly unique service provided by cooperative extension.… Other state agencies do have people out in the field but they tend to be regulatory" (A1). Extension is a university-based service, funded by the public through tax revenue. However, as noted by the agent in the preceding quote, there is an important distinction between university extension and state agencies that have a regulatory function. Several farmers in this study noted how the extension agents actually helped them deal with what they described as "overbearing" regulatory challenges that threatened their ability to function in a way of life that has very small financial margins. This benefit is yet another one that may be difficult to capture or categorize.

In terms of public good, both the generation and diffusion of knowledge are key claims for higher education *(Marginson, 2012)*. Many universities are focused on harnessing knowledge for patenting and profit *(Slaughter & Rhoades, 2004).* Several of the faculty with extension duties noted that research products from public universities "should be in the public domain." One extension agent observed, "We don't sell knowledge—we are not crop consultants." This approach fits within the notion that knowledge creation at public universities should be used for public good, as advocated by Marginson *(2012)* and Pusser, Kempner, Marginson, and Ordorika *(2012)*. Slaughter and Rhoades *(2004)* described a public regime that stands in opposition to the academic capitalist regime. In the case of extension, funding is increasingly scarce for many projects and staff hiring. In the academic capitalist regime, diversifying revenue through patenting and privatizing is a rational response. However, given the history of diffusing knowledge from public universities, one extension agent explained:

> I know we've been under pressure a lot to patent stuff. My own philosophy is I'm not going to patent anything. It is government money and my role has always been to transfer that information.… If it [patenting] becomes the job—I just can't see myself doing it.

Another faculty member noted:

> Every database we've ever produced, we have made available on the web for free.… I don't care if they say it's from us. It's out there. It's yours. That's why we put it up on the website. It's not hidden from anybody.

This sentiment reflects the majority response from faculty, demonstrating their opinion that the university operates within the public good framework. One discrepant response to the general public good regime approach of diffusing knowledge was the previous patenting of new conventionally developed varieties of taro, a meaningful crop to the native population. Following the patenting, farmers and natives protested until the patents were relinquished and any revenues were returned to the growers.

Food producers (including farmers, ranchers, and fishers) have to fulfill many roles in their line of work. One vegetable grower noted, "A farmer has to be an entomologist, know soils, and be a mechanic, plumber, marketer, an expert on land and water rights—a jack of all trades." This need to be a "jack of all trades" was attributed to the small financial margins in food production and the inability to hire someone to complete a specialized task. Accordingly, the more farmers have to do, the more areas extension agents serve. One agent explained that what "a lot of people don't realize is that we don't specialize in one particular thing." Although many have an emphasis on fruits, vegetables, landscape, or livestock, according to the same agent, "that is just where your emphasis is—you have to know how to do all the other stuff, be multifaceted and able to answer all of the questions, not just in one particular crop or another." Field visits included accompanying agents for a day's work, allowing observations of many of these multifaceted requirements. On one particular day, an agent visited a farmer's home to consult about new crops to plant, then drove out to the farm for some observation, picked up items from an agricultural supply store that had been requested by participants in a beginning farmers program, evaluated pest damage on another farm, and collected soil samples from another farm. These experiences provided a brief but important insight into the varied work required of the agents and the connection to their constituents—an essential element in the overall description of the role of extension in public good (as indicated in the quote from *Bowen, 1977* in the Introduction).

Limitations in Evaluation and Assessment

As noted in the literature review, evaluation and assessment is a key component of publicly funded programs—especially in education. When asking extension agents if and how they are required to measure their outcomes and evaluate their impact, they all said yes and affirmed the difficulty of executing this task. For example, one agent responded, "It's really hard, because the growers also forget quickly. You solve their problems and they're happy and then they have another one, right? Even if I solved that one, they are always spreading fires."

Other agents noted that the complicated nature of evaluation is an ongoing issue and that as their personnel numbers are decreasing, the pressure to evaluate is increasing. Time spent evaluating also equates to time spent away from the field. Expertise in evaluation was also noted as an issue because *outputs* are often being measured as opposed to *outcomes*: "'How many journal articles did you produce? How many people did you contact? How many workshops did you put on? How many people showed up?' Only now are we, relatively speaking, starting to measure impact." Ultimately, frustration or even confusion was evident. The descriptions from growers, community stakeholders, and extension personnel strongly indicated a diligent work ethic, transfers of knowledge, and receptive partners in the agricultural community. However, ultimately, there are shortcomings in finding ways to evaluate systems to prove what was happening:

> The last three years have been difficult trying to qualify major deliverables.… The challenge is figuring out how many people adapted the technology. For example, I did a workshop Saturday for teachers who wanted to benefit from incorporating aquaponics in school gardens. So I gave a presentation to 50 teachers. I don't know how many are going to adopt or utilize what information I gave them. I know how many people contact me. I do site visits. I gave the information to 50 people, but I don't know how many people are going use it.

More methods of evaluation are becoming available, as evidenced by logic models and an increasing number of conferences to train evaluators and share ideas. A key point made by the extension agents (and noted in the literature) is that assessment requires both time and resources. There may be a law of diminishing returns in terms of how much expertise in evaluation should be required for programs that are already functioning in financially austere environments.

Evidence from the literature demonstrates that when adding a new technique, technology, or piece of knowledge to the growing environment, better practices should yield better results. The complications of attributing a growth in production, change in health benefits, or increase in income are extensive. An agent explained the difficulty in these terms:

> It's really hard because the growers aren't willing to disclose financial information. It is hard to track even a change in knowledge. If you see them adopting some of the things that you're recommending… I think I'd take that as a sign. If they didn't see value in what we were doing they wouldn't show up and they wouldn't modify

> the things that they're currently doing unless there's some increase in production or there's some benefits to them that makes sense.

A change in behavior is a key sign of impact on outcomes, but formally documenting such a change remains difficult.

The issue of cause and effect further complicates measurements of change. Even if growers alter behavior, other third-party factors like farmer ingenuity and knowledge are not typically accounted for in evaluation logic models. In addition, there are considerations of immediate and long-term impacts. The longer the outcome is measured, the more difficult it is to capture and isolate cause and effect. An agent at UHM expressed confidence in extension's influence and noted:

> We believe we have no way of proving this; it has to do with the readiness of our clientele. People have the skills, so here is an anecdote. You might be 25 years old, a mother of three or four kids, single parent and in a domestic violence situation, you come to our class, our group sessions, and you do very well but you don't use it but until five or six years down the line when you're ready. If you have those skills, you can start budgeting and purchasing.

One purpose in evaluation is to be able to make evidence-based decisions and to avoid mistakes and repeat successes. However, the general feeling from those participating in the study is that the call to evaluate is complex, difficult, and may not actually capture the best aspects of extension services. This challenge is further explored in the next section on the theme of *value*. One discrepant response from the aversion to the requirement to evaluate was a small group of agents and one farmer who advocated that there must be some way to know what programs and forms of outreach are effective. Although crude, standard evaluation and logic models were considered by the minority of participants to be an imperfect but necessary tool.

Value and Impact as Public Good Descriptors

The question of value in terms of agricultural extension moves beyond the methods of evaluation. All food producers in the region deal with different challenges with respect to weather conditions, elevation, pests, and resource levels. Furthermore, farmers vary in their experience levels and prior knowledge. When there is a new pest or problem, a new farmer, or a new technology or product to be introduced, extension has the largest impact. For example, one medium-sized aquaponic fruit producer noted that when they first started the project, they killed all of the crop twice and the fish once.

> The plants were dying… I thought it was too hot in here [the greenhouse]. He [the extension agent] took samples and did tests and came back and said it was pythium and we were kind of like, "What the hell is that?" It is a root fungus that comes with the plants. If it is in the soil it is minor, but when it hit the water it just goes everywhere, so it was killing everything. So we were pulling our hair out. We killed the plants twice and he says you can put potassium silicate in it. We tried it and instantaneously there was no longer a problem.

This particular farmer was producing high-quality fruit, expanding to a third large greenhouse, and selling everything he grew. The farmer noted, "I do not know what we would have done without the extension services."

A tea grower noted that tea is a relatively new crop for the region, and working with extension was a very collaborative "two-directional process" with lots of information sharing between extension and the farmers. Given the newness of tea, the transfer of knowledge was key when trying to generate an entirely new industry. The demonstration farm with tea, central location to coordinate the facilitation of knowledge, and increased collaboration created a new industry with greater ability to process and sell. A well-known medium-sized lettuce grower commented at length about how his view of extension changed as he saw the value emerge:

> I have been farming all of my life and have been aware of the extension service for 35 years. There is a general feeling from other farmers that the extension service is not all that important. This is a negative feeling toward extension asking, "How do they know anything? After all, they don't farm themselves." I had this feeling at points in my life as well. The key to success is "learning after you think you have learned everything." Today, my feeling about extension is very different; I now think it is

> very essential to the success of agriculture. My negative feelings were because of the academic versus practical division. How could they help a practical farmer when the two worlds cannot mesh? I am a product of a new generation and see how critical extension is to offer an academic perspective, especially for farmers who did not get that kind of education or background. Extension is important as science advances.

The researchers asked the same grower how extension might be better, and he mentioned that it "depends on the client base" and expanded more on the valuable role agents play in the life of a farmer:

> Utilizing extension services can help tackle a problem more quickly with more people working on it. Those who do not are missing out on a valuable resource—for whatever reason they are handicapping themselves. The labs, entomologists, and other things are a problem-solving department that enhances efficiency exponentially.… There are so many products now, if we can shorten the learning curve, that equals money. I hope others can see the value and importance of the future. When we have to produce more food on less ground with rising costs, it will be a challenge, and we need every advantage, which includes extension services.

This farmer's extensive commentary highlights the role of perception among stakeholders as it relates to recognizing the value in extension services.

Many more examples of the value of extension emerged in this study, including the implementation of aquaponics programs in prisons and hospitals to engage prisoners and patients in a healthy and prosocial activity that created more sustainability for the institutions. There were multiple examples of extension agents demonstrating how a $25 soil test saved farmers a great deal of money by reducing fertilizer purchases. A demonstration at an experiment station addressed a new issue for tomatoes in the state. An extension agent described the purpose of the event:

> New viruses and new diseases come in and we had to team up with some other researchers at UH and the specialists and come up with a plan 'cause growers weren't

> able to produce tomatoes like they were I guess before the virus came in. So, there's a team that works together on this tomato leaf curl virus and we contacted seed companies. We were able to bring in some seeds from the mainland, put a few trials in, and then turn around very quickly to have a field day so that growers were able to see that there were resistant varieties available and that they could modify their operations to combat this virus with some other resistant varieties in addition to their commercial type of operations. So, it's a good partnership between the extension guys, the research guys, and then we also keep in communication with the statewide agent so that they know what we're doing and so they can spread the word to their growers.

Tomato growers in attendance expressed their appreciation for the event and left with information and samples to take back to their farms. Other examples with high degrees of value where extension reached out to the community included health and diet promotions, home gardening programs, and other diverse services.

One discrepant response came from a farmer working on one of the larger organic farms in the region. The grower noted that too many extension agents exclusively work with large, conventional farms. In response to requests for assistance, the farmer indicated that a grant would need to be secured to initiate a project on his farm. This grower said, "How many times do we have to pay for this service? We pay for the institution through state taxes, the land-grant work through federal taxes, and now in order to do an experiment on my farm, there needs to be another source of funding?" Despite the complaint, the farmer worked very closely with and was supportive of an extension agent who dedicated his time to organic methods.

The value of extension is deeply connected to the idea of higher education as a public good that provides social benefits. For example, one extension specialist contrasted the nature of the public versus private model in relation to value:

> [In] private models, you go get your own money, work on patents, and the focus on universities is to generate patents and generate products to run on.… The role of public institutions is to produce public research and address those questions that are going to impact the public life, quality of life, and things that private

> industry is not going to address because there is not an immediate return on investment.… That is the role of public institution, public research, that's why we exist. We're supposed to do stuff that is potentially high impact with potentially low short-term returns, that's what we're here for.

Considering the function of agricultural extension to represent and contribute to public good, the specialist's comparison to the role of the private sector is poignant. Perhaps the most valuable aspect of land-grant extension lies in its ability to provide something that other institutions will not provide.

Challenges and the Future of Extension

The previous theme leads into two related challenges: food security in the state and reductions in resources for the extension program. Food security for an isolated and heavily populated chain of islands is a tangible issue. According to food experts at UHM, 90% of the food in the state is imported. In the event of a crisis that prevented the importing of food, the state has only a 7-day food supply. As a result, the agriculture sector plays a major role in the balance of locally produced versus imported food. Extension agents work promoting new approaches for attracting more people to agriculture, especially in the midst of attrition among farmers:

> Things keep changing as a farmer. There's always these new pests, new chemicals to deal with the pests, new techniques, the laws change. All of these things, for a small farm in Hawai'i, are overwhelming.… If you lose one or two crops in a season, that could be the end. The margins are too small and it makes it harder to survive as the costs of fuel and fertilizer go up and the profit margins go down.

Food production and security have much to do with economy of scale, according to one faculty member. Whenever it is less expensive to produce food somewhere else and ship it to the islands than it is to grow locally, consumers will favor the import. Until this cost difference shifts or a major crisis occurs, it is unlikely that the import balance will be altered. Nevertheless, extension personnel closely monitor the agricultural production capacity of the state and the potential challenges around food security, and food production is promoted. It is difficult to estimate the impact of a service in light of a hypothetical crisis. However, the more pressing the issues of food security and local production become, the greater extension's potential usefulness.

For extension to support these immense challenges, investment and resources are necessary. As noted in UHM annual reports and in interviews with faculty and farmers, with the reduction in funding, the number of personnel in the state has gone down. One faculty member noted:

> The place of extension is something that has been especially called into question in the last few years. It's one of these areas that when there are serious budget cuts, extension is kind of pushed to the forefront.... We've lost a lot of extension faculty and it has had some pretty dramatic effects on how we operate.... We are struggling to figure how to continue to serve clients who have come to depend on us in the past and reach out to new clientele, with changing demographics in the state and changing needs.

Six of the farmers in the study made note of the reduction in extension personnel. The farmers were able to cite how many people were working in the field 5 years ago, compared to how many are available now. Retirements have left unfilled positions, and faculty have taken on additional duties. Many specialists divide their duties between research, extension, and instruction. One specialist echoed the response of several others: "My duties are 65% research, 15% extension, and 20% instruction, but in reality, it is chaos because extension requires 100% of my time."

The last facet of the challenges presented involves the perception of extension by various constituencies, including university officials:

> I would say a majority of the university does not know or understand extension very well, and sadly that includes many of our upper administrators. I think that's probably a common complaint in most land-grants with a larger mission. Let's face it, most people and most colleges here [UHM] do research in addition to instruction and then have some kind of service component as expectations of their faculty, but really nothing quite like extension.

Beyond the boundaries of the university, the recognition of the role, function, and value of extension is crucial. The social benefits that emerge from the land-grant mission and the university role in public good are fully realized only when public perception exists. This challenge is major—extension is a facet of the university that provides some of the highest returns on investment but is often underappreciated and faces major funding reductions.

Discussion

In response to the research questions, the collective responses from extension faculty and farmers indicate that there is a nexus among the issues of perception, purpose, and public good. Assessment and the notion of value further complicate the state of land-grant extension in public higher education. There is a conceptual mismatch between the original mission of extension and the highly prescribed evaluation methods that attempt to measure the impact and value of this long-standing public good function. Measuring a function with a limited tool can produce detrimental results for universities and their programs. Consider the narrowly focused rates of return analysis used by the World Bank to measure higher education in developing countries *(Collins, 2011)* and the subsequent acknowledgment of its failure to capture the impact of broader benefits *(TFHES, 2000)*. Funds had already been cut, and universities were saddled with massive challenges by the time policy makers acknowledged and reversed the economically uninformed analysis.

The extension agents' observations about the perception and understanding of extension demonstrate a problem in the recognition of this public-oriented university service. The pressure to evaluate extension programs with narrow tools may exacerbate this problem and contribute to a greater disconnect from realized public good. The pressure was also reflected in comments from extension agents. However, most of the farmers involved with extension described, in detail, the ways in which they value and have benefited from agricultural extension. In turn, they are able to continue with local food production in a state that imports a vast majority of food. As opposed to a mere recital of the significant benefits, this analysis demonstrates an important disconnect for an increasingly pressed aspect of higher education. Decreased funding, staffing, and programs, and increased pressure to evaluate and assess impact with tools that ultimately do not capture the greatest public good is likely a looming quagmire for the progress of this historic university offering.

One hazard in the requirement to assess and evaluate is the time it takes away from performing extension and service work. Evaluation at its best can lead to smart investments of time and energy. It can help identify techniques, approaches, and areas that are most effective and others that are not working. At worst, evaluation can take significant time away from completing extension work, to the extent that the pool of evidence to evaluate decreases. The law of diminishing returns applies to extension and evaluation. Complexities in this regard can provide some caution against quickly implementing extensive evaluation systems. However, the push to evaluate is often related to funding. Threats to funding increase the pressure to adopt evaluation methods, even in the absence of evidence that such methods produce reliable results. For example, if evaluation does not adequately assess the monetary benefits achieved (as ultimately intended) or becomes another financial burden, then funding may decrease. Decreases in funding will push departments to seek funding from other places, notably the private sector. Increased influence from the private sector can drive the focus of extension away from the public benefits of higher education. The primary pitfall in evaluation is the inability to capture the public good component of extension, which is likely the most valuable aspect of the service. The degree to which evaluation should be considered useful in the future should reflect its ability to capture the public good components of extension.

Conclusion and Future Research

The history of extension demonstrates how land-grant institutions transformed the nature of higher education. The mission-based focus on breaking down the ivory tower and connecting research with practical application situates the university as a promoter of public good. Previous studies demonstrated that extension can indeed contribute to poverty reduction by diffusing new knowledge into communities that can benefit from new technology and techniques *(Collins, 2011, 2012)*. Others have found that extension services contribute both public and social benefits *(Alston et al., 2000).* This study qualitatively demonstrated the impact and value of extension with several meaningful examples. Although food producers use extension at different levels and find the services to have varying degrees of utility, study participants indicated that knowledge diffusion enhanced the viability of food production. Its positive effect on food production capacity is exemplified by the accounts of assistance to new farmers with startup advice, solutions for dealing with pests and disease, and collaborative work to produce knowledge about new crops for the region. In addition, faculty with extension-related duties demonstrated a strong dedication to the food-producing community and the public nature of knowledge produced at a public university. These narratives illustrate extension's high value and contribution to the community. Although direct clientele are aware of this value, the degree to which the larger university community and the public are aware is questionable. Both the growers who place a great value on the service and the extension agents who are facing dwindling resources and support described their concern with this lack of awareness. On a global level, issues of food security highlight the state of Hawaiʻi as an applicable case study for the importance of agricultural investment. If a natural disaster, an act of terrorism, or an economic crisis halted food imports, the state would have only a 7-day food supply. Investment in agriculture is critical to long-term food security, and the ability to prevent or alleviate a food crisis is at the core of public good. For universities, this investment should be at the forefront of the public engagement agenda.

Many of the educational and service units that are increasingly required to demonstrate their benefit or outcomes under the global assessment movement are overwhelmed with their core duties and are now faced with finding the time to assess. The role of assessment is important, but the transaction costs are high, and the validity of results is unknown. Future research could focus on the transaction costs of assessment and evaluation as well as the degree to which it captures the holistic value of the operation. Conducting a study on the public perception of higher education outreach and the degree to which public investments are seen as palatable would also make a significant contribution to the literature. Although studies have documented the difficulty in producing scholarship about public engagement *(Peters et al., 2011),* the most prominent barrier is legitimacy. Increased awareness and prevalence of publicly engaged scholarship and evaluation will aid in the substantiation of linking public good to the most prominent forms of educational outreach.

In the larger view of higher education, this particular case highlights issues that may also exist for other modes of extension (e.g., health care, sea grant, or space grant). The core of extension is related to the diffusion of knowledge for public good. In order to secure the support to offer such functions, outcomes must be documented. There is an inherent tension between the demand for accountability and the absence of reliable methods to demonstrate impact for public good. The gap between the intent and the ability to measure found in this case might be relevant to other programs that exist to tie the university to public good. In theory, evaluation and assessment can be designed to capture information about any outcome articulated by the program; however, it is not simple to measure public good. Public good is not, and may never be, easily quantified and, according to some, can be assessed only by public opinion *(Gutmann, 1987; Heyneman, 2012).* The threat to sustained resources and funding in the absence of a recognized method of producing evidence about public benefits is the largest potential pitfall in the evaluation of university programs aimed at the public good. Potential reductions to higher education programs that generate the greatest social benefits are a threat to the public mission of universities and a misapplication of underdeveloped evaluation methods.

References

Akroyd, S., & Smith, L. (2007). The decline in public spending to agriculture—does it matter? (Briefing Note No. 2). Oxford, England: Oxford Policy Management Institute.

Alston, J. M., Wyatt, T. J., Pardey, P. G., Marra, M. C., & Chan-Kang, C. (2000). *A meta-analysis of rates of return to agricultural R&D—Ex pede Herculem.* Washington, DC: International Food Policy Research Institute.

Anderson, J. R. (2007). *Agricultural advisory services* [Background paper for the *World Development Report 2008*]. Retrieved from http://siteresources.worldbank.org/INTWDRS/Resources/477365-1327599046334/8394679-1327599874257/Anderson_AdvisoryServices.pdf

Berry, W. (1977). *The unsettling of America: Culture and agriculture.* San Francisco, CA: Sierra Club Books.

Bogue, E. G., & Aper, J. (2000). *Exploring the heritage of American higher education: The evolution of philosophy and policy.* Westport, CT: Oryx Press.

Bowen, H. R. (1977). *Investment in learning: The individual and social value of American higher education.* Baltimore, MD: Johns Hopkins University Press.

Calhoun, C. (1998). The public good as a social and cultural project. In W. Powell & E. Clemens (Eds.), *Private action and the public good* (pp. 20–35). New Haven, CT: Yale University Press.

Collins, C. S. (2011). *Higher education and global poverty: University partnerships and the World Bank in developing countries.* Amherst, NY: Cambria Press.

Collins, C. S. (2012). Land-grant extension as a global endeavor: Connecting knowledge and international development. *The Review of Higher Education, 36*(1), 91–124.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches.* Thousand Oaks, CA: Sage.

Denzin, N. K. (1970). *The research act in sociology: A theoretical introduction to sociological methods.* London, England: Butterworths.

Douglah, M. (1998). *Developing a concept of extension program evaluation.* Madison, WI: Cooperative Extension.

FAO. (2003, September). Statement circulated by H.E. Mr Hartwig de Haen, assistant director-general (Doc. No. WT/MIN(03)/ST/61). Statement circulated at World Trade Organization Ministerial Conference, Fifth Session, Cancún, Mexico.

Feder, G., Murgai, R., & Quizon, J. B. (2004). The acquisition and diffusion of knowledge: The case of pest management training in farmer field schools, Indonesia. *Journal of Agricultural Economics, 55*(2), 221–243.

Feller, I. (2000). Social contracts and the impact of matching fund requirements on American research universities. *Educational Evaluation and Policy Analysis, 22*(1), 91-98.

Franz, N. (2011). Advancing the public value movement: Sustaining extension during tough times. *Journal of Extension, 49*(2), Article 2COM2.

Franz, N. (2014). Measuring and articulating the value of community engagement: Lessons learned from 100 years of Cooperative Extension work. *Journal of Higher Education Outreach and Engagement, 18*(2), 5–18.

Geertz, C. (1973). *The interpretation of cultures*. New York, NY: Basic Books.

Gutmann, A. (1987). *Democratic education.* Princeton, NJ: Princeton University Press.

Habermas, J. (1989). *The structural transformation of the public sphere: An inquiry into a category of bourgeois society* (T. Burger & F. Lawrence, Trans). Cambridge, MA: MIT Press. (Original work published 1962)

Heyneman, S. (2012). The making of education policy at the World Bank. In C. S. Collins & A. W. Wiseman (Eds.), *Education strategy in the developing world: Revising the World Bank's education policy* (pp. 42–63). Bingley, UK: Emerald.

Hightower, J. (1973). *Hard tomatoes, hard times: A report of the Agribusiness Accountability Project on the failure of America's land grant college complex.* Cambridge, MA: Schenkman.

Hoag, D. (2005). Economic principles for saving the Cooperative Extension Service. *Journal of Agriculture and Resource Economics, 30*(3), 397–410.

Kezar, A. J., Chambers, T. C., & Burkhardt, J. C. (2005). *Higher education for the public good: Emerging voices from a national movement*. San Francisco, CA: Jossey-Bass.

King, D., & Boehlje, M. (2000). Extension: On the brink of extinction or distinction. *Journal of Extension, 38*(5), Article 5. Retrieved from http://www.joe.org/

Mansbridge, J. (1998). On the contested nature of the public good. In W. Powell & E. Clemens (Eds.), *Private action and the public good* (pp. 3–19). New Haven, CT: Yale University Press.

Marginson, S. (2007). The public/private division in higher education: A global revision. *Higher Education, 53*, 307–333.

Marginson, S. (2012). The "public" contribution of universities in an increasingly global world. In B. Pusser, K. Kempner, S. Marginson, & I. Ordorika (Eds.), *Universities and the public sphere: Knowledge creation and state building in the era of globalization* (pp. 7–26). New York, NY: Routledge.

Mayes, M. (1992). Status of agricultural research programs at 1890 land-grant institutions and Tuskegee University. In R. D. Christy & L. Williamson (Eds.), *A century of service: Land-grant colleges and universities, 1890–1990* (pp. 53–58). New Brunswick, NJ: Transaction.

McDowell, G. R. (2001). *Land-grant universities and extension into the 21st century: Renegotiating or abandoning a social contract.* Ames, IA: Iowa State University Press.

McMahon, W. W. (2009). *Higher learning, greater good: The private and social benefits of higher education.* Baltimore, MD: Johns Hopkins University Press.

Peters, S., Jordan, N., Alter, T., & Bridger, J. (2011). The craft of public scholarship in land-grant education. *Journal of Higher Education Outreach and Engagement, 8*(1), 75–86.

Plastina, A., & Fulginiti, L. (2012). Rates of return to public agricultural research in 48 US states. *Journal of Productivity Analysis, 37*(2), 95–113.

Pusser, B. (2006). Reconsidering higher education and the public good: The role of public spheres. In W.G. Tierney (Ed.), *Governance and the public good* (pp. 11-28). Albany, NY: SUNY Press.

Pusser, B. (2002). Higher education, the emerging market, and the public good. In P. Graham & N. Stacey (Eds.), *The knowledge economy and postsecondary education* (pp. 105-126). Washington, D.C.: National Academy Press.

Pusser, B., Kempner, K., Marginson, S., & Ordorika, I. (2012). Introduction and overview of the book. In B. Pusser, K. Kempner, S. Marginson, & I. Ordorika (Eds.), *Universities and the public sphere: Knowledge creation and state building in the era of globalization* (pp. 1–6). New York, NY: Routledge.

Rhoads, R.A. (2011). The US research university as a global model: Some fundamental problems to consider. *Interactions: UCLA Journal of Education and Information Studies, 7*(2), Article 4. Retrieved from: http://escholarship.org/uc/item/8b91s24r.

Rhoads, R.A. (1998). *Freedom's web: Student activism in an age of cultural diversity.* Baltimore, MD: Johns Hopkins University Press.

Samuelson, P.A. (1954). The pure theory of public expenditure. *The Review of Economics and Statistics, 36*(4), 387-389.

Slaughter, S., & Rhoades, G. (2004). *Academic capitalism and the new economy: Markets, state and higher education*. Baltimore, MD: Johns Hopkins University Press.

Stiglitz, J.E. (1999). Knowledge as a public good. In I. Kaul, I. Grunberg, & M. Stern (Eds.). *Global public goods: International cooperation in the 21st century* (pp. 308-325). New York, NY: Oxford University Press.

Taylor-Powell, E., Jones, L., & Henert, E. (2003). Enhancing program performance with logic models. Retrieved March 1, 2012, from the University of Wisconsin–Extension website: http://www.uwex.edu/ces/lmcourse/

TFHES. Task Force on Higher Education and Society. (2000). *Higher education indeveloping countries: Peril and promise.* Washington, DC: The World Bank.

United Nations. (2008). *Trends in sustainable development—Agriculture, rural development, land, desertification and drought.* New York, NY: Department of Economic and Social Affairs of the United Nations.

Waddington, H., Snilstveit, B., White, H., & Anderson, J. (2010). *The impact of agricultural extension services.* International Initiative for Impact Evaluation. Retrieved August 1, 2012, from http://www.3ieimpact.org/systematicreviews/

World Bank. (2007). *World development report 2008: Agriculture for development*. Washington, DC: Author.

Worthen, B.R., Sanders, J.R., & Fitzpatrick, J.L. (2004). *Educational evaluation: Alternative approaches and practical guidelines* (3rd ed.). Boston, MA: Allyn & Bacon.

Yin, R. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.

Young, C. W. (2001). *Background for developing a system of Hispanic-serving land-grant colleges.* San Antonio, TX: Hispanic Association of Colleges and Universities.

About the Author

Christopher S. Collins is assistant professor of higher education at Azusa Pacific University. His research interests include the role of higher education related to poverty reduction, knowledge extension, and public good. Collins earned his Ph.D. from the University of California, Los Angeles.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 65, (2015)

A Grateful Recollecting: A Qualitative Study of the Long-Term Impact of Service-Learning on Graduates

Ann Fullerton, Vicki L. Reitenauer, and Seanna M. Kerrigan

Abstract

Service-learning practitioners design community engagement activities to affect students in powerful and even transformative ways. This qualitative study explores the long-term impacts (3–16 years after graduation) of participation in a senior-level service-learning course. Through interviews with 20 randomly selected participants, the researchers explored whether and in what ways graduates continued to experience impacts from the course, including those that have become interwoven with other life experiences or have catalyzed altered perspectives and/or actions. Graduates were first asked to identify their most significant learning experiences in college in order to gauge the relative importance, if any, of the service-learning course in their college education. Then graduates were asked to recall their experiences in the course and to share what impacts those experiences had at the time and in the intervening years. Findings are discussed through the lens of transformational learning processes and outcomes.

Introduction

Service-learning practitioners operate with the intention of impacting students in powerful and even transformative ways through their engagement with community partners, and they ground programmatic decisions and pedagogical practices on this intention. Although many practitioners sense the power in service-learning while it is occurring—and may even have their own experiences of long-term impacts on both the personal and professional levels—the work of identifying and confirming long-term impacts on graduates has been a more challenging and nuanced task for researchers.

Over the course of the past several decades, increasing numbers of qualitative, quantitative, and mixed-methods studies have sought to identify the long-term outcomes of service-learning courses on college graduates. The current study adopts a fresh approach in qualitative method both to gauge the relative importance of one particular service-learning course within the full range of college learning experiences and to mine graduates' recollections of that course for any long-term outcomes still being experienced up to 16 years after college completion.

Literature Review

Long-Term Impact of Service-Learning

Researchers have asked if the positive outcomes of students' service-learning experiences in college have any lasting impact on graduates' dispositions, attitudes, and behaviors *(Billig & Furco, 2002)* or subsequent civic life and community engagement *(Astin et al., 2006)*. Quantitative studies suggest that college students who engaged in service-learning courses while in college were more likely to engage in community service after college *(Astin et al., 2006; Astin, Sax, & Avalos, 1999; Fenzel & Peyrot, 2005; Wharchal & Ruiz, 2004)*. Graduates who participate in service during college may attach greater significance to prosocial values such as helping others in difficulty, promoting racial understanding *(Astin et al., 1999)*, engaging in the community, and giving charitably *(Astin et al., 2006)*. Graduates who participated in service-learning during college also reported that the experience helped them develop leadership, teamwork, and professional communication skills *(Dvorak, Stewart, Hosni, Hawkey, & Nelson, 2011; MacFall, 2012; Newman & Hernandez, 2011)*. Service-learning courses that include reflection through writing and discussion are associated with more positive outcomes, not only during college *(Astin, Vogelgesang, Ikeda, & Yee, 2000; Eyler & Giles, 1999; Mabry, 1998)* but also years later *(Astin et al., 2006; Fenzel & Peyrot, 2005)*.

Qualitative studies help us understand the significance and meaning that students ascribe to their service-learning course experiences *(Polin & Keene, 2010)*. Although there are numerous qualitative explorations of the impact of service-learning courses during the experience or immediately afterward, studies exploring if and how course-embedded service-learning experiences continue to influence graduates years later are scarce. Kerrigan *(2004)* interviewed 20 graduates 3 years after they participated in a variety of required capstone courses in their senior year. Some graduates described how the experience had enhanced their communication and leadership skills, appreciation of diversity, and engagement in "border crossing" into new communities. Others gave examples of tangible professional skills that had contributed to their career development. Still others described a continuing sense of social responsibility and sustained volunteerism after graduation.

Laursen, Thiry, and Liston *(2012)* interviewed 24 alumni who had participated in a university-based K-12 science education outreach program 1 to 10 years after graduation. The majority of graduates described positive outcomes in personal development, career skills, teaching, communication, and management skills and reported enhancements of their understanding of educational issues within social contexts.

Graduates who completed immersive, international service-learning courses have also been interviewed years later. Kiely *(2005)* interviewed 22 graduates 1 to 8 years after they had participated in an international service-learning course that collaboratively organized community health clinics in Nicaragua. Thematic analysis revealed that each participant experienced one or more altered or new perspectives in the moral, intellectual, and/or spiritual domains. Bamber & Hankin *(2011)* interviewed 11 graduates 1 or more years after course-embedded international service-learning followed by local service-related activities. Of these graduates, 75% experienced altered or new perspectives, and 25% "were able to identify ways in which a transformed view of the world related to changes in their social action" *(p. 201)*. Taken together, both the quantitative and qualitative studies indicate that service-learning courses in college can have a lasting impact on graduates' perspectives, skills, and actions.

Service-Learning Processes and Outcomes Through the Lens of Transformational Learning Theory

Mezirow's *(1997; Mezirow & Associates, 2000)* theory of transformational learning has been used to examine the learning processes and outcomes that can occur in immersive service-learning. Broadly, transformative learning involves educational experiences that change students' frames of reference–that is, their ways of looking at and interpreting the world *(Mezirow, 1997)*. Perspective transformation involves several nonsequential processes, including experiencing a disorienting dilemma, undergoing a critical assessment of assumptions, and eventually "re-integrati[ng] into one's life on the basis of conditions dictated by one's new perspective" *(Mezirow & Associates, 2000, p. 22)*. The new or altered perspective transforms "our taken-for-granted frames of reference to make them more inclusive and open… so that they may generate beliefs and opinions that prove more true or justified to guide action" *(p. 7–8)*.

Many caution that because individuals tend to ignore dissonance *(Bamber & Hankin, 2011)* and reject ideas that do not fit their preconceptions *(Jones et al., 2012),* service-learning courses do not necessarily lead to perspective transformation *(Eyler & Giles, 1999)*, and altered frames of reference do not necessarily catalyze different actions *(Bamber & Hankin, 2011)*. Further study of the long-term outcomes of service-learning is needed to better understand the connection among course experiences, shifts in perspective, and long-term developmental changes in views, skills, and/or actions.

In addition, a deeper understanding is needed to identify the course components that best embed processes resulting in lived experiences of immersion, dissonance, and reflection and how these may lead to transformative learning. In the study cited above, Kiely *(2005)* developed a transformative learning model for service-learning courses built upon Mezirow's theory of perspective transformation. Kiely identified five learning processes that students experienced in an immersive international service-learning course: contextual border crossing, dissonance, personalizing, processing, and connecting. Jones et al. *(2012)* suggested that border crossing and dissonance in service-learning occur if a "constructive engagement with otherness" leads to a "deep lesson about connection across difference" *(Jones et al., 2012, p. 203)*. Jones et al. *(2012)* and Nickols et al. *(2013)* have described learning processes similar or identical to those identified by Kiely *(2005)* in students during and immediately after immersive service-learning courses.

Qualitative research with graduates years after a service-learning course can shed light on what they experienced at the time and whether and how they believe these course-based experiences have subsequently influenced their perspectives and/or actions. Such research may further our understanding of the links between transformational learning experiences, new skills and perspectives, and the expression of these skills and perspectives through actions and other outcomes. Polin & Keene *(2010)* called for further qualitative research to understand "what students mean when they say service-learning experiences are transformational" and "what this means in their lives and to the way they made sense of their lives over time" *(p. 23).*

Researchers have offered several methodological cautions and suggestions for the qualitative study of service-learning. So as not to assume the presence of transformation, Jones et al. *(2012)* used open-ended interview questions to bring forth students' own perceptions of their learning experiences. It is also important to ascertain, from the graduates' perspectives, the significance of the learning outcomes they describe *(Chang, Chen, Huang, & Yuan, 2012)*. Finally, Bamber & Hankin *(2011)* noted the need to explore more deeply how graduates name and describe connections between new or altered perspectives and their subsequent actions.

Purpose of the Study

This study adds to and diversifies the growing literature examining the long-term impact of service-learning in three ways. First, in order to situate the possible impact of service-learning courses among the many learning experiences in college, the critical incident technique *(Bycio & Allen, 2004)* and critical event analysis *(Bowie, Pope, & Lough, 2008)* were modified for use at the start of the interview. Rather than beginning the interview with any reference to the service-learning course, graduates were asked to describe their three most significant learning experiences in college and the impact of those experiences since graduation. This allowed the researchers to explore the relative importance of service-learning among the many college experiences that graduates might recall.

Second, when graduates reported that service-learning had been an important experience, the interviewer explored more deeply how graduates now understand the change that occurred for them at the time and the aspects of the course that contributed to those outcomes. Third, when graduates described change that occurred immediately after the course, they were asked if that change had any subsequent impact in their lives and, if so, to provide examples. These course elements and the short- and long-term impacts students attributed to them were then examined through the lens of transformational learning processes and outcomes *(Kiely, 2005)*.

Description of the Immersive Service-Learning Course

Portland State University has offered community-based and service-learning courses as an integral component of the undergraduate curriculum both in general education and across the disciplines for more than two decades. One of these courses is the General Education Capstone course, a senior-level service-learning course that completes students' undergraduate general education requirements. In the capstone course, students participate in a six-credit service-learning course organized around a particular content area and partnering with one or more community entities. Learning objectives in each Capstone connect both to the content of each distinct course and to the larger goals of the university's general education program (communication, critical thinking, appreciation of the diversity of the human experience, and social and ethical responsibility). Most students may choose a Capstone in any area of interest within or outside their major, and many explore courses that will broaden their experiences and perspectives.

One of the first Capstone courses to be designed and offered—and the single longest-running Capstone at the university—is an immersive service-learning course called Learning From and About Persons With Significant Disabilities (LPSD) that is offered through a partnership between Portland State University and the Kiwanis Camp, Inc. of Portland, Oregon. The partnership was formed in 1972 as a practicum experience for teachers and in 1993 was expanded to support the Capstone course. The community partner and the university have a long-standing shared mission of continually evaluating and improving both the camp program for campers and the educational experience for college students. The university–community partner team carefully examines all student feedback each year and uses it to continually improve the course pedagogy. A cycle of continuous evaluation and improvement is critical in such intensive and immersive courses.

Since 1993, more than 3,000 students have completed LPSD. In the course, students prepare for and then spend 2 weeks as student-counselors for individuals with significant disabilities in an outdoor camp program. The majority of students who choose this course have never before formed a relationship with a person whom they perceive to be so "differently abled" from themselves. In the final reflections they complete for the course, many students have commented that the course was both one of the best and one of the most difficult things they had ever done, as they articulated the ways they accepted and met their responsibilities as student-counselors. On average, students completing more than 30 different undergraduate majors enroll each year. The university and the community partner have engaged in continuous evaluation and development over a period of more than 20 years to hone the learning and coaching strategies that allow the novice student-counselors to develop positive relationships with camper-participants while ensuring that student and camper needs are met.

Students prepare for their immersive direct-service experience through 3 days of training and engagement with readings. The intensive training session includes modules that increase disability awareness, develop counseling skills, address appropriate personal care and supporting communication techniques, teach strategies for inspiring participation, and deepen capacities for effective relationship-building with camper-participants. Additionally, team-building activities help student-counselors form a community in which everyone supports each other to attain the camp's central goal: to ensure that every camper-participant has a rich and enjoyable camp experience.

Students are organized into groups of eight student-counselors, who are coached and supervised by a counselor-supervisor (a master's-level special educator) and an assistant counselor-supervisor. Each student becomes the counselor for one or two campers. The on-site faculty member checks in with each group and each student-counselor periodically, providing additional modeling, coaching, and problem-solving support as needed. All of the camp staff members have a dual role of providing the camp program for the camper-participants and being teachers and coaches for the student-counselors.

Reflection is woven through the course through small group discussions during the evening at camp and a pre- and postcourse written reflection paper. Students engage with readings in disability studies before attending camp, as they connect their lived experiences with both this theoretical material and their personal and professional goals. Reflection questions are grounded in the exploration of disability as a social construct *(Ben-Moshe, Cory, Feldbaum, & Sagendorf, 2005)* so that stereotypes regarding persons with disabilities are questioned rather than reinforced *(Gent & Gurecka, 2001)*.

Methodology

Design

An interpretive qualitative research design *(Maxwell, 2005)* was selected to identify the main themes found within graduates' recall of their learning experiences in the course and the later impact of those experiences in their lives. In order to situate the possible impact of this service-learning course under study among the many learning experiences in college, the critical incident technique *(Bycio & Allen, 2004)* and critical event analysis *(Bowie, Pope, & Lough, 2008)* were modified for use at the start of the interview, as described above.

Participants and Sampling

To ensure that the findings were representative of the experiences of the many students who completed the course, stratified random sampling was used to select participants, following the review and approval of the study by the university's Institutional Review Board. Potential participants were identified within the university alumni database. As of 2013, over 3,000 graduates had completed LPSD, about 60% of whom were potential study participants because (a) they had given permission to be contacted by the university, and (b) their current contact information was available. The researchers' goal was to interview 20 graduates from this pool, which previous studies of graduates' experiences in service-learning courses suggested would be sufficient to reach saturation in the thematic analysis *(Kerrigan, 2004)*. Stratified random sampling was used to identify 60 potential participants from three time periods (3–5, 6–10, and 11–16 years after course completion). Members of this pool were contacted until 20 participants had been recruited and had completed the scheduled phone interview.

Data Collection

Using the sampling strategy described, potential participants from each time period were randomly selected, called, and asked to participate in a 45-minute phone interview about their college experience. If a potential participant declined or could not be reached, the next randomly selected graduate was called. A thank-you in the form of a $20 gift card was issued to each participant after the interview. Interviews were audiotaped and transcribed for analysis.

Data Analysis

The researchers analyzed the data contained in the interview transcriptions according to the processes described by Creswell *(1994)*. Each transcript was read independently by two researchers, who identified the predominant themes and coded the data according to these themes. Then, the two researchers met and compared the themes and coding of units of meaning in each transcript. Disagreements were discussed until consensus was reached. A third reader confirmed these themes through an independent analysis of the data. The team examined the themes for any connections between the findings and the transformative learning process and outcomes described by Kiely *(2004, 2005)* and others. The use of an audit trail, member checking during interviews, and debriefing with colleagues enhanced the trustworthiness of the findings *(Guba & Lincoln, 1989).*

Findings

At the time of the interviews, four participants (20%) had completed the course 11–16 years prior to the study, eight (40%) had completed the course 6–10 years prior, and the remaining eight (40%) had completed the course 3–5 years prior. Eight participants self-identified as male and 12 as female. The participants had completed 18 different majors during college, from areas including business (25%), social sciences (20%), sciences (15%), fine arts or graphic design (15%), preeducation (15%), and speech and hearing sciences (10%).

Findings from the thematic analysis are organized into two main sections: (1) the significance of the service-learning course among learning experiences in college and (2) an overview of the findings related to the learning processes and outcomes. This overview subsumes descriptions of (a) the main themes related to the learning processes that occurred in the course and (b) the short- and long-term impact of the course on graduates' perspectives, skills, and actions.

LPSD as a Significant Learning Experience

Of the 20 interviewees, 12 mentioned LPSD explicitly as one of their three most significant learning experiences in college. In other words, 60% of interviewees cited this service-learning course—which constituted six credits of the minimum of 180 required for graduation—as one of the three most significant learning experiences they had had as undergraduates. Of the eight interviewees who did not mention LPSD as one of their three most significant learning experiences, six made it clear that it had been a significant experience in response to the interviewer's subsequent questions about their Capstone course. For example, one said, "[I]t was the most important experience of my life," and four described it as a "fantastic" or "incredible" experience that had impacted their life since graduation. In all, 18 of the 20 interviewees—a full 90%—identified a service-learning course among their most significant learning experiences in their college education.

Findings Related to Learning Processes and Outcomes

When asked to recall and describe their course experiences, 85% (17 of 20) of the graduates reported, with great descriptive consistency, that they had followed an experiential arc during and after their time in LPSD, a trajectory that began in a disorienting dilemma, continued through a positive confrontation with "otherness," developed into a recognition of difference and the need to modulate their interaction patterns to bridge those differences, and shifted into a heightened engagement with their own capacities as communicators such that they experienced a deeper understanding of and appreciation for human diversity. Interviewees repeatedly framed their learning experiences as "epiphanies," describing, with piercing clarity, moments during the course that began in a frustrating attempt to connect with "the other" and ended with an undeniable connection having been established.

These moments of human-to-human engagement led to new and altered perspectives, skills, and/or actions. Specifically, 50% (10 of 20) of the graduates reported enhanced interpersonal and communication skills, 70% (14 of 20) described a deeper appreciation for human diversity related to dis/ability, 60% (12 of 20) described gaining a new perspective that human variation is typical rather than atypical, and 35% (7 of 20) described a newfound maturity and gratitude leading to a desire to serve. Examples and analysis of these data are provided in the next three sections.

The journey begins with a disorienting dilemma. A full 85% of graduates (17 of 20) reported that their journey began with an initial stage of extreme disorientation and discomfort. Since, as junior- and senior-level undergraduates, they were partnered with campers with relatively severe physical and cognitive disabilities and communicative challenges, there was no denying the differences that were present between LPSD student-counselors and camper-participants, and interviewees clearly remembered how grappling with these differences consumed them in the first few days of their immersion experience. Respondents repeatedly recalled these first days at camp as if they had taken place recently, instead of as much as 16 years before the interview. The fear of difference they described was deeply felt, and many interviewees emphasized that they had never engaged with persons with perceptible disabilities before this experience.

For example, one graduate, a marketing major as an undergraduate, admitted that his discomfort was so great in his first 24 hours at camp that he had wanted to leave:

> We were assigned the kids who [*sic*] we were supposed to work with for the first week of the 2-week program.… I have to admit, the kid I had, he was in a chair, and he had some disabilities where I had to work with him… in feeding him and in changing him and other sorts of basic activities.… [H]onestly, had I brought my own car there, I would have left.… [T]his is very shallow of me, [and]… I feel terrible admitting it, but I was like, "Gosh, I'm not cut out for this, I'm not this guy… I'm not this supportive." It was the hardest thing I ever did.… But at the end of the week… it was probably the most rewarding thing I ever did, and I'm so much better for doing [it].… It would have been so much easier for me to write a marketing plan, a business plan.… That would have been so much easier. That's what I was trained in as a business major. Working with these kids at… [c]amp, it forced me to do things I would have never done.

In fact, several interviewees explicitly stated that they realized, upon reflection, that they had not previously considered persons with disabilities to be persons akin to themselves. This realization, painful as it was for many of the respondents, was also cited as deeply meaningful for their ongoing personal and professional growth postcollege.

Many respondents acknowledged the irony in having chosen this particular Capstone because it had seemed a fun and easy way to earn six credits. What they found instead was a profound engagement with their own fear and discomfort around difference, and the ways that engagement opened them up as human beings and allowed them to develop capacities they didn't know they had.

The epiphany: Being present and patient. Graduates reported that they fundamentally had to change their typical fast-paced ways of being, doing, and communicating in order to connect with camper-participants. They couldn't multitask, they couldn't text, and they couldn't juggle the multiple demands of their "normal" college life if they hoped to develop a relationship with the camper-participant they were responsible to for a week. From one moment to the next, they had to focus completely on communicating with this particular human being in order to interpret the subtleties involved in addressing that person's needs. Throughout the interviews, graduates overwhelmingly reported that they developed a new capacity for "patience" throughout their camp experience and that they have continued to use their enhanced ability to exhibit patience in both their personal and professional lives.

As one graduate emphatically stated, "I'll repeat it again that patience was very, very dominant in terms of what I learned during my stay at [c]amp." Another concurred, stating that his most important learning was

> having patience both with myself and with other people. Things don't often come fast, I think, when you're working with that population, and we live in a society that is quick and here and now.… [I]t's really hard sometimes to step back and have patience and to wait on things… especially with some of the people who have communication issues, to… try to figure out what they're saying, instead of just making assumptions.

In addition to developing their abilities to be patient, graduates reported "being present" as a pivotal lesson in this course. In the following example, the marketing student quoted above remembered feeling that he would never be able to communicate with his camper, until a transformational moment occurred:

> [T]he first two days, I have to admit… I was going, "I'm out of here, this is too hard, my guy can't tell me when he's hungry, he can't tell me when he needs to be changed, he can't even go swimming."… But the third day… I'm feeding Tad, and all of a sudden, [he] reached out and grabbed my hand. And I was like, "He's in there! Totally in there!" He's telling me he wants more, and then he started interacting with me, and it was stuff that I was so, honestly, ignorant and naïve [about], right, it was subtleties in his face, because he couldn't talk.… But then the third day I started to understand him, and I started to connect with him… [and] I was like, I like this guy!… [H]e knows I'm there, he knows I've got his back.… [W]e really connected on the third day.

This camper-participant reached out and touched the student-counselor, both literally and figuratively—in his own way demanding that the student see and be present to him. The interaction transformed both the student and the dynamic between student and camper.

Another graduate reported a similarly powerful moment:

> There was a boy that had cerebral palsy that we took in a canoe. I was in the back, kind of holding him . . . while his counselor… was in the front rowing.… I wasn't sure if he was really realizing that he was in the boat, and what was going on, because he was noncommunicative. And this bird, this eagle, started flying above us, and he was just tracking it with his eyes, and he got the biggest grin on his face. I was just like, wow, he is really taking in this moment, and he is able to experience this, and I know that something is registering.… It was just the most rewarding thing ever.

From an initial state of anticipation about a "fun and easy" Capstone course, to a disorienting confrontation with difference, to an experienced epiphany about the diverse ways that humans can connect to their world and each other, interviewees painted picture after picture of the ways they allowed themselves to be changed by the "live encounter" (to use *Parker Palmer's [2007]* phrase) of their camp experience.

Short- and long-term impact on perspectives, skills, and actions. These learning experiences were associated with outcomes such as shifts in perspectives, development of skills and capacities, and the application of both through subsequent new actions. Eighty-five percent (17 of 20) of graduates described key ways their perspectives and/or skills had changed immediately after the course and went on to articulate and provide examples of how those changes had continued to impact their perspectives, approaches to life, and/or actions years later. Analysis of these outcomes revealed four main categories: enhanced skills for communication (50%); greater understanding and appreciation of human diversity (70%); nonjudgmental acceptance that human variation is typical, not atypical (60%); and newfound maturity and gratitude leading to a desire to serve (40%). Each of these four outcome categories is described below, with examples from the interview responses.

Enhanced skills for communication. Fifty percent of the graduates reported enhancing their communication skills as a result of

LPSD. Some reported recognizing the importance of listening and the expansion of this capacity through their interactions at camp, including learning to wait for another person to complete their thoughts and finish speaking, rather than assuming that they know what the other is going to say.

One graduate described a communication skill he learned and its importance to his work in a bank:

> I learned a great deal about working with people.… I [am] now a lot more understanding and… willing to wait, because other people might not be at the same speed as I am… [I learned] that something important to one person might not be important to another.… I work in customer service, and this is actually pretty helpful sometimes.

Others reported that it was during LPSD that they learned not to make assumptions about people that preclude understanding, but instead to make sure that they have understood what another is saying:

> One of the ways that [LPSD] has helped me… is… hearing people out, and… not making the assumption that… I got the full message, but really making sure that I did get the full message by trying to reinterpret … making sure that you've understood what they've communicated.

In addition to listening, graduates reported that they enhanced other nonverbal forms of communication through the particular opportunities that their work with persons with disabilities afforded them. Further, they recognized the importance of these nonverbal communication skills in their attempts at relationship-building with all persons. As one respondent noted,

> I always make eye contact now, whereas I always stayed away from eye contact before.… I['ve] found… you can reach anyone [through eye contact].… I work at a clothing shelter every [week], and we do clothing drives for the homeless, and they'll come to our door and ask for things like shoes and hats and gloves and sweat-shirts.… I find if you make eye contact… it just makes everything go more smoothly.

Respondents found this learning life-changing, as it not only allowed them to connect with camper-participants and peers in deeper ways than they had previously imagined, but it gave them both a skill and an awareness that they took with them after graduation. They stated that it changed their orientations toward their marriages, their families, their workplaces, their volunteering, and their daily exchanges with people in the world. Graduates gave examples of how they had continued to use their enhanced skills for communication in their work as a flight attendant, an accountant, a military officer, a social worker, and a teacher, and in the fields of customer relations, sales, and international marketing.

Deeper understanding of and appreciation for human diversity. Graduates' reflections on their camp experiences made clear that LPSD enhanced their appreciation of the diversity of the human experience. Respondents learned about the population they were serving and came to value the gifts, abilities, and struggles of those persons. Graduates frequently described this course as their first encounter with persons with significant disabilities, and they articulated that and how they emerged from the experience with greater respect, compassion, and honoring toward persons with disabilities. In many ways, graduates understood the course as an immersion into a new cultural community, an opportunity for a border crossing of sorts, in which they engaged with persons they had never before encountered. They described the ways in which their "live encounters" with campers broke down the negative stereotypes and assumptions that had previously barred them from truly seeing and understanding persons with disabilities as persons similar to themselves. One graduate who framed the course in terms of a cultural border crossing stated,

> You build a friendship, and on top of that… it's maybe a part of society you've never really touched on or been a part of. So it's like you go into a foreign country, and meet an Italian person, [and] you get to know the culture. Similar in that sense.

Graduates also reported greater awareness of the social issues that surrounded these persons and their caregivers.

> I think [the] impact of having someone in your life that has some sort of disability I never really understood before.… I was in charge of three kids for the entire week, and… it was really exhausting but also rewarding,

> and it gives you so much respect for the parents who… take care of these kids 24/7.… [A]lso, [the campers] just impressed me so much. They were so smart! I was awed that I was able to get to know them… I definitely think before the experience… I was a little standoffish, it was kind of fear of the unknown, I didn't know quite how to interact with someone with a disability… [and] I realized that they're smart and great people.… I still even e-mail with one of the girls that I had as a counselor there.… I think before I just didn't know what to think, or maybe made assumptions. There'd be people that would be in wheelchairs, and with cerebral palsy, and not even be able to speak, or not even be able to feed themselves, or go to the bathroom by themselves, but they could type out their thoughts… and they were funny and smart and completely with it. It just was kind of amazing to me… because once you actually open up and get to know the kids there, they'll just blow you away.

Throughout the interviews, respondents confessed that, prior to the LPSD experience, they would have simply walked by persons with disabilities and not engaged with—or even really seen—them. As a result of the course, they now engage, and many reported having developed a deeper understanding of the human experience, a broader view of the world that could be gained only by having authentically engaged with a human being they had previously passed by.

The epiphanic moments they experienced at camp have generalized into changed behaviors in relation to persons with disabilities in their current lives:

> I didn't really know what to think of kids with disabilities [before].… [I]f we were in a supermarket I might just walk by them and not say anything or notice them, but if we're in a supermarket now and there's a kid with disabilities and they're smiling at me I'll smile right back at them, and go up to them and say, "Hi, how are you doing?"

Not only does this graduate relate differently to persons with disabilities now, but she also may serve as a model for others shopping in the supermarket.

Graduates consistently remarked on how they gained an awareness of their chronic underestimation of persons with disabilities and how capable these persons were not only intellectually but also emotionally, relationally, and interpersonally. Interviewees reiterated that overcoming their assumptions changed them and that this change persisted over time. As one respondent noted, the course allowed students "to be with [persons with disabilities] in an experience outside of their home environment, outside of the school environment, outside of the day-to-day monotony routine experience, [and] you see their amazingness." Again and again, interviewees spoke to their engaging in a process of overcoming previously held stereotypes and assumptions and how their doing so allowed them to meet the campers in their abilities, rather than in their disabilities.

These fresh perspectives also led to new ways of relating to and advocating for persons with disabilities when the opportunity presented itself. For example, during the course, students had learned how to communicate with persons with autism or physical disabilities who are nonverbal and use augmentative communication systems. Graduates working in service professions, such as a postal worker and a bookseller, described how, since LPSD, they have been able to communicate with their customers with disabilities who use various modes of communication. Another graduate spoke of how her experience with persons with autism made it possible for her to better support coworkers with children with autism and form a relationship with these children. A graduate who later became a college advisor described how her learning in the course made her more effective in supporting college students with disabilities. A graduate working as a mail carrier said that "when I come across persons with disabilities, I am more understanding of what they are dealing with, and I don't treat them as a disabled person, just… as a human being… [who] maybe just needs a little more time." Another respondent, who became an art teacher in a middle school, said:

> I am a huge advocate for having all of the students that are in our building with disabilities in my classroom.… They are all welcome. Right now I have two students who don't communicate at all, they are on feeding tubes, and they come in and some days it's just for observation … looking around at what other kids are doing, and some days they [are] holding a paintbrush, or poking some clay… or help me pass out supplies, things like

> that.… I let the special education department know that they're always welcome to enroll their students into my courses.… When you're at [c]amp, you are thrown in with [children] with all different levels of disabilities… so it makes you… comfortable with all the situations.

Nonjudgmental acceptance that human variation is typical/the norm. Of the 70% (14 of 20) of graduates who reported gaining a deeper appreciation for human diversity, particularly in the realm of variable abilities, 12 went on to describe an even broader shift in their view of human variation in general. They said that immediately after the course and to this day, when they encounter a new individual, they "don't judge a book by its cover" and they "try to understand where someone is coming from." One graduate described how after the course, she no longer saw variations in how people do things or react to events as somehow negative or "less than" how others (who are perceived to be "normal") act, and another realized that "everyone needs support sometimes, and that is okay." These graduates began to view human variation in a new light, to see variation itself as typical rather than atypical. In this way, the graduates spoke to how they now expect to experience human variation and that this new awareness catalyzed a perspective shift that deepens their understanding of human diversity that creates, for them, a new norm.

Graduates went on to describe how they use this new perspective in their work, in their family relationships, and in the community. One said, "I try to be more accepting of everybody and try… to see what it would be like to walk in their shoes." The graduate who now works as a college advisor noted that because she became aware of the consequences of prejudging people years ago during the LPSD course, she is more empathetic in her work with the diverse group of students she encounters today. Another graduate said that "when I am working with people or supervising them or engaged in customer service, I can't assume I know where they are coming from. I need to give people some credit."

An officer in the military said that the course experience contributed to his ability to lead because it allowed him to see for the first time that "everybody… [is] a bunch of grey shades." After he became an officer and was charged with helping those under his command chart a career path, this insight gave him "more sensitivity to people in the army who might be passed over for certain positions." He said that he is now "taking that [perspective] with me… as I enter medical school."

A flight attendant described the ways her learning in the course offered her a fresh lens through which to approach situations:

> I think it's just having the awareness that you don't necessarily know where someone's coming from.… [N]ot assuming that you have a corner market [*sic*] on… why they are acting the way they are, because… it could be as simple as someone having a bad day, or as intense as their whole life.… How they are acting doesn't necessarily have anything to do with you or what you are doing. So trying to meet them where they're at and see where they are coming from and go from there.

A speech language therapist described what she learned and currently applies to her work this way: "It helped me to stop assuming the most negative thing, [to] broaden my horizons. Don't assume a negative aspect; give people credit." A social worker articulated what she gained from the course with these words:

> It was a really good experience to develop skills for appreciation for what people can do when you think they can't do anything… because the camp has everything a typical summer camp has… like horse riding and swimming, and at first I was thinking how is this gonna work? So many of them need help, like feeding [and] so many basic daily things that we take for granted … and then they all did it!

She then described how she applies this insight in her profession as a social worker:

> You shouldn't assume and you never know what someone can or can't do.… [I learned about] being more open to letting people show me what they can do for themselves without me assuming that they need me to do something for them.… [That] doesn't have to do with disabilities [alone, but has] to do with social work and things… in general. It's easy to try and tell someone what to do instead of finding out what they want and meeting them where they're at.

One particularly powerful example of a learning experience during the course leading to a new perspective and how that perspective was used later in the graduate's life was expressed by this participant:

> I [counseled] a 30-year-old autistic woman who was completely dependent on me [for personal care]… and it was extremely humbling. Had to do everything.… [W]hen I first started, [I] couldn't believe I was having to do this with my time.… Well, by the end of the week, I actually, for the first time since I was probably 5 years old, wet the bed at camp.… I actually told my 30-year-old camper what had happened, and she gave me the biggest hug and said, "It's okay, I wet the bed too"… I was so mortified that it happened to me, I didn't know who to tell, or what to do. But she just totally embraced me and said, "It's okay."… That's why I say it was the most amazing experience of my life. It just totally took me 360 [*sic*] to an adult. It was just amazing, overnight. … I was so scared when it happened, but looking back, thank God that happened to me.… I have to say that was probably the ultimate moment, the one thing that I got out of my entire college career that I will never forget.… I would have paid a hundred thousand dollars just to have that experience happen to me, because it has meant so much on how I parent, on how I deal with my husband and my marriage, on how I deal with individuals at the church, at the clothes drive, my neighbors. … Sometimes everybody needs to be taken care of. No matter how capable they are. No matter how stubborn, how strong-willed. Sometimes everybody needs to be told that it's okay, no matter what.… Even if it's [an] embarrassing thing, or the most awful thing… they just need to be told it's okay… and sometimes that's all it takes.

Growth in maturity, confidence, and gratitude, leading to desire to serve. Forty percent of the graduates described how the course experience helped them grow in maturity and confidence, shifting their perspectives about and/or approaches to life. One aspect of this shifted perspective was a newfound gratitude for their life circumstances and capabilities. These graduates described how they gained perspective and inspiration from the camper-participants. Graduates didn't leave the camp simply feeling that they had served "the other," but rather that they had been transformed by their encounters with another person and with themselves. As one graduate described it, "I felt I was getting a lot more than I was giving."

Graduates reported that this shift in perspective and the overcoming of their initial fears provoked a clear sense of their gaining in maturity, as if they had reached a new milestone in life. Interviewees reported feeling more grounded as adults and more confident in their own abilities. One student remarked that the course, with its experiential, real-world context, prepared him for his professional life by reinforcing his sense of self-efficacy:

> [Camp] showed you what you could do, what you could achieve even under really intense circumstances.… [I]t shows you what you are capable of as a person, as a student, as an employee. [I]t pushed you to be something that you wouldn't necessarily have tried or accepted that you would have been able to do, if you had just jumped right into an employee-employer situation. So it kind of boosts your self-esteem, makes you realize how capable you really are as a contributing employee.

Another graduate recalled starting to think that "I can live my life better… to help other people." Another reflected, "I grew as a person just from that experience." Graduates wanted the interviewer to hear the importance of this in their lives, saying, for example, that the course "really opened my eyes and gave me a bigger perspective that I carry around what, 5 years after college?"

These graduates articulated that and how they developed a new kind of gratitude connected to this sense of perspective and maturity: for life, for their abilities, and for their opportunities to serve others. The confluence of these factors provided the catalyst to a powerful takeaway from the experience for these graduates: a desire to serve in the future, based in their newfound perspective and gratitude for the facts of their lives and the deepening maturity that turns their attention to the needs of others in their communities. One graduate described it this way: "It's like you go into a foreign country. It educates you, it makes you appreciate the life you have… it makes you want to be a better person… and it makes you want and need to give back."

In many interviews, respondents reported looking up to role models that they saw volunteering at the camp, and they expressed a desire and a commitment to serve others through their own volunteering. Many of the interviewees admitted that prior to

LPSD, they had not engaged in service to their community, and they reported that the course allowed them to find a way to engage in the community and develop a positive attitude toward service. One graduate, who had named LPSD as one of his most significant learning experiences in college, said,

> It was pretty impressive working with the community, getting the opportunity to actually volunteer, and [make] my impact outside of the University.… I found [the course] to be an outstanding interaction. Prior to that I really hadn't had a lot of interaction with the community, volunteering and stuff like that. So I would say [it was] really significant.

This graduate was continuing to volunteer actively in the community 5 years after completing the course.

The example of other volunteers at camp (who were directly volunteering and not engaging in the experience for course credit) was highly motivating for many of the respondents, who explained how volunteers at the camp inspired them to consider how they might continue to be of service in the future.

> I would say it's definitely been really neat to volunteer, [and] it pushed me into doing different volunteer activities.… I definitely wanted to volunteer after seeing all of the people that were up there, that weren't doing this for their Capstone, that were just doing it to volunteer because, you know, they loved it so much. It definitely opened my eyes, and I thought, "What could I do that I would love this much?"

These graduates remarked that one of the most important impacts of LPSD for them was that it instilled a desire to engage in future service. One business major now working in marketing described how after graduation, he sought out and became a basketball coach with Special Olympics. Instead of focusing on, in his words, "what I'm going to buy next or what's on TV" on weekends, he is doing something "really important to me." He recalls that before the course, he didn't look down on people with disabilities; he just never really looked at them at all. Now, in his relationship with the athletes on the team, he increasingly appreciates their personalities and their "capability… for affection and friendship" that enriches his life. He noted that the athletes on the team truly care about him, not just who he is in relation to his work status and income, and thus are very important people in his life.

These graduates clearly understood how deeply meaningful and influential their service experience in LPSD had been on multiple levels in their lives. Much like the student quoted above, who said that she "felt [she] was getting a lot more than [she] was giving," another student summed up his experience by saying, "I didn't know that the person who benefits the most from service is me."

Limitations

One limitation of the study involved the difficulty in contacting an equal number of graduates from each time period sought (3–5, 6–10, and 11–16 years after course completion). Since the university's alumni database contained accurate contact information for significantly fewer of the graduates from the 11–16 years postcourse time frame, only four of the 20 interviewees represented graduates from this period. In addition, because this research focuses on a qualitative study of one course with its particular features and context, findings from this study may have limited generalizability to other service-learning courses at the most concrete level of shared best curricular practices.

Implications and Conclusion

One way the current study adds to the small number of qualitative studies on the long-term impacts of service-learning is by using methods recommended by previous researchers to address gaps in knowledge. Open-ended interviewing with time for interviewees to fully reflect and describe seemed to reveal connections between learning experiences, shifts in perspectives, and actions. In addition, the methodological choice to begin the interviews with a broad question about students' most significant learning experiences in college proved useful for establishing the importance of the long-term impact graduates ascribed to this undergraduate service-learning course.

Graduates described their learning experiences during the LPSD course that reflect components of Kiely's *(2005)* transformational learning model of service-learning. Graduates' accounts reflect border crossing and the experiencing of dissonance as they realized they would need to be patient and present in order to establish communication with camper-participants. The ensuing relationship that formed was a "constructive engagement with otherness" in which a "deep lesson about connection across difference was learned" *(Parks Daloz, 2000, p. 110)*.

Through the experiential arc described, in which the camper-participants with significant disabilities were clearly the true faculty for the course, students experienced epiphanic learning moments that they believed were responsible for new skills and perspectives that had been affirmed in importance to them in the years since the course. The significance of these outcomes from a service-learning course for graduates was underscored by the fact that, when asked about their most significant learning experiences in college at the start of the interview, the majority of graduates initially named this course, out of the countless experiences they had in college, of their own volition. These findings confirm the assertion that many important impacts of service-learning are formative and realized long after class is over *(Polin & Keene, 2010)*, reinforcing the critical importance of longitudinal and follow-up research.

In addition, prior research has been mixed regarding graduates' abilities to describe how their transformed perspectives led to actions later in life. For example, Bamber *(2008)* reported that during interviews, "students struggled to articulate ongoing learning that had taken place, resorting to statements such as 'it's difficult to explain'" *(p. 53)*. Consequently, Bamber & Hankin *(2011)* reported that, whereas 75% of their participants made statements that revealed perspective transformation, only 25% reported any actions that resulted from this transformation. They concluded that this was "evidence of an action gap whereby students do not draw upon perspectives that have been transformed to guide action" *(p. 200)*. In the present study, however, when graduates described new or altered skills or perspectives, they were readily able to provide examples of actions that had resulted from this change.

We offer two possible explanations for this difference in participant responses. Previous studies of the long-term impacts of service-learning *(Bamber & Hankin, 2011; Kiely, 2005)* have focused on immersive international service-learning courses and asked whether students' experience of perspective transformation had spurred them to action in relation to inequity and social justice. The current study also examined the impact of an immersive course that involved border crossing, dissonance, and reflection. This study, in which the interviewer responded to graduates' responses with integral probes intended to elicit deeply held beliefs, evidences how students' constructive engagement with difference, and the learning catalyzed by this engagement with difference, resulted in a long-lasting, appreciable, and memorable accrual of skills and perspective shifts. Transformed perspectives and actions for social justice are very important learning goals, but the findings from the current study suggest that other important long-term outcomes of service-learning courses for graduates can be uncovered through an open-ended interview approach and thematic analysis. Further, allowing graduates to speak for themselves and their experiences in ways that were central to this study revealed shifts in perspectives, skills, and approaches that, in at least some cases, very well could be called positive, justice-enhancing changes—whether the graduates themselves would use that framing or not.

Overall, the researchers found it striking that the graduates were able to look back years later and readily identify and fully describe specific moments during the course where they learned something of value to them and, more importantly, easily link that to their current approach to life and human interaction. It's as if a brief but powerful learning experience expanded into something much broader and more significant over the course of time. This is noteworthy for service-learning researchers because some of the more life-permeating impacts of this pedagogy may be revealed years later and through an individual's open-ended reflection at a point in the future when that transformative kernel has had time to interweave with and be applied to subsequent life experience.

Indeed, one of the most notable aspects of the interview process for the interviewer was the number of interviewees who explicitly thanked the interviewer for the opportunity to again reflect on—indeed, to recollect, or "re-collect"—their experiences in LPSD. These graduates reported gleaning new insights from this fresh remembering, and they indicated that the interview process reignited a direct engagement with their learnings from the class. For the researchers, one of the more poignant and powerful takeaways from this project has been the value of long-term qualitative studies not only for the insights provided to practitioners and future students in service-learning courses, but for the immediate positive benefits to interviewees, who may continue to learn from long-ago experiences through renewed reflection.

The methods used and data gathered in this study may also have implications for the broader study of the long-term influence of college on graduates, which is vital for the ongoing evaluation and improvement of curriculum and pedagogy in higher education generally. As a complement to quantitative follow-up surveys of graduates, open-ended interviews with a small random sample of graduates may reveal what graduates found to be most impacting about their college education, which may differ from what faculty and administrators *intended* as learning objectives and outcomes. Understanding the experiences of graduates, articulated in their own words long after the completion of those experiences, may provide surprising and useful information for curriculum design, delivery, and evaluation on the one hand, and big-picture pedagogical and programmatic renewal on the other.

References

Astin, A. W., Sax, L. J., & Avalos, J. (1999). Long-term effects of volunteerism during the undergraduate years. *The Review of Higher Education, 22*, 187–202.

Astin, A. W., Vogelgesang, L. J., Ikeda, E. K., & Yee, J. A. (2000). *How service learning affects students*. Los Angeles, CA: Higher Education Research Institute, University of California, Los Angeles.

Astin, A. W., Vogelgesang, L. J., Misa, K., Anderson, J., Denson, N., Jayakumar, U., . . . Yamamura, E. (2006). *Understanding the effects of service-learning: A study of students and faculty.* Los Angeles, CA: Higher Education Research Institute, University of California, Los Angeles.

Bamber, P. (2008). Transforming perspectives through international service-learning. *Pedagogical Research in Maximizing Education, 3*(1), 43–56.

Bamber, P., & Hankin, L. (2011). Transformative learning through service-learning: No passport required. *Education & Training, 53*(2/3), 190–206.

Ben-Moshe, L., Cory, R. C., Feldbaum, M., & Sagendorf, K. (Eds.). (2005). *Building pedagogical curb cuts: Incorporating disability in the university classroom and curriculum*. Syracuse, NY: The Graduate School, Syracuse University.

Billig, S., & Furco. A. (Eds.). (2002). *Advances in service-learning research: Vol. 2. Service-learning through a multidisciplinary lens.* Greenwich, CT: Information Age.

Bowie, P., Pope, L., & Lough, M. (2008). A review of the current evidence base for significant event analysis. *Journal of Evaluation in Clinical Practice, 14*, 520–536.

Bycio, P. B., & Allen, J. S. (2004). A critical incidents approach to outcomes assessment. *Journal of Education for Business, 80*(2), 86–92.

Chang, W., Chen, C. L., Huang, Y., & Yuan, U. (2012). Exploring the unknown: International service learning and individual transformation. *Adult Education Quarterly, 62*(3), 230–251.

Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches.* Thousand Oaks, CA: Sage.

Dvorak, B. I., Stewart, B. A., Hosni, A. A., Hawkey, S. A., & Nelsen, V. (2011). Intensive environmental sustainability education: Long-term impacts on workplace behavior. *Journal of Professional Issues in Engineering Education and Practice, 137*, 113–120.

Eyler, J., & Giles, D. (1999). *Where's the learning in service learning?* San Francisco, CA: Jossey-Bass.

Fenzel, L. M., & Peyrot, M. (2005). Comparing college community participation and future service behaviors and attitudes. *Michigan Journal of Community Service Learning, 12*(1), 23–31.

Gent, P. J., & Gurecka, L. E. (2001). Service-learning: A disservice to people with disabilities? *Michigan Journal of Community Service Learning, 8*(1), 36–43.

Guba, E., & Lincoln, Y. (1989). *Fourth generation evaluation.* Newbury Park, CA: Sage.

Jones, S. R., Niehaus, E., Skendall, K., Ireland, S., & Rowan-Kenyon, H. T. (2012). The meaning students make as participants in short-term immersion programs. *Journal of College Student Development, 53*(2), 201–220.

Kerrigan, S. M. (2004). *Perspectives of college graduates on the experience and effect of Capstone service-learning courses: A qualitative study* (Doctoral dissertation, AAT 3169484). Retrieved from http://www.pdx.edu/education/gse-doctoral-dissertations

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

Kiely, R. (2005). A transformative learning model for service-learning: A longitudinal case study. *Michigan Journal of Community Service Learning, 12*(1), 5–22.

Laursen, S. L., Thiry, H., & Liston, C. S. (2012). The impact of a university-based school science outreach program on graduate student participants' career paths and professional socialization. *Journal of Higher Education Outreach & Engagement, 16*(2), 47–78.

Mabry, J. B. (1998). Pedagogical variations in service learning and student outcomes: How time, contact, and reflection matter. *Michigan Journal of Community Service Learning, 5*, 32–47.

MacFall, J. (2012). Long-term impact of service learning in environmental studies. *Journal of College Science Teaching, 41*(3), 26–31.

Maxwell, J. A. (2005). *Qualitative research design: An interactive approach* (Applied Social Sciences Research Methods Series, Vol. 41). Thousand Oaks, CA: Sage.

Mezirow, J. (1997). Transformative learning: Theory to practice. In P. Cranton (Ed.), *Transformative learning in action: Insights from practice* (New Directions for Adult and Continuing Education, Vol. 74, pp. 5–12). San Francisco, CA: Jossey-Bass.

Mezirow, J., & Associates. (2000). *Learning as transformation: Critical perspectives on a theory in progress.* San Francisco, CA: Jossey-Bass.

Newman, C. M., & Hernandez, S. Q. (2011). Minding our business: Longitudinal effects of a service learning experience on alumni. *Journal of College Teaching & Learning, 8*(8), 39–48.

Nickols, S. Y., Rothenberg, N. J., Moshi, L., & Tetloff, M. (2013). International service-learning: Students' personal challenges and intercultural competence. *Journal of Higher Education Outreach and Engagement, 17*(4), 97–124.

Palmer, P. (2007). *The courage to teach* (10th anniversary ed.). San Francisco, CA: Jossey-Bass.

Parks Daloz, L. A. (2000). Transformative learning for the common good. In J. Mezirow & Associates (Eds.), *Learning as transformation* (pp. 103–123). San Francisco, CA: Jossey-Bass.

Polin, D. K., & Keene, A. S. (2010). Bringing an ethnographic sensibility to service-learning assessment. *Michigan Journal of Community Service Learning, 16*(2), 22–37.

Warchal, J., & Ruiz, A. (2004). The long-term effects of undergraduate service-learning programs on postgraduate employment choices, community engagement, and civic leadership. In M. Welch & S. H. Billig (Eds.), *New perspectives in service-learning: Research to advance the field* (pp. 87–106). Greenwich, CT: Information Age.

About the Authors

Ann Fullerton is a professor of special education at Portland State University. Her research interests include service-learning, youths' transition to adulthood, and teacher preparation. Fullerton earned her Ph.D. in psychology and special education from Peabody College of Vanderbilt University.

Vicki L. Reitenauer is an instructor and faculty development specialist in university studies and women, gender, and sexuality studies at Portland State University. She earned a B.A. in philosophy from Albright College.

Seanna M. Kerrigan serves as the Capstone program director at Portland State University. She promotes community-based learning in higher education while publishing and presenting widely on issues related to this pedagogy, as well as civic education and assessment. Kerrigan earned her Ed.D. in educational leadership from Portland State University.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 93, (2015)
 eISSN 2164-8212

Reconceptualizing Teacher Education Programs: Applying Dewey's Theories to Service-Learning With Early Childhood Preservice Teachers

Vickie E. Lake, Christian Winterbottom, Elizabeth A. Ethridge, and Loreen Kelly

Abstract

Dewey's concept of enabling children to explore based on their own interests has evolved into investigations and projects using methods of exploration, experimentation, and discovery—three tenets of service-learning. Using mixed methodology, the authors examined the implementation of service-learning in a teacher education program. A total of 155 preservice teachers participated in this study over a 5-year period. Results indicated that preservice teachers believed that their service-learning experiences provided a valuable contribution to the development of pedagogical skills, as well as fostering self-actualization and social-moral development. They also rated the importance of service-learning highly in pedagogical, self-actualization, and social-moral development.

Introduction

Although John Dewey certainly has a prominent position in the history of education, one might nonetheless ask what influence his works have in the 21st century. In the face of growing of technology, requirements that educators comply with standards imposed by high-stakes testing, and political infighting over strongly held opposing viewpoints in first-world countries, we believe that Dewey's *(1916)* theory that children need concrete and experiential activities in order to create an awareness of how they can contribute to and change society for the better is more relevant today than ever before.

The overarching theme of Dewey's framework was his profound belief in democracy. He had a sociological opinion of the world that was evident throughout his writings. Dewey repeatedly made the case that learning is a social, interactive process and therefore, educational institutions should be places in which social reform takes place. He also posited that students find learning meaningful and applicable when they are allowed to take part in their own learning through experience and interaction with the curriculum. Dewey asserted that education should go beyond the acquisition of content knowledge and focus on learning how to live as a contributing part of civil society while still a student. In fact, Dewey challenged teachers to cultivate students' capacities for what they could do to improve the conditions of others in order to have a life worth living *(Fishman & McCarthy, 2010)*. Service-learning may be a tool through which teachers and teacher educators can apply Dewey's theories in their classrooms.

Teacher education, and more specifically early childhood education, has a long relationship with the teachings of John Dewey. To this day, teachers can thank Dewey for practical learning centers in the classroom such as the pretend center, which might be a home, a restaurant, or a grocery store depending on the focus of study *(Dewey, 1971)*. In the more progressive early childhood classrooms and centers, there will be a woodworking area with actual tools such as hammers, saws, and screwdrivers for children to create and build with wood. Many Reggio Emilia-inspired classrooms draw heavily on Dewey by using natural materials for children to explore based on their own interests. Investigations and projects are often the methodology teachers use to structure such explorations, experimentations, and discoveries. Service-learning can act as a natural extension of such projects through a focus on age-appropriate activities, the child's interests, and the community in which the child lives.

Service-learning is both a theory and a methodology. It is experiential education that occurs over a period of time and requires interaction between the preservice teacher (PST) and the community *(Corporation for National & Community Service, n.d.)*. Experiential learning is effective because, as Dewey asserts, knowledge has to be applied, and situational knowledge is easier to recall. This requires reflective thinking and inquiry, which Dewey calls the scientific method *(Giles & Eyler, 1994)*. Additionally, experiential learning is reflected in the Common Core State Standards *(National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010)* that many states in the United States are currently implementing.

Furthermore, higher education is being asked to renew its historic commitment to service-learning by accepting a leadership role in addressing society's increasing problems and in meeting growing human needs *(Jacoby & Mutascio, 2010)*. Understanding that service-learning promotes high-quality learning, federal and state governments are encouraging schools and colleges to promote this strategy. Although extensive research has been performed on service-learning in middle and high school, there is minimal research with early childhood PSTs, elementary students, and children in the early childhood grades. Therefore, it is critical to show early childhood PSTs what a powerful tool service-learning is to use with children. Specifically, well-designed service-learning that combines meaningful community service with curriculum-based learning enables teachers to meet the academic needs of young children in meaningful ways. To ensure that PSTs understand and can effectively implement service-learning, it should be integrated and modeled within early childhood teacher education programs.

The purpose of this article is to specifically focus on the implementation of service-learning in a teacher education program in which PSTs are exposed to experiential activities by planning, implementing, and participating in service-learning projects in the local community. The research questions that drive this study are (1) what degree of support and what level of importance do PSTs attribute to service-learning while they are working in the field as part of a teacher education program, and (2) how do Dewey's theories of social-moral development, pedagogy, and self-actualization impact their teaching?

Service-Learning

Service-learning is defined as a teaching and learning method that connects meaningful community service with academic learning, personal growth, and civic responsibility *(National Service-Learning Clearinghouse, 2013)*. More specifically, the Corporation for National and Community Service *(CNCS, n.d.)*, a federally funded U.S. agency that supports the practice from pre-K through higher education, states that service-learning combines service to the community with student learning in a way that improves both the student and the community. Service-learning is a method whereby students learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of communities. Additionally, it involves coordination of a preschool, elementary school, secondary school, institution of higher education, or community service program with the community; helps foster civic responsibility; is integrated into and enhances the academic curriculum of the students or the education components of the community service program in which the participants are enrolled; and provides structured time for students or participants to reflect on the service experience.

Service-learning is divided into four different approaches *(Kaye, 2004; Lake & Jones, 2008, 2012)*. In *direct service*, the interaction is person-to-person or face-to-face. Examples include field trips to visit a retirement center or hospital and cross-grade tutoring or mentoring. *Indirect service* provides service to the community but not to an individual. Projects might include planting a garden, writing letters, or drawing cards for the troops. Creating awareness of public interest issues is the focus of *advocacy service*. Students might be involved in making and posting *Do not litter* signs for their playground. The last type of service-learning, *research service*, focuses on finding, gathering, and reporting information. When students produce a book after researching and interviewing people who performed heroic acts after a local disaster, they are involved in research service.

The type of service-learning used should always complement and extend the academic content as well as match the developmental needs of the students involved *(Lake & Jones, 2012).* For example, preschool and primary students should be involved in direct service-learning. As preoperational thinkers, these students benefit from concrete experiences that focus on only one dimension of an event. Direct service-learning has a greater impact on students if they have face-to-face contact, thus receiving immediate feedback. However, if young students participate in an indirect or advocacy service-learning project, the teacher needs to facilitate as many concrete experiences as she can in order for the students to obtain that direct feedback. As students become concrete and abstract thinkers, they can be involved in planning and implementing all four types of service-learning. Older students are more capable of classifying objects and events, asking and answering "what if" questions, and thinking abstractly.

Whichever type of service-learning is implemented, it should strive to meet all of the service-learning standards established by the National Youth Leadership Council and released in 2008:

- *Meaningful service*: Service-learning actively engages participants in meaningful and personally relevant service activities.
- *Link to curriculum*: Service-learning is intentionally used as an instructional strategy to meet learning goals or content standards.
- *Reflection*: Service-learning incorporates multiple challenging reflection activities that are ongoing and

that prompt deep thinking and analysis about oneself and one's relationship to society.

- *Diversity*: Service-learning promotes understanding of diversity and mutual respect among all participants.
- *Youth voice*: Service-learning provides youth with a strong voice in planning, implementing, and evaluating service-learning experiences with guidance from adults.
- *Partnerships*: Service-learning partnerships are collaborative, mutually beneficial, and address community needs.
- *Progress monitoring*: Service-learning engages participants in an ongoing process to assess the quality of implementation and progress toward meeting specified goals, and uses results for improvement and sustainability.
- *Duration and intensity*: Service-learning has sufficient duration and intensity to address community needs and meet specified outcomes. *(p. 1-4)*

Although the service-learning standards stress more student involvement with the content and community, the pendulum in education has swung away from active, hands-on learning toward more traditional approaches due to No Child Left Behind *(NCLB, 2001).* Faced with increasing pressures to improve test scores and provide more intensive early intervention, many schools have adopted more didactic curriculum materials and pedagogical approaches. Teachers are required to adhere to these mandated approaches even though the National Association for the Education of Young Children (NAEYC) considers them developmentally inappropriate *(Copple & Bredekamp, 2009)*. However, some early childhood educators have resisted implementing what they believe are inappropriate practices and have continued to teach following Dewey's *(1916)* belief that education should engage children and expand their experiences.

Young Children and Service-Learning

Dewey *(1916)* emphasized the importance of informal and experiential education and held the conviction that children should come to school to be in a community that provides them with guided experiences, real-life tasks, and challenges that promote their capacity to contribute to society. Dewey referred to learning from experience as *nature's way of learning*. Drawing on his contribution, therefore, schools should provide opportunities for students to apply their learning in the community and the world at large. Opportunities for service-learning give children a way to become involved in the community while learning fundamental skills and meeting the core objectives of the curriculum.

Educators who resist the trend toward more traditional or didactic teaching methods may feel justified in following Dewey's approach to learning. His approach is in agreement with instructional positions of such organizations as the National Council of Teachers of Mathematics *(NCTM, 2000)*, the National Committee on Science Education *(1996),* the National Council of Teachers of English *(NCTE, 2004)*, the National Council on Social Studies in the Schools *(2010)*, the National Association of Elementary School Principals *(n.d.)*, and the Association for Supervision and Curriculum Development *(1989)*. These organizations call for a greater emphasis on active, hands-on learning; conceptual learning that leads to understanding along with acquisition of basic skills; meaningful, relevant learning experiences; interactive teaching and cooperative learning; and a broad range of relevant content integrated across traditional subject matter divisions *(Zemelman, Daniels, & Hyde, 1998).*

There are many persuasive reasons for using service-learning as pedagogy with young children. It is consistent with recommendations for best practices by NAEYC *(Copple & Bredekamp, 2009).* This organization highlights the importance of direct and meaningful experiences for children. Service-learning allows teachers to design instruction for young children in developmentally appropriate ways. Additionally, service-learning is a form of differentiated instruction and allows teachers to design curricula using methods such as thematic or content integration. Possibly the most compelling reason for using service-learning in the early childhood classroom is that it can strengthen student learning. Beyond supporting the teaching of academic subjects, service-learning also contributes toward broader school goals such as character education. Research shows that academic learning, social and moral development, civic skills, and character development are all supported when children engage in service-learning projects *(Lake & Jones, 2012).*

In his 1916 book *Democracy and Education*, Dewey outlined his theories of morals. He asserted that moral and social conduct are the same, a contention that supports service-learning since it is also based on interactions and experiences with others. Dewey also said that moral behavior is determined by a set of values learned from lived experiences. Furthermore, Dewey believed that moral education in schools rests upon the values that children bring to the educational setting and that these values stem from the children's study of their own environments and communities. However, he did not believe that schools could directly teach specific morals. He claimed that by defining and teaching morals, schools define morality too narrowly. Moral behaviors should be based directly on interactions with others and are as broad as each individual's lived experiences. Thus, schools should relate morality to actual conditions and problems facing the community. They can do this by engaging in service-learning.

Preservice Teachers and Service-Learning

Although not a new phenomenon, service-learning has emerged as a praxeology (reflection and action done in conjunction with others) that has considerable potential to support and improve teacher education programs in the United States. Because PSTs are faced with increasing pressures to implement standardized tests and provide intensive intervention, they have also adopted more didactic curriculum materials and pedagogical approaches. This shift has been especially difficult for teachers who strive to use experiential or constructivist approaches as posited by Dewey. As an instructional strategy, service-learning allows teachers and teacher educators to meet the needs of students while teaching academic standards *(Jacoby, 1996)*. In response to new 21st-century teaching standards and enhanced field experiences, PST education candidates at universities throughout the United States have become increasingly engaged in academic service-learning projects, which offer the opportunity to increase content mastery and reinforce pedagogical skills through authentic community experiences. In the last two decades, service-learning has gained recognition as an effective pedagogy for involving students of all ages in their communities and for strengthening links between the classroom and real-world settings (e.g., *Freeman & Swick, 2003; Lake & Winterbottom, 2009; Taylor & Ballengee-Morris, 2004)*. Service-learning, therefore, reinforces Dewey's *(1902)* notion that school should serve "as a thoroughly socialized affair in contact at all points with the flow of community life" *(p. 4)*.

Instructors working with PSTs have long known the importance of building relationships and making connections with children, peers, families, and the local community. Service-learning enables teacher education programs to emphasize both content and social skills, or as Dewey described, feelings and thought *(Fishman & McCarthy, 2010)*, in ways that increase the learning potential of all PSTs. Through service-learning, students are challenged to grow as learners and citizens. At the university level, service-learning is an approach to action-learning that is grounded in community–university partnerships in which PSTs provide services that simultaneously address community-identified concerns and meet key learning objectives *(Seifer, 1998).*

Recent studies have highlighted the increasing effectiveness of service-learning as a pedagogy with PSTs *(Lake & Jones, 2008, 2012; Vogel & Seifer, 2011)*, and many teacher education programs have already begun to fully integrate service-learning *(*e.g., *Florida State University, University of Oklahoma, and Ohio State University) (Kezar, 2005; Lewis, 2004)*. The task of transferring the epistemology of learned coursework to the praxis of teaching presents a challenge for PSTs because they enter teacher education programs with well-established images of *how to do school (Vacc & Bright, 1999).* Subsequently, after a short time in the field, PSTs often fall back on cookie-cutter recipes used by their more experienced peers or even folkways learned from their own educational experiences *(Faircloth & He, 2011).* Therefore, teacher educators may find it challenging to provide PSTs with experiences designed to develop the necessary skill sets, encourage more active learning approaches, and incorporate the recent Common Core Standards. However, this is not a new challenge. Dewey explained to educators that even though they would face many distractions, they must always keep their focus on the higher purpose of education by asking themselves how they can help their students earn a living and create a worthwhile life *(Fishman & McCarthy, 2010).*

A poignant concern for most PSTs is that they approach the classroom with a lack of analytical insight into the nature of the learner *(Faircloth & He, 2011).* In order for PSTs to develop the acumen required to challenge the more didactic, traditional, or standardized test-driven approaches to teaching and apply insights originating from the works of Dewey, as well as other constructivist approaches to learning, a more effective way of integrating epistemology and praxis is clearly needed. A possible nexus could be between PSTs' experiences with service-learning and developmentally appropriate pedagogy.

Few attempts have been made to integrate service-learning into early childhood teacher education programs *(Lake & Jones, 2008).* Given that constructivist, experiential, and integrated instructional practices strive to make learning meaningful for the individual child, Lake and Jones *(2008)* believed that service-learning projects and activities should be integrated into the early childhood curriculum. They argued that PST education programs could implement a cascading model, which involves university instructors teaching service-learning pedagogy to the PSTs who are actively involved in service-learning in local schools and community. Consequently, the PSTs then teach service-learning to the children in their field placement classrooms via the implementation of service-learning projects. Subsequently, the children teach others about service-learning through their community efforts and projects. This model aligns itself with the national reform efforts that emphasize curriculum restructuring and seek to establish even closer links between all types of curriculum, instruction, and assessment.

Dewey *(1916)* believed that experiential learning would foster an awareness of how students could contribute to and change society. Integrating service-learning in teacher education programs would thus have a positive impact on PSTs. For example, Freeman and Swick *(2001)* found that service-learning created a greater commitment to teaching and a deeper ethic of care. Earlier studies found that there was an increase of multicultural teaching strategies and sensitivity to diversity and issues of tolerance *(Beyer, 1997; Boyle-Baise, 1998; Swick, 1999; Tellez, Hlebowitsh, Cohen, & Norwood, 1995).* Moreover, PSTs engaged in service-learning strengthen their moral development *(Beyer, 1997)*; become more politically aware and active in community service *(Donahue, 1999)*; show an increase in their compassion and concern for others *(Portthoff et al., 2000)*; and increase their development of empathetic characteristics and individualistic skills including empathy, leadership, self and societal reflection, confidence, and professional practice *(Chambers & Lavery, 2012; Crowther, Ferguson, & Hann, 2008).* Chambers and Lavery *(2012)* further posited that participation in service-learning projects encourages PSTs to display empathy as a direct result of working, playing, and reflecting alongside people who are marginalized in their community. Service-learning is a strategy for "bringing people together, of doing away with the barriers of caste or class or race or type of experience that keep people from real communion with each other" *(Dewey, 1902, p. 84).*

Methodology

Program Overview

Imagine students at a university redesigning the landscape of the college grounds or a group of students working with the homeless community or collaborating with local farmers to bring healthier food to the lowest socioeconomic groups in the community. These are examples of activities related to service-learning that have been conducted by the PSTs in the last few years. Such activities exemplify Dewey's *(1916)* concept of learning from experience—nature's way of learning. Service-learning experiences help PSTs connect university curriculum with service projects that deal with real community needs in a hands-on way. Additionally, by implementing service-learning in the classroom, PSTs can meet the needs of all children when they enter their profession.

Over the past 5 years, a university teacher education program at a large research university in the southeastern United States has been collaborating with the local school district through service-learning. The structure of the program requires a large amount of time in field-based classrooms. In March of their sophomore year, approximately 60 to 80 PST candidates apply to the early childhood program; 30 applicants are selected and admitted to the program for the following fall semester. Once admitted, the PSTs' classes are sequenced, and they travel together as a cohort for the next four semesters, or blocks, until graduation. The PSTs are made aware of their acceptance into a program that integrates academic content and service-learning using a cascading knowledge-of-practice model.

In a cascading knowledge-of-practice service-learning model, teacher educators teach service-learning pedagogy to the PSTs who are actively involved in using service-learning in local schools. The PSTs then teach service-learning to the students in their field placement classrooms via the implementation of service-learning projects. Subsequently, the students teach others about service-learning through their community efforts. The integrated cascading approach offers students an opportunity to learn in a way that is most natural to them, as opposed to a segmented approach stressing isolated skills and concepts *(Verducci & Pope, 2001)*. This model aligns itself with the national reform efforts that emphasize curriculum restructuring and establishes even closer links between curriculum and community.

Participants and Procedures

The total number of PSTs consenting to participate in this study was 155. The authors obtained IRB approval in 2006 and annually renewed the project through appropriate university channels. Data used in this study included a service-learning questionnaire, service-learning reflection, and focus group interviews. The questionnaire consisted of 32 items designed to allow students to assess their service-learning experiences (questionnaire included below). For each item, students were asked to select "the response that BEST describes your experience." Each statement was rated both in terms of level of agreement (4-point scale from *Strongly Disagree* to *Strongly Agree*) and level of importance (4-point scale ranging from *Not* to *Very*).

The original questionnaire, developed by Conville and Weintraub *(n.d.)* and adapted by Lake and Jones *(2012)*, did not differentiate between potential categories distributed throughout. However, we believed that the questionnaire items generally fell into three distinct categories: pedagogical skill development, self-actualization, and social-moral development. To confirm this suspicion, two of the authors independently coded each of the 32 statements into one of these three categories. Our initial ratings exhibited an acceptable level of agreement (78%). Disagreements were resolved via discussion. Moreover, each of the composites was submitted to a reliability analysis where alpha scores of higher than .70 signified acceptable reliability. We chose this type of questionnaire in order to align the methodology with the best instrument to describe the phenomenon that we were exploring *(Yin, 2009)*.

Each PST responded in writing to 11 questions that targeted the effectiveness of their project, concepts and skills taught, children's academic and social benefits from participating in the project, how the project supported the state standards, and specific products of the projects. During the focus group interviews, PSTs were asked several open-ended questions regarding their field placement and service-learning.

Similar data analysis was used for the reflections and focus group interviews. The authors began with a starter list of codes *(Miles & Huberman, 1994)*. Two of the authors independently read through the data to get a sense of what the PSTs were saying. The data was reread, and evidence to support pedagogical skill development, self-actualization, and social or moral development was identified. The authors shared those findings with each other, triangulated the data with the results in Table 1, and performed the final analysis *(Hatch, 2002)*. To protect confidentiality, pseudonyms were assigned to the PSTs.

Service-Learning Questionnaire

Each preservice teacher completed the questionnaire by marking the response that best described their experience. Each statement was rated both in terms of level of agreement (4-point scale from *Strongly Disagree* to *Strongly Agree*) and level of importance (4-point scale ranging from *Not* to *Very*).

1. To gain skills and experience that would be valuable in my career.
2. To complement what I was learning in the classroom.
3. To learn about myself.
4. To volunteer my time to help people.
5. To make a difference in issues of local, national, and/or global importance.

As a result of my involvement:

6. I developed a better understanding of the concepts important to be effective in this experience.
7. I understand the connection between the themes I have studied in class and this experience.
8. I learned to apply principles from my courses to new situations.
9. I gained a better understanding of my values and personal attitudes.
10. I gained a better understanding of my strengths and weaknesses.
11. I gained more self-confidence.
12. I was able to assess my own assumptions about social, political, and/or economic issues.
13. I am more tolerant of people who have different backgrounds and lifestyles than me.
14. I can cope more effectively with stress and real-life difficulties.

15. I am able to learn, understand, and respect professional and/or business standards.
16. I am able to understand and appreciate different cultural norms.
17. I improved my written communication skills.
18. I improved my verbal communication skills.
19. I enhanced my ability to lead a group.
20. I further developed my capacity for independent learning.
21. I enhanced my ability to understand different points of view.
22. I can work more effectively as a team member.
23. I refined my ability to articulate new ideas.
24. I increased my capacity to make moral/ethical judgments.
25. I am better able to express dissenting opinions.
26. I learned appropriate ways to deal with conflict.
27. I will apply what I have learned to other settings.
28. I will remain more informed about local, national, and/or international issues.
29. I will engage others in identifying and proposing solutions concerning social, economic, or political issues.
30. I will work to become an activist for causes that are important to me.
31. I plan to use service-learning as a way of teaching in my fauture classrooms.
32. I plan to stay involved with service projects and activities in the future and work to involve my family and friends.

Table 1. Summary of Survey Results

	Descriptive Analyses		Test of Difference from Scale Midpoint	
Item Categories	*M*	*SD*	*t*	*p*
Pedagogical				
Agreement (α = .79)	3.48	0.35	34.64	<.001
Importance (α = .87)	3.65	0.40	34.28	<.001
Self -Actualization				
Agreement (α = .81)	3.31	0.41	24.48	<.001
Importance (α = .85)	3.60	0.44	29.89	<.001
Social/Moral Development				
Agreement (α = .87)	3.46	0.40	28.99	<.001
Importance (α = .89)	3.61	0.43	31.11	<.001

Note. Due to missing data for some participants, *N* ranges from 138 to 149 for these analyses.

Results and Discussion

The findings reflected how the PSTs assessed the degree of support that service-learning provided them and its level of importance to them while working in the field as part of a PST program. The main results are presented in Table 1. Each of the six item categories (agreement and importance ratings for the three response categories of pedagogical, self-actualization, and social-moral development) represents an averaged composite where higher numbers indicate more agreement or higher importance ratings. Items were coded such that 1 was the minimum score and 4 was the maximum score (hence, the scale midpoint was 2.5). Each of the six composites was submitted to a reliability analysis where alpha scores of higher than .70 signified acceptable reliability. As Table 1 indicates, each of the six composites was acceptably reliable. Table 1 also includes means and standard deviations for each of the item composites. In each case, average ratings were significantly above the midpoint, indicating that students, on average, believed that their service-learning experiences had a positive impact on the development of their pedagogical skills, improved their self-actualization, and heightened their awareness of social-moral issues.

Pedagogical Skill Development

In focus group interviews, many PSTs expressed that the service-learning projects were the highlight of their semester. When questioned further, they explained that the service-learning projects allowed them to implement early childhood pedagogy as they had been taught in their teacher education courses. They discussed how they were able to integrate the curriculum and utilize active learning strategies, which were a departure from their regular classroom curriculum.

More specifically, the PSTs shared in their reflections information on knowledge and practices. They stated that their students learned during the hands-on activities and that those activities brought meaning to the learning. For example, Olivia said of the gardening project, "The students benefited from the project by learning and seeing what a flower looks like, what it needs to grow, etc.". Another PST mentioned that the daily watering and maintaining the garden helped keep the knowledge and experience "fresh in their minds" (Maxi). Other PSTs used the idea of pollution with information on specific animals to further their students' knowledge. They became aware of the environment and how the environment affects the animals that live there. One PST stated, "They have learned what the word *endangered* means and that the sharks could eventually be endangered if the ocean stays polluted."

Using appropriate skills, such as communicating through writing letters, was another way that the PSTs taught content through service-learning projects. Jennifer noted how the "letters reinforced what the students learned about manatees throughout the week." Vocabulary building was another skill that was developed through these service-learning projects: "A lot of the terms used like *recycling, endangered species*, and *habitat* were new to them" (Eileen). Each project had its own set of new vocabulary items on such topics as military terms, life cycle of the alligator, and community awareness.

These projects were well-designed service-learning experiences that allowed the PSTs to meet the required academic standards of young children in meaningful ways. Each project reinforced nature's way of learning by providing opportunities for the children to apply their learning to the community while meeting the fundamental skills and core objectives of the curriculum *(Dewey, 1916)*. Examples of service-learning projects that the PSTs used to enhance pedagogical skill development included gardening and letter writing. During these types of projects, the PSTs developed their ability to teach specific academic skills such as language and literacy, mathematics, science, and social studies.

Gardening. Through the gardening projects, the PSTs helped the children understand and participate in activities for the betterment of their community and school. These projects also helped the children develop areas of sensory and motor skills by having them dig, plant, measure, nurture plants, and decorate planters for class or school beautification or so plants or flowers could be given away to others in need.

Letter writing. Letter-writing projects as a part of service-learning experiences included dictating, drawing, or writing cards and letters that engaged with different community members such as the troops, the farmers, the governor, the president, grandparents, and other children about content and knowledge learned in school. Both PSTs and students were involved equally through different mediums. For example, one child who had a visual impairment dictated her story into a tape recorder, and the teacher transferred her words onto her card.

Social-Moral Development

Because service-learning projects focus on a community need and include both academic and social objectives, the PSTs also discussed the benefits of teaching targeted social skills. They realized that it was more beneficial to be proactive and help children understand what was expected of them by modeling and teaching specific social skills than by reacting to negative behaviors when they occurred. PSTs also realized that as active learning increased, classroom management issues decreased. The specific teaching of social skills, along with active learning, created a more engaged environment with fewer discipline problems.

In their reflections, the PSTs noted a variety of social-moral skills taught or reinforced during the service-learning projects, such as working together cooperatively, helping others, encouraging, sharing, listening, empathizing, communicating, and responding appropriately to others. After a service-learning project on intergenerational relationships, Rae reported:

> Students were able to identify ways in which to help the community and explain why it is important to help others. Students talked about how proud they were to be able to help the community. We also discussed how they were able to share with the elders at the nursing home. The students were eager to do what they could on their own to help the community.

After a project on the potential dangers to animals of a polluted environment, Helen's students

> wanted to clean up our environment for the animals around our school ground. Some of the students used to throw their trash around the playground, and nobody would pick it up. Now the students look for litter to clean up instead of adding to the litter around the school and within our classroom. I realized that the students understand the importance of helping other people and animals. I feel that it is important to lend a hand to the community and teach students about it.

Abbie noticed that "the students are getting along more. The words 'thank you' have been used a lot more. I just see the students wanting to do nice things for each other."

Dewey *(1916)* asserted that moral behavior is determined by a set of values learned from lived experiences that children bring to the educational setting and that stem from the children's study of their own environments and communities. He believed that these behaviors should be based directly on interactions with others and that schools should relate morality to actual conditions and problems facing the community. The focus group interviews and PST reflections demonstrate service-learning's ability to actualize Dewey's vision of moral development. Examples of service-learning that the PSTs used to enhance social-moral development included working on endangered species and pollution and recycling projects.

Endangered species. During the implementation of the endangered species service-learning projects, the students learned about endangered animals, their habitats, reasons why animals are losing their homes, and what they could do about it. This was another way that the PSTs and the students were able to be involved with helping raise their community's awareness. These projects allowed learners to be involved through a variety of modalities: making posters about the benefits of bats; drawing pictures; acting out the loss of the rainforest; using language to tell their schools, community, and families about sharks; and collecting food for the preservation of homeless cats and dogs.

Pollution and recycling. Both PSTs and students learned about the effects of pollution on humans and the earth while also studying recycling as a solution. These projects helped the students develop a consciousness of pollution and recycling within their own community as well as in their school. Through such hands-on activities as making classroom or school recycling bins, sorting recyclable materials, beach cleanup, sensory sorting, and raising awareness via posters and school cleanup, all learners were involved with the project.

Self-Actualization

Teachers today are pressured to provide more traditional instructional approaches to the curriculum in addition to providing education that increases the students' engagement and experiences *(Zemelman et al., 1998)*. Most of the PSTs from this study stated that implementing their service-learning projects was the closest they had come to their vision of themselves as teachers. Instead of focusing on the traditional approach to teaching, active, hands-on learning was used in the service-learning projects. The PSTs described having fun with the children while learning was taking place, thus moving closer to self-actualization. They enjoyed watching the students become motivated and excited about the projects. "I have never seen students want to give up their recess in order to clean up trash, but every day we have filled up a paper bag with trash the students have found outside," said one PST. Another PST remarked, "I feel that the service-learning project put fun back into school for them." In regard to the learning that took place, another PST commented, "I think that it is a great way to teach content, standards, and social skills in an interactive and meaningful way. I could see how much the children enjoyed and learned from doing it when I was teaching." To see what they have learned come to life helps boost their enthusiasm about the subject.

These service-learning projects exemplify the recommendations for best practices by NAEYC by providing active and meaningful experiences for children *(Copple & Bredekamp, 2009)*. PSTs were allowed to design and implement instruction for young children using developmentally appropriate practices in lieu of the more traditional methods, thus engaging in praxeology that early childhood education holds as its standard. Examples of service-learning that the PSTs used to enhance self-actualization development included helping others who were not in a position to help themselves.

Helping others. The projects oriented toward helping others focused on food and clothing drives, children in hospitals, autism awareness, hurricane relief, and cancer awareness, and more. Through these projects, students and PSTs were exposed to people who had experienced an unfortunate circumstance, who were different from them in some way, or who had a need that these children could help with. These projects helped the students understand what was happening in their community and in many cases, the PSTs learned about the differences of a child or children in their own classrooms.

As these projects from the three categories demonstrate, service-learning is based on real-life issues in which students and community partners collaborate to address and solve real problems and create transformations regarding the issues and the people involved. All parties—PSTs, students, and community members—benefited from the projects. Each project required the children to apply basic academic skills that are included in education standards. For example, many of the service-learning projects required both the PSTs and the students to engage in problem solving, collaboration, and perspective taking. The PSTs and the students had to utilize communication skills, extend their vocabulary, participate in shared research, read purposefully, refine and share knowledge through writing, speaking, and actions, build on others' ideas, and articulate their own ideas. These are just a few of the standards that are addressed in Common Core for young children. What better way to learn academics than to apply them to real-life issues based on student interests?

Conclusion

This study examined service-learning with early childhood PSTs as an approach to learning, but it should be noted that service-learning can be effective for PSTs in any program. It can change PSTs' approaches and views regarding disadvantaged people *(Conner, 2010)* because it helps them develop empathy and sensitivity to others *(Chambers & Lavery, 2012)* and to examine their preconceived ideas and stereotypes about those who are different from them. Service-learning experiences also help PSTs give attention to their thoughts and actions in order to become sensitive to the service recipients *(Conner, 2010).*

Service-learning provides PSTs, regardless of program area, with a pedagogy that meets the demands of a standards-driven educational system while still allowing children to participate in engaged meaningful learning that is concrete and experiential *(Furco, 1996)*. It allows PSTs to apply what they have learned in their teacher education classes about experiential learning and appropriate practices.

> The basic theory of service-learning is Dewey's: the interaction of knowledge and skills with experience is key to learning. Students learn best not by reading the

> Great Books in a closed room but by opening the doors and windows of experience. Learning starts with a problem and continues with the application of increasingly complex ideas and increasingly sophisticated skills to increasingly complicated problems. *(Erlich, 1996, p. 11)*

Service-learning experiences allow PSTs to grow both individually and professionally and help them to be change agents, thus moving closer to their ideal vision of themselves as teachers. Additionally, engaging in service-learning promotes leadership skills in children and PSTs and aids in the development of citizenship *(Chambers & Lavery, 2012)*. It allows PSTs to experience the power that they can use, even through a small group's voice, to make changes in their community *(Ethridge, 2006).*

Limitations and Future Research

Service-learning is a methodology that requires educators, students, and community partners to work together for the benefit of all. This requires time, communication, and often branching out of one's comfort zone. There is no doubt that it is a time-consuming endeavor for everyone involved; however, the time invested is what makes it a meaningful learning experience. The field of early childhood education is in large part relationship-based and experiential; therefore, service-learning provides a way for early childhood teacher educators to actually practice what they teach.

A key area in which improvement needs to be made in the practice and research of service-learning is getting in-depth feedback from the community partners. Again, the amount of time it takes to obtain thoughtful, honest, critical feedback is a limitation that is often difficult to overcome. Future research could address this issue by stating the plan for assessment of the service-learning project upfront. Connecting the service-learning project to a grant that compensates community partners for their time might also be a way to address this issue.

The field of early childhood education would benefit from more examples of and research on direct service-learning projects. Children benefit greatly from face-to-face interactions with community partners. The opportunity for children to experience the environment of their community partners, such as assisted living centers, pet adoption agencies, and recycling centers, can make the learning experience even more concrete, engaging, and memorable. It is often difficult to arrange for direct service-learning projects due to transportation costs. Field trips within walking distance or applying for local education grants might be pipelines for achieving this goal.

In conclusion, there is no doubt that Dewey's theories are still relevant in education today. Since Dewey's time, society may have changed in ways beyond his imagination, but his focus on experiential learning, reflective thinking, and inquiry is in accord with the aims of education reform and the adoption of the Common Core State Standards *(National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010).* Just as Dewey asserted that schools should establish an effective moral education environment by creating a genuine community life, service-learning can be the approach that connects his theory to practice. Teachers can combine the work and play of school through constructive, experiential, and active activities because they promote a constructive social-moral atmosphere. Service-learning will allow learning in school to be continuous with learning out of school, thus fulfilling Dewey's vision of school and community working together to provide students with guided experiences, real-life tasks, and challenges that promote their capacity to contribute to society.

References

Association for Supervision and Curriculum Development. (1989). ASCD positions. Retrieved from http://www.ascd.org/news-media/ASCD-Policy-Positions/ASCD-Positions.aspx

Beyer, L. (1997). The moral contours of teacher education. *Journal of Teacher Education, 48*(4), 245–254.

Boyle-Baise, M. (1998). Community service-learning for multicultural education: An exploratory study with preservice teachers. *Equity and Excellence in Education, 31*(2), 52–60.

Chambers, D. J., & Lavery, S. (2012). Service-learning: A valuable component of pre-service teacher education. *Australian Journal of Teacher Education, 37*(4), 128–137.

Conner, J. O. (2010). Learning to unlearn: How a service-learning project can help teacher candidates to reframe urban students. Teaching and Teacher Education: *An International Journal of Research and Studies, 26*(5), 1170–1177.

Conville, R. L., & Weintraub, S. C. (n.d.). *Service-learning and communication: A disciplinary toolkit.* Washington, DC: National Communication Association.

Copple, C., & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs* (3rd ed.). Washington, DC: National Association for the Education of Young Children.

Corporation for National and Community Service. (n.d.). Retrieved from http://www.nationalservice.gov

Crowther, F. A., Ferguson, M., & Hann, J. (2008). *Developing teacher leaders: How teacher leadership enhances school readiness.* New York, NY: Corwin Press.

Dewey, J. (1902). The school as social center. *The Elementary School Teacher, 3*(2), 73–86.

Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. New York, NY: Macmillan.

Dewey, J. (1971). *The school and the society and the child and the curriculum.* Chicago, IL: University of Chicago Press.

Donahue, D. (1999). Service-learning for preservice teachers: Ethical dilemmas for practice. *Teaching and Teacher Education, 15*(6), 685–695.

Erlich, T. (1996). Foreword. In B. Jacoby and Associates (Eds.), *Service-learning in higher education: Concepts and practices* (pp. xi–xii). San Francisco, CA: Jossey-Bass.

Ethridge, E. (2006). Service-learning and advocacy. *Mentoring & Tutoring, 14*(1), 1–3.

Faircloth, B., & He, Y. (2011). The impact of service-learning experiences on preservice teachers' integration of principles of educational psychology. *Teaching Educational Psychology, 1*(7), 1–26.

Fishman, S. M., & McCarthy, L. (2010). Dewey's challenge to teachers. *Education and Culture, 26*(2), 3–19.

Freeman, N. K., & Swick, K. J. (2001). Early childhood teacher education students strengthen their caring and competence through service-learning. In J. B. Anderson, K. J. Swick, & J. Yff (Eds.), *Service-learning in teacher education: Enhancing the growth of new teachers, their students, and communities* (pp. 134–140). Washington, DC: AACTE.

Freeman, N. K., & Swick, K. J. (2003). Preservice interns implement service-learning: Helping young children reach out to their community. *Early Childhood Education Journal, 31*(2), 107–112.

Furco, A. (1996). Service-learning: A balanced approach to experiential education. In B. Taylor (Ed.), *Expanding boundaries: Serving and learning* (pp. 2–6). Washington, DC: Corporation for National Service.

Giles, D. E., & Eyler, J. (1994). The theoretical roots of service-learning in John Dewey: Toward a theory of service-learning. *Michigan Journal of Community Service Learning, 1*(1), 77–85.

Hatch, J. A. (2002). *Doing qualitative research in educational settings.* Albany, NY: State University of New York Press.

Jacoby, B. (1996). Service-learning in today's higher education. In B. Jacoby, & Associates (Eds.), *Service-learning in higher education: Concepts and practices,* (pp. 3-25). San Francisco, CA: Jossey-Bass.

Jacoby, B., & Mutascio, P. (2010). *Looking in, reaching out: A reflective guide for community service-learning professionals.* Boston, MA: Campus Compact.

Kaye, C. B. (2004). *The complete guide to service-learning: Proven, practical ways to engage students in civic responsibility, academic curriculum, and social action.* Minneapolis, MN: Free Spirit.

Kezar, A.J. (2005). Challenges for higher education in serving the public good. In Kezar, A.J, Chambers, T.C., & Burkhardt, J.C. (Eds), *Higher educa-*

tion for the public good: Emerging voices from a national movement, (pp. 23-42). San Francisco, CA: Jossey Bass.

Lake, V. E., & Jones, I. (2008). Service-learning in early childhood teacher education: Using service to put meaning back into learning. *Teaching and Teacher Education: An International Journal of Research and Studies, 24*(8), 2146–2156.

Lake, V. E., & Jones, I. (2012). *Service-learning in the PreK–3 classroom: The what, why, and how-to guide for every teacher.* Minneapolis, MN: Free Spirit.

Lake, V. E., & Winterbottom, C. (2009). Expanding the classroom curriculum: Integrating academic and service-learning standards to improve students' academic knowledge and increase their social competency. In L. K. Kattington (Ed.), *Handbook of curriculum development* (pp. 1–24). New York, NY: Nova Science.

Lewis, T.L. (2004). Service learning for social change? Lessons from a liberal arts college. *Teaching Sociology, 32*(1), 94–108.

Miles, M. B., & Huberman, M. (1994). *Qualitative data analysis: An expanded sourcebook.* Thousand Oaks, CA: Sage.

National Association of Elementary School Principals. (n.d). About. Retrieved from https://www.naesp.org/about.

National Committee on Science Education. (1996). *National Committee on Science Education standards and assessment.* Washington, DC: National Research Council.

National Council of Teachers of English. (2004). *On reading, learning to read, and effective reading instruction: An overview of what we know and how we know it.* Retrieved from http://www.ncte.org/positions/statements/onreading

National Council of Teachers of Mathematics. (2000). *Professional standards for teaching mathematics.* Reston, VA: Author.

National Council on Social Studies in the Schools. (2010). *Expectations of excellence: Curriculum standards for social studies.* Retrieved from http://www.socialstudies.org/standards

National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common core state standards.* Washington, DC: Authors.

National Service-Learning Clearinghouse. (2013). *What is service.* Retrieved from http://gsn.nylc.org/projects/333/documents/578

National Youth Leadership Council. (2008). *K-12 service-learning standards for quality practice.* Saint Paul, MN: National Youth Leadership Council.

No Child Left Behind (NCLB) Act of 2001, 20 U.S.C.A. § 6301 et seq. (West 2003). Retrieved from http://www.ed.gov/nclb/landing.jhtml?src=pbS

Portthoff, D., Dinsmore, J., Stirtz, G., Walsh, T., Ziebarth, J., & Eifler, K. (2000). Preparing for democracy and diversity: The impact of a community-based field experience on preservice teachers' knowledge, skills, and attitudes. *Action in Teacher Education, 22*(1), 79–92.

Seifer, S. (1998). Service-learning: Community-campus partnerships for health professions education. *Academic Medicine, 73*(3), 273–277.

Swick, K. J. (1999). Service-learning in early childhood teacher education. *Early Childhood Education Journal, 27*(2), 129–137.

Taylor, P. G., & Ballengee-Morris, C. (2004). Service-learning: A language of "we." *Art Education, 57*, 6–12.

Tellez, K., Hlebowitsh, P., Cohen, M., & Norwood, P. (1995). Social service field experiences and teacher education. In. J. Larkin & C. E. Sleeter (Eds.), *Developing multicultural teacher education curricula* (pp. 65–78). New York, NY: SUNY Press.

Vacc, N. N., & Bright, G. W. (1999). Elementary preservice teachers' changing beliefs and instructional use of children's mathematical thinking. *Journal for Research in Mathematics Education, 30*(1), 89–110.

Verducci, S., & Pope, D. (2001). Rationales for integrating service learning in teacher education. In J. B. Anderson, K. J. Swick, & J. Yff (Eds.), *Service-learning in teacher education: Enhancing the growth of new teachers, their students, and communities* (pp. 2-18). Washington, DC: AACTE.

Vogel, A. L., & Seifer, S. D. (2011). Impacts of sustained institutional participation in service-learning: Perspectives from faculty, staff and administrators. *Gateways: International Journal of Community Research and Engagement, 4*, 186–202.

Yin, R. K. (2009). *Case study research: Design and methods.* Thousand Oaks, CA: Sage.

Zemelman, S., Daniels, H., & Hyde, A. (1998). *Best practices: New standards for teaching and learning in America's schools*. Portsmouth, NH: Heinemann.

About the Authors

Vickie E. Lake is an associate professor at the University of Oklahoma. Her research interests include service-learning, effective preservice and in-service teacher education, and preservice mathematics. Lake earned her Ph.D. in curriculum and instruction from the University of Texas.

Christian Winterbottom is an assistant professor at the Ohio State University at Mansfield. His research interests include service-learning, minority children and families, praxeological-learning, and poverty in early childhood education. Winterbottom earned his Ph.D. from Florida State University.

Elizabeth A. Ethridge is an associate professor at the University of Oklahoma. Her research interests include teacher education, service-learning, and teacher autonomy. Ethridge earned her Ed.D. from Oklahoma State University.

Loreen Kelly is a doctoral candidate and graduate assistant at the University of Oklahoma. Her research interests include young English language learners and teacher education. Kelly earned her M.Ed. from Northeastern State University.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2 p. 117, (2015)

Maximizing Future Potential in Physics and STEM: Evaluating a Summer Program Through a Partnership Between Science Outreach and Education Research

Zachary Constan and Justina Judy Spicer

Abstract

Global competitiveness of the United States is often suggested as a key outcome of developing a capable science, technology, engineering, and mathematics (STEM) workforce, a goal supported by many local, state, and national programs. Examining the effectiveness of such programs, however, may require assessment techniques that are outside their organizers' expertise. The physicists conducting the physics outreach program in the current study partnered with education researchers at the same university to achieve a more thorough measure of program effectiveness while also demonstrating how such partnerships represent an opportunity to add rigor to current evaluation. The resulting analyses demonstrated that participants in the outreach program (a) were more likely than nonparticipants to pursue an education and career in STEM, (b) were able to define and execute plans to solidify a strong foundation for pursuing a career in STEM, and (c) persisted in pursuing education in STEM after high school graduation.

Introduction

Exposure to different types of careers can support students in developing a vision for their future and understanding the steps and choices necessary to achieve those careers *(Hamilton & Hamilton, 2006; National Center for Education Statistics, 2011)*. However, many students may not successfully transition into their envisioned careers, especially professions in mathematics and science, despite being academically prepared. High school students who are unclear about their occupational futures may find that they over- or under-estimate the amount of education they will need for the type of work they wish to pursue and lack a strategic plan for accomplishing their goals *(Csikszentmihalyi & Schneider, 2000; Sabates, Harris, & Staff, 2011; Schneider & Stevenson, 1999).* Students may also lack role models and experiences that impart the knowledge and strategies needed to transition from high school to postsecondary education and to realize their career ambitions *(Rosenbaum, 2001)*.

The years in which adolescents transition from high school to postsecondary education are particularly critical for developing ambitions and academically preparing for educational and occupational futures in the fields of science, technology, engineering, and mathematics (STEM). Several key policy reports in the United States have called for significant steps to increase the national STEM labor force *(National Academies, 2010; National Science Board, 2010)*, and several initiatives and reforms are being implemented from preschool to college to encourage and inform students about opportunities in STEM. The National Science Foundation (NSF), a significant source of funding for strengthening the STEM pipeline, spent over $1 billion in 2010 on education funding *(Gonzalez, 2012)*. Options for addressing STEM labor shortages are complex, but it is clear that STEM experiences should be integrated throughout the educational system *(National Research Council, 2011)*. Although there is and should be significant attention given to closing gaps in the pipeline for those students traditionally underrepresented in STEM, there is also significant value in encouraging already interested and motivated students to realize their ambitions of pursuing a STEM career. This study evaluates the role of precollege outreach programs in the support and development of talent in STEM fields.

Uniquely positioned as a bridge between universities and students in elementary and secondary schools, precollege outreach programs can play an important part in meeting the growing demand for an increased labor supply in STEM. The goals of the present study were twofold. The primary objective was to examine one college-outreach program dedicated to STEM outreach, the Physics of Atomic Nuclei (PAN), which seeks to expose students to careers in nuclear science and offer them practical research experience. The secondary goal was to examine how the interdisciplinary partnership between an outreach program in science and researchers in social science can improve the thoroughness of the program's overall evaluation in regard to its standing and effectiveness while also contributing to the research base as it relates to the role of outreach programs.

The secondary objective was motivated by research that has shown a lack of STEM precollege programs that are able to carry out statistically appropriate evaluations. Such programs often struggle to demonstrate their ultimate impacts *(U.S. Department of Education, 2007)*. Although the present study does not intend to provide an exhaustive review of collaborative evaluations conducted on precollege programs, a brief search conducted using Google Scholar with the keyword phrases "pre-college," "evaluation," and

"STEM" returned a mixture of different types of research studies appearing since 2008. The predominant mode of evaluating precollege outreach programs is the analysis of self-reported survey measures through either cross-sectional data collection or a pre-post design. These data can inform several areas in the evaluation of the outreach programs' effectiveness, as many of these studies have suggested; however, such studies also have limitations, such as the subjectivity of participants. Additionally, current research designs have often not been able to accurately capture any knowledge or skill acquisition that reflects outreach participants' experiences in the program. As a result, several studies also incorporated the use of an assessment to strengthen their program evaluation (e.g., *Bogue, Shanahan, Marra, & Cady, 2012)*. A third mode of evaluation used to understand the impact of precollege outreach in STEM was the examination of undergraduate students who reported their participation in a precollege outreach program prior to college (e.g., *Cohen & Deterding, 2009)*. These different modes of inquiry provide several perspectives into how students benefit from particular outreach programs. Ascertaining how a student would have responded without the treatment might theoretically be achieved by randomizing students to participate in these programs; such an act, however, could violate the very goals of the outreach. The present study used statistical methods to create a comparison group to examine how this program impacted its participants compared to nonparticipants.

To evaluate the influence of PAN on student participants, this study investigated three research questions: (1) What are the benefits of participation reported by the students?; (2) How do the PAN participants compare to a statistically matched sample from national data; specifically, what are the differences in educational and occupational interests conditioning on student characteristics?; and (3) What are the long-term implications for participants as reflected in follow-up data? Our multiple analyses offered evidence that students who participated in PAN were not only more likely to be interested in majoring in STEM than members of their matched comparison group, but that PAN gave them the knowledge, skills, and strategies necessary to successfully plan and pursue careers in physics and other STEM fields.

Connecting Talented Students With Potential Careers

To support national competitiveness in an increasingly technology-driven global economy, the U.S. government has invested heavily in developing a STEM workforce to meet future demand. Students interested in pursuing careers in growing fields can meet this need. As adolescents plan their future education and occupations, knowledge of different careers can help them identify and take pragmatic steps to achieve their career goals (*Rosenbaum, 2001; Schneider & Stevenson, 1999).* However, this process of developing interests and pursuing the steps necessary to achieve career goals is not always carried out.

Of the students who finish high school academically prepared to pursue a variety of career opportunities, many never reach their occupational goals. Such students may falter because they lack access to the necessary information for developing a strategic plan to achieve their goals and may under- or overestimate the level of education they need *(Schneider & Stevenson, 1999)*. The ability of students to attain their career goals can be impeded if they are not able to articulate and understand the appropriate pathways from secondary education through college and into a chosen career. This alignment of ambitions and the education required to attain them is especially important for students pursuing careers in STEM; in prior research, students have reported difficulty in identifying realistic strategies that would help them achieve their career goals, such as how to select coursework and extracurricular activities appropriate for STEM careers *(Csikszentmihalyi & Schneider, 2000; Schneider & Stevenson, 1999)*. Parents and family are also important factors in the way students develop future goals and ambitions *(Hossler & Stage, 1992)*. Like these students, parents and family members may lack information about the specific requirements, options, or courses needed for acceptance by more selective colleges or the preparation needed for specific STEM careers.

University-based outreach programs can supplement K-12 education in improving several student outcomes, especially in STEM, including interest, knowledge, skills, and the development of postsecondary expectations *(National Academies, 2007)*. Some programs provide STEM-related professional development for teachers, leading to more effective instruction for students *(Moskal & Skokan, 2011)*. Outreach through summer camps in particular can be a successful strategy to advance student outcomes in STEM *(Foster & Shiel-Rolle, 2011)*. However, there is a dearth of studies that demonstrate their effectiveness in improving attitudes about and understanding of scientific pursuits.

Prior studies that have followed students from adolescence into adulthood showed that the selection of postsecondary institution, choice of college major, and interest in pursuing a career in STEM were associated with being able to *visualize* oneself as a college student, transform interests into *realistic actions*, and create *strategic plans (Schneider, Judy, & Mazuca, 2012)*. The current study used this framework of visualization, realistic actions, and strategic plans to understand how college-outreach programs can support each step in this transition process by (a) providing opportunities for students to visualize themselves as college students, often through on-campus experiences; (b) suggesting realistic actions and activities for students to hone their interests; and (c) supporting the development of strategic plans so students can successfully attain their educational and career goals.

Physics of Atomic Nuclei Program (PAN)

PAN is a precollege outreach program that informs students about careers in nuclear science and offers authentic research experiences for student participants. This program is a partnership between two NSF-funded entities: the Joint Institute for Nuclear Astrophysics (JINA) and the National Superconducting Cyclotron Laboratory (NSCL). JINA is a multi-institutional NSF Physics Frontier Center, a large collaboration between the primary partners of three Midwestern universities and other national and international partner organizations. JINA brings together nuclear experimentalists, nuclear theorists, and astronomers to collaborate on problems related to nuclear astrophysics. PAN is fully funded by JINA as one of its premier outreach programs, making it free to participants.

PAN is hosted by a world-leading rare isotope research facility located on the campus of a large Midwestern university. This nuclear laboratory hosts over 1,300 users from 35 countries and maintains one of the top-ranked nuclear science graduate programs. The lab contributes facilities; equipment; and additional faculty, staff, and students to support PAN. Hundreds of students from across the United States and some foreign countries have been attracted to PAN over its 20-year history. Throughout the program's evolution, the primary goal has always been to build student interest and knowledge in the field of nuclear physics. Student participants are prospective future researchers and are treated as such.

Many precollege outreach programs focus on exposing students from underrepresented groups to STEM careers. PAN seeks and accepts students from such groups, but the nature of the program draws applicants who typically are highly intelligent, science-focused, and self-motivated. It is recognized that these students usually have significant resources already, such as supportive and knowledgeable parents and access to advanced learning opportunities. Rather than introducing participants to science in general, PAN aims to support and channel their enthusiasm for science into potential college majors and specific careers in research.

PAN consists of an intensive week-long experience in the summer, featuring days packed with up to 12 hours of programming. Daily activities include one or two introductory-level lectures by JINA/NSCL faculty regarding current research, experimental methods, and detector technology. Each lecture is followed by a structured question and answer session where teams of participants can interact with the presenter. Through the students' evaluation of what was clear and unclear in the presentation, the presenter obtains valuable feedback, and the students gain further clarifications. Before beginning any research in the lab, training sessions are held to ensure that participants can safely and effectively pursue the research program. Students then conduct a series of experiments using a $1 million scintillation detector. They learn to use this detector to identify the location of a radioactive source, gain experience with the data-acquisition software, and track cosmic rays as they pass through the detector. Through this sequence of steps, they build their knowledge and confidence until they begin pursuing research in much the same way NSCL users would, making it an authentic experience. Finally, students design and present a poster explaining their research at the capstone session of the program. This exercise teaches the student participants what content is appropriate for reporting results and familiarizes them with methods of presentation, both of which are fundamental and integral components of research at any level. Evening programs supplement the above activities by acclimating the students to campus life. These auxiliary programmatic events help the participants visualize themselves as college students in this field, engage in college-level work, and continue their development of strategic plans for postsecondary pathways and opportunities in physics.

Ultimately, PAN is intended to help students see themselves pursuing a research career by (a) promoting the importance of nuclear research; (b) teaching the discipline and current topics of nuclear astrophysics; (c) introducing students to undergraduate/graduate life at a university; (d) demonstrating the nature of pure science and research careers, particularly in nuclear science; and (e) fostering interest in nuclear physics/astrophysics.

Because JINA and NSCL receive grants from the NSF, pre-college outreach programs like PAN are intended to fulfill NSF's Broader Impacts goals in these ways:

1. promote teaching, training, and learning by introducing nuclear astrophysics to new audiences;
2. broaden participation among underrepresented groups by recruiting more female students for the program;
3. enhance education partnerships by providing teachers and students with long-term support: assistance, materials, and further outreach opportunities;
4. disseminate information broadly by sharing it with the teachers of tomorrow's scientists; and
5. benefit society by encouraging science literacy and knowledge of how nuclear astrophysics affects society.

PAN sought and earned approval from the university's Institutional Review Board to collect student survey data and use it for improvement and research. Following all assent/consent and confidentiality guidelines, PAN has amassed many years of data about the effectiveness of the program through exit surveys and anecdotal evidence from alumni, but lacked expertise in assessing the success of the program relative to its goals. Some efforts to this effect have been made in recent years in collaboration with other precollege programs on campus. However, the program director and advisory committee recognized a need for a more detailed analysis to satisfy the NSF mandate, and thus formed a partnership with the College of Education at their university.

Over the past 3 years of this partnership, the survey instruments have been updated to not only include students' self-reports of their experiences, but also new items drawn from national surveys that have been validated and will allow PAN participants to be compared to a control group—a necessary comparison for understanding the impacts of the outreach and for demonstrating evidence of its effectiveness.

Method

Sample

Because PAN intends to inspire students to study science at the college level, and particularly to give them experience in research so they can make an informed decision about their future careers, the preferred candidates are those who show a clear desire and drive to pursue science. Students demonstrate this on their application by indicating such academic and extracurricular choices in high school as regularly enrolling in science and math courses, joining science-related clubs and similar extracurricular activities, committing to science programs and camps outside school, seeking out reading and other material to further their science knowledge, and applying to PAN as a way to investigate a science career. It is important to note that the application requires no GPA or test scores.

Applications must also include two teacher recommendations, which are rated by the following criteria: whether the teacher instructed the student in science/math; amount of interaction between the teacher and student; specific instances where the student has "gone the extra mile" to learn more; the teacher's rating of how inquisitive the student is, particularly if the teacher cannot answer all of his/her questions; and the teacher's rating of the student's motivation, independence, and maturity.

As one of the few summer programs in nuclear science, PAN is quite popular for students who are seeking that specific experience. Due to budget and equipment limitations, the program can accept only 24 students per year. To help promote gender parity, an equal number of male and female participants are selected. It is generally (and usually correctly) assumed that students seeking out PAN have a keen interest in science but little to no background in nuclear astrophysics, and thus all students can begin their instruction from the same level of knowledge and be successful.

Table 1 shows the applicant pool from 2007–2012. Over those 6 years, the applicant pool increased in size, and the acceptance rate declined as the program became necessarily more selective. In 2012, 179 students applied for the 24 spots, leading to an acceptance rate of just 13%. Overall, consistent patterns of applicants can be observed from year to year: more males than females apply, there is generally a larger proportion of in-state students compared to out-of-state applicants, and White students make up the majority of the pool. Given the sharp increase in applications in later years, it is important to note that between the 2008 and 2009 programs, PAN organizers completely changed advertising strategies. Before 2009, PAN was promoted by physically mailing letters to in-state high schools, but in early 2009, it was featured in several teaching and physics magazines as well as through electronic media. This campaign reached a wider audience, and eventually PAN transitioned from having only an in-state presence to gaining a broader national audience. This increased exposure created larger applicant pools and resulted in a more demanding selection process so that the admitted students tended to be highly self-motivated with extreme interest in science.

Table 1. Demographic Characteristics Applicants

			Percentage of Applicants							
Applications by Year	Total Applications	Acceptance Rate	Gender		Race/Ethnicity*				Location	
			M	F	W	B	H	A	M	O-O-S
2007	47	51.06%	62%	38%	--	--	--	--	87%	13%
2008	37	64.86%	73%	27%	--	--	--	--	86%	14%
2009	91	26.38%	63%	37%	70%	5%	3%	20%	85%	15%
2010	82	20.27%	60%	40%	72%	7%	13%	22%	55%	45%
2011	127	18.90%	76%	24%	70%	8%	6%	17%	59%	41%
2012	179	13.41%	76%	24%	68%	8%	5%	17%	49%	51%

Note. Race/ethnicity data not collected in 2007 and 2008. M= Male, F= Female, W= White, B= Black, H= Hispanic, A= Asian, M= Michigan, O-O-S= out-of-state.

To allow for comparative analyses of PAN and these rigorously selected students, a comparison sample of students from a national data set, the *Education Longitudinal Study: 2002 (ELS:2002)* was used. This data set is a nationally representative longitudinal study designed to help understand the transition of adolescents from high school through postsecondary school and work. This data set represents the most recent available longitudinal study with postsecondary outcomes. Currently, three waves of data are available: the base year sample from 2002, when students were in the 10th grade; the first follow-up during their 12th grade year in 2004; and a second follow-up in 2006. In the base year, over 16,000 students were surveyed in over 750 schools. A restricted sample of students from this data set was used as a comparison control group; the selection of this sample is detailed in the following section.

Data and Analysis

Data in this study were drawn from a diverse set of sources, including student surveys, qualitative participant data, follow-up data from former participants ("PAN alumni"), and, for the comparison group, data from *ELS:2002.* To address the first research question of how students benefit from participation in PAN, multiple years of survey data were descriptively analyzed. Data collected on student survey instruments included (a) satisfaction with PAN activities, (b) perceived benefits of their participation, (c) postsecondary and career aspirations, and (d) open-response items regarding the influence of PAN on their educational and occupational plans. To observe the long-term implications for PAN participants, follow-up data obtained from an online survey of PAN alumni was descriptively analyzed to ascertain whether participants continued in their pursuit of physics or other STEM-related majors in college and their current occupational goals.

Because of the select nature of PAN participants, to address the second research question of the program's effectiveness on the outcomes of educational and occupational interests in STEM, a comparison group of students was created from *ELS:2002* using propensity-score matching techniques. Participants with complete survey responses who participated in the PAN programs in 2011 and 2012 (n = 30) were matched to students from *ELS:2002* data on a comprehensive set of variables that included gender, race, attitudes toward math and reading, parental education level, parent interaction characteristics, and postsecondary ambitions and behavior. The selectiveness of the PAN acceptance criteria created a very narrow group of students in the *ELS:2002* sample that statistically met the criteria, such that a group of 38 students were identified as the control group using nearest neighbor matching and after covariate balance was achieved.

Results

Table 2 shows that not only did students enjoy the program, but over time, there was an increase in the percentage of students reporting that PAN influenced their interest in science, educational goals, and career plans. Participants had already self-identified as having an interest in science, so it is not surprising that they demonstrated high satisfaction with their research experience at PAN. Indeed, it proved difficult to measure changing attitudes toward science given that PAN participants already had greater interest in science than the average high school student.

PAN staff used survey feedback on specific PAN activities to improve programmatic components over the years and thus provide a better experience for students. Common trends from survey results drove two very important changes to PAN. First, participants highly valued the parts of the program that included contact with faculty and graduate students. PAN activities have therefore evolved to maximize opportunities for participant interaction with faculty and graduate students. The second highly valued aspect of

PAN was having an increasingly authentic research experience. Thus, new training sessions and experiments with the scintillation detector were introduced. The increased opportunities to work with faculty and graduate students in an environment providing authentic, hands-on research experiences help students visualize themselves as scientists and researchers. The visualization component is crucial to their experience, as it can illuminate areas of their own knowledge and skill development that they might need to improve through strategic planning while in high school, such as how they select their coursework.

Table 2. Descriptive Analysis of Participants

	Percentage of students who agreed that PAN...						
	2007	2008	2009	2010	2011	2012	Total
Increased interest in science	79%	87%	83%	100%	100%	100%	92%
Influenced career plans or future course selections	68%	70%	96%	96%	100%	96%	88%
Provided overall enjoyment of the program	89%	96%	92%	100%	100%	100%	96%

Source: PAN Student Survey

Over the years, it has been common for students to report that their perception of research careers underwent a dramatic shift during PAN. Experiencing the life of a researcher for oneself proved to be a powerful catalyst, especially when there was a large difference between perception and reality. Being placed in the role of a researcher and developing relationships with current researchers allowed PAN participants to identify with a previously unknown or misperceived career. The experience thus supported the transformation of a participant's general interest in science to a more specific and active one, wherein students began to visualize themselves in this career and were able to take strategic steps to become future scientists based on their personal experiences in the field. Open-ended responses from the PAN participant and alumni surveys were coded into two themes consistent with the visualization, strategic planning, and realistic actions framework: (a) their perceptions about careers in physics/STEM and their visualization of themselves as a future researchers and (b) the development of their strategic plans to pursue a career in physics/STEM.

One participant noted that "PAN made me realize how innovative scientists need to be, and to think outside the box." A PAN alumnus refuted a common stereotype of a scientist working alone and in isolation: "My favorite part of PAN was the fact that it incorporated teamwork, lecture, and hands-on research; this allowed us to work all parts of our brain as it simulated a real world multifaceted research experience." A crucial aspect of PAN is taking students who have an interest in science or physics and helping them develop that general interest into a career. One alumnus reflected on the influence of the program:

> I think the PAN program was great! I knew I had a peripheral interest in science as a high school student, but PAN showed me that this interest was worth pursuing in college. Now I'm a graduate student in astronomy, and I think getting involved in science early on had a great deal to do with my career choice now.

Again, PAN students are already highly interested and motivated students, but PAN supports the sharpening of their focus in regard to defining next steps and creating strategic plans so that they can solidify a strong foundation for pursuing a career in STEM, particularly in nuclear astrophysics.

There were, however, a few alumni who noted that PAN led to the discovery that experimental physics was not for them. Such an assessment still helps students develop future educational and occupational plans in the positive sense, leaving open the possibility of work in a different area of science.

Table 3 provides a summary of the PAN alumni postsecondary interests. All of the former participants report *planning to attend, attending,* or *graduating from college*. Of the alumni who completed the follow-up survey, 87% planned to major in or were currently majoring in STEM, 40% planned to major in or were currently majoring in physics, and 40% had the educational expectation of pursuing a Ph.D. Although only 152 former participants were able to be contacted for follow-up, and not all of those contacted responded, these percentages still provide evidence as to the opportunities that participants pursue after high school.

Table 3. PAN Alumni Outcomes

n = 45 respondents	%
Planning to attend, attending, or graduated from a 4-year college	100
Planning to major in or majoring in STEM	87
Planning to major in or majoring in physics or astrophysics	40
Planning to pursue a Ph.D.	40

Note. Data from the PAN Alumni Follow-Up Survey 2012.

Due to the highly selective nature of the PAN program, selection bias made estimating effects of the program challenging. Propensity score methods can provide one way to compensate for this bias. The primary advantage of using propensity score matching is that the likelihood of participating in PAN for nonparticipants (or students with similar potential to attend PAN) can be estimated given the characteristics of the PAN students *(Schneider, Carnoy, Kilpatrick, Schmidt, & Shavelson, 2007).* This essentially creates statistically equivalent groups of students that have equal propensities to be in the treatment group. Table 4 shows the similarities between the PAN students (treatment) and *ELS:2002* students (control).

Table 4. PAN Participants and *ELS:2002* Comparison Group

	Students		**Significance Test**	
	PAN	ELS	X^2	*p*-value
Total number of students (*n*)	30	38		
Student Background Characteristics (%)				
Male	50%	45%	0.19	0.67
Minority (Black and Hispanic)	10%	8%	0.09	0.76
Student Educational Expectations (%)				
Complete a master's degree	13%	30%	2.56	0.11
Complete a Ph.D.	87%	70%		
Student Attitudes and Behaviors (%)				
Gets totally absorbed in mathematics	100%	95%	3.38	0.18
Thinks math is fun	97%	97%	0.04	0.98
Thinks math is important	97%	97%	1.23	0.54
Born with math ability	43%	43%	1.57	0.67
Gets totally absorbed in reading	97%	97%	0.67	0.71
Thinks reading is fun	97%	97%	1.45	0.48
Reads in spare time	93%	89%	4.28	1.45
Parent Characteristics (%)				
At least 1 parent holds a bachelor's degree	87%	89%	0.13	0.72
Parent frequently checks homework	0%	0%	*	*
Student frequently discusses grades with parent	77%	89%	2.03	0.15
Student frequently discusses courses with parent	67%	87%	2.03	0.15

	Students		Significance Test	
	PAN	ELS	X^2	*p*-value
Student frequently discusses college wtih parent	97%	97%	0.03	0.87
Average number of postsecondary institutions applied to	8	7	-2.02**	0.05

Note. Data from NCES *Education Longitudinal Study of 2002 (ELS:2002)* and PAN Student Survey 2001 & 2001.
* No test performed, exactly equal. ** *t*-statistic from a two-sample test (equal variances).

On almost all covariates, there were no significant differences between the groups. However, two variables did show significant differences between groups. One was the frequency of students' discussing courses with their parents. PAN students showed slightly less frequency for this behavior, which may be due to differences in high schools between 2002 and 2012. Particularly in the state where this program is located, credits and standards have increased, so students have fewer choices regarding their course-taking. Currently, students must take 3 years of science and 4 years of math, including Algebra II. These more standardized coursework options might mean students have less reason to discuss course decisions with parents. The second variable that was statistically different was the number of postsecondary institutions to which students applied. We argue that this is not practically significant—a student who applies to seven institutions looks largely similar to one who applies to eight (with equal variance).

Given the statistically insignificant differences between these two groups, the final analysis used the treatment variable PAN to estimate the effect of participation using a logistic regression on the two outcomes: interest in STEM major (1 = *yes* and 0 = *no*) and STEM career (1 = *yes* and 0 = *no*). As reported in Table 5, PAN students' likelihood of pursuing a major in STEM was almost nine times that of nonparticipants. For students who participated in PAN, the likelihood of desiring a career in STEM was eight times that of the control group of students. All models were estimated with robust standard errors, and student covariates were not used as explanatory variables for either model because these controls were used to create the groups. Sensitivity analyses using these background characteristics in the models only increased the effect of PAN; thus, the ratios presented represent the most conservative estimates.

Table 5. Logistic Regression of PAN Participants on STEM Major and Career

	Major in STEM			STEM Career		
	Odds Ratio	*SE*	*p*-value	Odds Ratio	*SE*	*p*-value
PAN Program	9.99	6.95	0.001	9.23	5.57	0.000

Note. Data from NCES *Educational Longitudinal Study of 2002 (ELS:2002)* & PAN Student Survey 2011 & 2012.

Discussion

Evaluation of the PAN program is key for identifying strengths and weaknesses in implementation to improve programmatic features each year. Furthermore, such evaluation is critical to the funding and sustainability of outreach programs similarly aiming to strengthen the future opportunities of individuals in the STEM fields. PAN is an example of how outreach programs can specifically respond to the call to strengthen the pipeline of talent into STEM by helping students visualize, take realistic actions, and create strategic plans to pursue a career in physics and STEM. As described in this study, PAN provides students who are already highly interested in science with an experience that can solidify their interest into pursuing majors and careers in relevant fields. Similar students who are interested in physics and STEM who have not had such opportunities to gain insight into the field or hands-on experience in this career might fail to take the necessary steps to align their ambitions with postsecondary and occupational goals and may "leak" from this STEM pipeline.

This study presents possible evidence of the short-term and long-term impact of PAN on participants. In the short term, participants reported high levels of satisfaction with PAN and provided evidentiary support for how PAN encouraged the development and realization of their postsecondary and career goals. Comparing PAN students to similar students who did not participate in PAN illustrated the strong influence of PAN on the outcomes of pursuing a STEM major and a career in the STEM field. In the long term, a significant majority of PAN participants remain committed to pursuing a future in STEM. Although some alumni reported that PAN helped them decide not to pursue a career in physics or STEM, the program nonetheless supported the students' development of educational and occupational plans, though potentially in a different field of study.

It is worth noting that our findings are suggestive rather than conclusive about the effects of PAN. Although we argue that the statistical approaches used provide strong inferential evidence of the impact of PAN for participants, this study has several limitations. First, we acknowledge the selective nature of the application process and recognize that when selecting our comparison sample, we were unable to control for both the interest in physics specifically and the application process of attending PAN. This study was also limited by the small sample size of 24 participants each year. Although we were able to combine the previous 2 years of participant data, we also lost participants from the sample who did not complete all of the necessary pre- and postsurvey questionnaires. However, we argue that since these students are largely similar in background characteristics and interests, this response rate does not alter the overall analysis. Lastly, not all alumni responded to the follow-up survey. This shortage of alumni responses could contribute to an overrepresentation of PAN alumni in STEM because the alumni who continued to pursue physics or other related fields may be more likely to respond than those who are no longer interested.

Although the indication that PAN plays a role in students' selection of STEM careers proves satisfying for the program organizers, both the process of assessment and its ultimate result will have profound impacts on the future of PAN and other similar programs. As stated earlier, the analysis of the data was significantly delayed by the inexperience of those who collected it. The identification of a control group for comparison with the PAN participants proved singularly difficult. The requirements for generating such a group and the kinds of comparisons available will influence the kinds of survey data that will be collected in subsequent programs. Organizers will actively seek assistance from assessment experts for subsequent analyses. Other, less established programs would benefit from such scrutiny much earlier in their tenure. The STEM precollege landscape is not suffering from a dearth of programs, but it may find extraordinary value and the affirmation of funding agencies in the pursuit of connections to education researchers and a data-driven evaluation. A sister program at a nearby university reproduces much of the same experience for their summer outreach program and will likely take advantage of lessons learned through this study.

PAN exit survey results have consistently shown that it is impossible to satisfy everyone. Over the years, many participants have questioned program choices and have made thoughtful suggestions. PAN organizers have always debated whether requested changes would truly maximize program impact or simply make the participants happier. The principles of faculty interaction and laboratory immersion will continue to drive decision-making for future changes as PAN evolves. The consistent support for these two aspects in survey responses and the way they have been cited by alumni demonstrate their effectiveness and will make it easier to sift through options for PAN in the coming years. Indeed, the process of assessing PAN has brought into sharper focus (a) who the target audience is and (b) the PAN strategy for reaching that audience. That this was made possible by a cross-campus partnership also suggests that arenas for many similarly productive collaborations are just waiting to be discovered.

Acknowledgments

This research is funded by the National Science Foundation (Award 1430152), P. I. Hendrik Schatz. The work reported here was also supported in part by a Pre-Doctoral Training Grant from the Institute of Education Sciences, U.S. Department of Education (Award R305B090011) to Michigan State University. Opinions reflect those of the authors and do not necessarily reflect those of the granting agencies.

References

Bogue, B., Shanahan, B., Marra, R. M., & Cady, E. T. (2012). Outcomes-based assessment: Driving outreach program effectiveness. *Leadership and Management in Engineering, 13*(1), 27–34.

Cohen, C. C. D., & Deterding, N. (2009). Widening the net: National estimates of gender disparities in engineering. *Journal of Engineering Education, 98*(3), 211–226.

Csikszentmihalyi, M., & Schneider, B. (2000). *Becoming adult: How teenagers prepare for the world of work.* New York, NY: Basic Books.

Foster, J. S., & Shiel-Rolle, N. (2011). Building scientific literacy through summer science camps: A strategy for design, implementation and assessment. *Science Education International, 22*(2), 85–98.

Gonzalez, H. B. (2012). *An analysis of STEM education funding at NSF: Trends and policy discussion.* Washington, DC: Congressional Research Service.

Hamilton, S. F., & Hamilton, M. A. (2006). School, work, and emerging adulthood. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America:*

Coming of age in the 21st century (pp. 682-289). Washington, DC: American Psychological Association.

Hossler, D., & Stage, F. K. (1992). Family and high school experience influences on the postsecondary educational plans of ninth-grade students. *American Educational Research Journal, 29*(2), 425–451.

Moskal, B., & Skokan, C. (2011). Supporting the K-12 classroom through university outreach. *Journal of Higher Education Outreach and Engagement, 15*(1), 53–73.

National Academy of Sciences, National Academy of Engineering, Institute of Medicine (National Academies). (2007). *Rising above the gathering storm: Energizing and employing America for a brighter economic future.* Washington, DC: The National Academies Press. Retrieved from http://www.nap.edu/catalog/11463.html

National Academy of Sciences, National Academy of Engineering, Institute of Medicine (National Academies). (2010). *Rising above the gathering storm, revisited: Rapidly approaching Category 5.* Washington, DC: The National Academies Press. Retrieved from http://www.nap.edu/catalog/12999.html

National Center for Education Statistics. (2010). *Education Longitudinal Study of 2002 Base Year to Second Follow-up* [Public-use data file]. Washington DC: Department of Education.

National Research Council. (2011). *Successful K-12 STEM education: Identifying effective approaches in science, technology, engineering, and mathematics.* Washington, DC: The National Academies Press.

National Science Board. (2010). *Preparing the next generation of STEM innovators: Identifying and developing our nation's human capital.* Arlington, VA: National Science Foundation. Retrieved from http://www.nsf.gov/nsb/publications/2010/nsb1033.pdf

Rosenbaum, J. E. (2001). *Beyond college for all: Career paths for the forgotten half.* New York, NY: Russell Sage Foundation.

Sabates, R., Harris, A., & Staff, J. (2011). Ambition gone awry: The long-term socioeconomic consequences of misaligned and uncertain ambitions in adolescence. *Social Science Quarterly, 92*(4), 959–977.

Schneider, B., Carnoy, M., Kilpatrick, J., Schmidt, W. H., & Shavelson, R. J. (2007). *Estimating causal effects: Using experimental and observational methods*. Washington, DC: American Educational Research Association.

Schneider, B., Judy, J., & Mazuca, C. (2012). Boosting STEM interest in high school. *Phi Delta Kappan, 94*(1), 62–65.

Schneider, B., & Stevenson, D. (1999). *The ambitious generation: America's teenagers, motivated but directionless.* New Haven, CT: Yale University Press.

U.S. Department of Education. (2007). *Report of the Academic Competitiveness Council.* Washington, DC: Education Publications Center.

About the Authors

Zachary Constan is the outreach coordinator for the National Superconducting Cyclotron Laboratory at Michigan State University. Constan's research focuses are psychoacoustics and public education related to nuclear science and research careers. He earned his Ph.D. in physics from Michigan State University.

Justina Judy Spicer is a doctoral candidate in educational policy at Michigan State University. Spicer is a fellow in the economics of education specialization and is a former classroom teacher. She earned a B.A. in economics and political science from the University of Missouri.

Programs With Promise

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 139, (2015)

Evaluation of Student Outcomes After Participating in a Medicare Outreach Program

Joshua C. Hollingsworth, Benjamin S. Teeter, and Salisa C. Westrick

Abstract

This article describes the development of a service-learning project and analysis of student pharmacists' participation therein. Using a mixed-methods approach, this study analyzed student pharmacists' knowledge and attitudes after volunteering in the inaugural Medicare Outreach Program, a collaboration between the School of Pharmacy and State Health Insurance Assistance Program (SHIP) in which certified student pharmacists assisted Medicare beneficiaries with Part D plan evaluation and selection. Although results did not show a statistically significant difference in knowledge gained by students who volunteered (n = 71) compared to those who did not (n = 72; p = 0.57), thematic analysis of volunteering students' reflections did reveal that they found their volunteering efforts to be meaningful learning experiences. Six major themes were identified overall showing that the program, which was designed to benefit SHIP and the community, also had a positive impact on students' attitudes. Accordingly, the program's sustainability plan is also discussed.

Introduction

Service to society has been the core value of land-grant institutions in the United States, which have a historical mandate for openness, accessibility, and service to people dating back to the 1960s *(Association of Public and Land-grant Universities, 2012).* One way higher education institutions can continue the tradition of public service is through service-learning. Service-learning is a pedagogical method linking community service and instructional activities *(Ehrlich, 1996)*. Felten and Clayton *(2011)* stated that the collaboration between community (external constituents) and university creates a strong connection between academic context and public concerns. It is important that organized service activities are developed to address community needs.

Reflection is a key component of service-learning. It provides opportunities for students to consolidate learning and to identify unresolved issues in the community *(Bringle & Hatcher, 1995; Eyler, 2002).* Students engaged in a service-learning activity should reflect on the experience to gain a further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility *(Bringle & Hatcher, 1995)*.

Past research has demonstrated benefits of service-learning in terms of students' performance, critical thinking skills, communication skills, and awareness of societal problems. Markus, Howard, and King *(1993)* found that students in an undergraduate political science course that incorporated service-learning had significantly higher academic achievement than their non-service-learning counterparts. Service-learning students were also significantly more likely to self-report performing up to their potential, learning to apply principles taught in the course to new situations, and developing a greater awareness of societal problems *(Markus et al., 1993)*. DeLuca, Andrews, and Hale *(2004)* found that incorporating elderly-focused service-learning into nursing courses helped students develop sensitivity to issues of aging and improve their communication skills when dealing with the elderly. Other studies have also found that enhanced communication skills result from service-learning *(Cohen, Johnson, Nelson, & Peterson, 1998; Hales, 1997)*. Finally, when service-learning was used, there was a significant enhancement in students' motivation, civic skills, problem-solving abilities, and appreciation of diversity *(Levesque-Bristol, Knapp, & Fisher, 2010)*.

Purpose

Despite a recent increased level of interest in service-learning among health professions students *(Curtin, Martins, & Schwartz-Barcott, 2014; Leung et al., 2012; Nuffer & Duke, 2014)*, additional research is needed to evaluate the impact of service-learning on this cohort. Our research sought to evaluate student pharmacists' knowledge and attitudes after participating in the Medicare Outreach Program described below. Specifically, the study had two objectives: (a) to assess differences in knowledge between students who participated and those who did not participate in the program, as measured by test scores, and (b) to describe themes that emerged from participating students' reflections on their experience.

Medicare Outreach Program

The Medicare Outreach Program was designed to assist beneficiaries in selecting Medicare Part D prescription drug plans. Medicare beneficiaries include people 65 years of age and older as well as younger adults with permanent disabilities or medical conditions. Under Medicare Part D, private insurance providers offer a wide range of prescription drug plans that vary in terms of costs and benefits. The typical beneficiary must choose among nearly 40 plans and is encouraged to reevaluate plan options annually to ensure that their plan best meets their medication and financial needs.

Studies have found that many beneficiaries pay unnecessarily high out-of-pocket Part D costs for various reasons. For one, knowledge deficits can lead to difficulties selecting plans *(Polinski, Bhandari, Saya, Schneeweiss, & Shrank, 2010).* Further, many beneficiaries neglect to reevaluate their plans annually due to the complex plan selection process. As a result, beneficiaries spend an average of $368 more per year than if they had they purchased the least expensive plan *(Jackson & Axelsen, 2008; Walberg & Patel, 2009; Zhou & Zhang, 2012)*. Additionally, low computer literacy and lack of access to computers or the Internet may prevent beneficiaries from choosing plans that best fit their needs *(Wright & Hill, 2009)*. Therefore, one-on-one assistance to help beneficiaries choose appropriate Medicare Part D plans is needed.

Program description and collaborator. The Medicare Outreach Program was developed to assist Medicare beneficiaries with Part D plan selection, a needed service in which student pharmacists can play an integral role *(Cutler, Stebbins, Smith, Patel, & Lipton, 2011; Patel et al., 2009).* Auburn University Outreach Office provided funding to support the first-year implementation of the program. The specific aim of the program was to have student pharmacists apply concepts learned through coursework and additional training in order to assist beneficiaries in Part D plan evaluation and selection at events held in the community. The program was a collaboration between the School of Pharmacy and the Alabama State Health Insurance Assistance Program (SHIP). Located in the Southeast, the School of Pharmacy offers a 4-year doctor of pharmacy (PharmD) degree, with approximately 150 students enrolled in each year of the program. The curriculum includes a service-learning component made up of 1,800 hours of pharmacy practice experience, giving students experience with patient care in various settings. The Medicare Outreach Program described herein, however, was voluntary, was not part of the compulsory practice experience, and was not meant to meet any curriculum requirements.

Alabama SHIP, which is a partnership between the Administration for Community Living (ACL), the Alabama Department of Senior Services, and the Area Agencies on Aging, is the key public organization that offers free and unbiased assistance to Medicare beneficiaries throughout the year. During the Part D open enrollment period, SHIP coordinators experience increased service demands and rely heavily on volunteers. Volunteers must complete a training program to become certified SHIP counselors prior to assisting Medicare beneficiaries. Before the start of the Medicare Outreach Program, the research team met with SHIP personnel to discuss event logistics, mutual goals, the certification process for student pharmacists, and the expectations for students at open enrollment events. An expedited review by the Internal Review Board (IRB) was secured under federal regulation 45 CFR 46.110(5). An additional meeting was held after the last event to discuss project outcomes, areas for improvement, and plans for sustainability.

Students' training and their roles. Although first- through fourth-year student pharmacists were encouraged to volunteer, this service-learning project was primarily incorporated into the Pharmacy Practice Development, Management, and Evaluation I course taken by second-year student pharmacists. In this required course, students learn about Medicare and use the online Medicare Plan Finder tool through didactic and case-based strategies. Additional training required for SHIP certification consisted of three training modules and corresponding quizzes offered online via Canvas, the learning management software used by the School of Pharmacy. The modules and quizzes were developed by participating SHIP coordinators and complement the Medicare information covered in the Pharmacy Practice course. Second- through fourth-year student pharmacists could enroll in the training modules, while first-year students were limited to conducting beneficiary intake and assisting with a beneficiary satisfaction survey. To become certified SHIP counselors, students had to complete the modules and earn 80% or higher on the quizzes.

At the enrollment events, second- through fourth-year students who were SHIP certified worked alone or in pairs; they sat with one beneficiary at a time and entered the information from the intake form into the Medicare Plan Finder tool. A plan search was then executed, and the students helped the beneficiary interpret the costs and benefits of the available prescription drug plans. It was up to the beneficiary whether they wanted to keep their current plan or enroll in a new plan. Student pharmacists could also print plan summary information for the beneficiary to take home for further consideration. Students spent 15 to 45 minutes interacting with each beneficiary. At least one program staff member from the School of Pharmacy and one regional SHIP coordinator were present at each enrollment event to answer students' questions and handle complex questions from beneficiaries.

Program evaluation and outputs. A total of 17 events across 10 counties in Alabama were delivered in October–November 2013. Four of these communities are in rural and traditionally underserved regions of Alabama. In total, 86 certified student counselors served 147 beneficiaries. In addition to students' knowledge and attitudes reported in this article, an evaluation of the program in terms of beneficiaries' satisfaction, cost savings, and total number of beneficiaries served was conducted. These findings informed the funder of the success of the initial launch and identified areas for improvement for the School of Pharmacy and SHIP.

Methods

We utilized a mixed-methods design consisting of a quasi-experimental design (nonequivalent control groups posttest only) to evaluate differences in test scores (Objective A) and a cross-sectional design to describe students' attitudes (Objective B). The study utilized both qualitative and quantitative data *(Johnson & Onwuegbuzie, 2004)*. For the first objective, an independent *t*-test was used to determine differences in knowledge as assessed by test scores on the Pharmacy Practice course final exam between second-year students who volunteered and those who did not. The five questions analyzed were related to Medicare, Medicare Advantage plans, the online Plan Finder Tool, and interpretation of plan search results. To describe student attitudes (Objective B), student volunteers were asked to provide anonymous reflective feedback about their experience at the end of each enrollment event. Each student was given a sheet of paper with the following prompt:

> In a paragraph, please reflect on your experience participating in the Medicare Outreach Program. For example, how useful was the project to your own learning? What surprised you the most from patient encounter(s)? What was the major takeaway? Do you see yourself doing a similar activity in the future? Etc.

Reflections were collected from students before they left the event and were transcribed verbatim. Following the guidelines laid out by Braun and Clarke *(2006)*, a realist thematic analysis of the dataset was conducted as described below.

First, two researchers independently read over the entire dataset, noting initial thoughts and ideas for codes. Next, utilizing a data-driven approach, each researcher independently open-coded half of the dataset to generate initial codes. The researchers then met to compare and identify codes for the next phase of analysis. Using the agreed-upon codes, the researchers independently recoded the entire dataset. Another meeting was then held to address any major discrepancies and to collate codes into potential themes using an inductive approach. The identified themes were reviewed to verify their consistency with corresponding codes and with the dataset overall. Finally, the themes were refined to ensure that each theme had a clear, distinct name and definition. All coding was performed in Atlas.Ti, a qualitative data analysis and research software program. Krippendorff's alpha was calculated using the Coding Analysis Toolkit to determine the interrater reliability between coders.

Results

Students' Knowledge

On average, second-year student pharmacists who volunteered at an enrollment event (n = 71) correctly answered 3.28 ± 1.00 of the 5 questions pertaining to Medicare Part D on the Pharmacy Practice course final exam, whereas those who did not volunteer (n = 72) answered 3.18 ± 1.13 of these questions correctly. This difference was not statistically significant (p = 0.57).

Student Attitudes After Volunteering

Seventy-nine students who participated in the program also provided a reflection. A total of 6,792 words, or 27.17 pages of text, were coded and analyzed. The two researchers identified six overarching themes in the data with good interrater reliability overall (Krippendorff's α = 0.795) and for each theme individually (Krippendorff's α ranged from 0.733 to 0.880). Excerpts demonstrating these themes are found in Table 1.

Table 1. Themes and Corresponding Excerpts from Volunteering Students' Reflections

Theme	Excerpt Demonstrating Theme
Aspirations for Future Participation	"I would really like to volunteer at future enrollment events." "I will absolutely do this again in the future." "I will definitely continue this in the future and offer this service at whatever pharmacy I work at."

Self-Reported Learning Experience	"Despite the lectures on the various Medicare plans, I believe I learned the most working with this project." "I feel a little guilty because I learned more than I was able to help!" "I found that participating in the event was one of the better ways to learn about these programs."
Ability to Help Patients	"I was able to see first-hand how beneficial the event was to people seeking help with their insurance." "The major takeaway for me was to be able to help out someone in the community." "The project reminded me of the real reason I do pharmacy; personal interactions with patients in hope to help them."
Rewarding Experience	"It was an amazing feeling to help people save money and educate them on what determines the cost of insurance plans." "It was very rewarding to show people different ways to save money and how to apply for extra help benefits." "Participating in the Medicare Outreach Project has been extremely rewarding."
Realization of Community Need	"I was surprised to know how little the patients know about their current insurance coverage and even their medications. I think these projects are extremely helpful to educate patients on their current coverage as well as other options available to them." "The patient encounters were an eye-opening experience. So many peole wouldn't know where to begin if this project didn't exist." "What surprised me the most was how much help the patients needed."
Real-World Application of Class Material	"It was great taking what I learned in class and actually applying it to real-life situations." "It is one thing to learn this stuff in class but to see it in action with real people and real outcomes gives it a whole new perspective." "I was able to apply my knowledge from the classroom in a meaningful way to help a patient save >$5000 on prescription medications."

Aspirations for future participation. *Aspirations for future participation* was defined as a student pharmacist stating interest in participating in the program in the future. Students repeatedly mentioned interest in participating in future enrollment events or implementing a similar activity in their future practice. Many students indicated that they enjoyed the interaction with patients, and this influenced their aspirations for future participation. This theme was mentioned most frequently, with coder A identifying 63 mentions and coder B identifying 64.

Self-reported learning experience. This theme was defined as a student pharmacist stating that participation in the program enhanced his or her learning. A majority of students who participated in the enrollment events mentioned that they felt they learned a lot as a result. Many specifically mentioned that participating increased their understanding of the complexities of Medicare Part D. Students also frequently stated that they gained knowledge participating that was above and beyond what they gained from course lectures. Self-reported learning experience was identified 53 times by coder A and 44 times by coder B.

Ability to help patients. This theme was defined as a student pharmacist stating that he or she was able to help patients. Through participation in the events, students realized the extent to which their knowledge helped patients evaluate and select Medicare Part D plans. Many mentioned that the events reminded them of the underlying reason that they are interested in becoming pharmacists: to help people. Additionally, students mentioned realization of the impact a pharmacist can have on an individual's life just by taking the time to talk with them. Coder A identified 57 statements and coder B 51 statements for this theme.

Rewarding experience. *Rewarding experience* was defined as a student pharmacist stating that he or she enjoyed participating in the enrollment event and that the experience was a positive one. Many students noted how good it felt to help patients. Not only did the program help patients choose a Medicare Part D plan, it also resulted in students feeling good about what they were doing in the community. This theme was identified 49 and 42 times by coders A and B, respectively.

Realization of community need. *Realization of community need* was coded when a student pharmacist mentioned that many individuals were uneducated on their Part D plan options or that the community could benefit from enrollment events. Students were surprised to find out how little patients knew about the enrollment process. Additionally, student pharmacists questioned what these patients would do if not for the enrollment events. Students credited participation in the enrollment events to their realization of the community need for education on Medicare Part D. Coder A coded 41 instances of this theme, and coder B coded 37.

Real-world application of class material. This theme was defined as a student pharmacist mentioning his or her experience applying what was learned in the classroom during the enrollment events. Students felt participation in the program was a great way to apply what they learned in the Pharmacy Practice course in a real-world setting. Students mentioned that no amount of change to the course assignments could fully prepare them for the complexities of real patients. Additionally, students felt volunteering was helpful to reinforce the basic principles of the enrollment process learned in class while also getting an in-depth experience that could be gained only through participation in the events. Coder A coded this theme 40 times and coder B 35 times.

Discussion

Students' Knowledge

There was no significant difference in the number of correctly answered exam questions between students who volunteered and those who did not. One possible reason for this result is that in-class instruction may have provided the knowledge necessary to correctly use the Plan Finder Tool and accurately interpret the results. Although this may be true, additional knowledge beyond what was taught in class may have been gained by volunteering students that was not captured by the exam. For example, one student described in their reflection that they learned how to help a beneficiary apply for the Low-Income Subsidy but, because this was not taught in class, it would not have been fair to ask a question about this process on the exam. Additionally, valuable knowledge was gained as illustrated through students' recognition that programs like this are needed in the community. Volunteers gained counseling experience that nonvolunteers did not, and analysis of the reflections suggests that their knowledge related to patient counseling on Medicare Part D may have also increased. Future studies will attempt to measure the knowledge gained as a result of participation in more innovative ways. One possibility is the use of a standardized patient or student role-play activity. This process would require that students assist patients through the Medicare Part D enrollment process. The interaction could be videorecorded and subsequently graded for completeness of information provided to the patient about their options, correct interpretation and explanation of the Plan Finder results, and comfort in counseling the patient. This type of evaluation would be more likely than simple multiple-choice questions to show knowledge gained as a result of volunteering in the enrollment events.

Student Attitudes After Volunteering

The themes identified in students' reflections are consistent with the findings from previous service-learning projects. The themes "realization of community need" and "ability to help patients" indicate a greater awareness of societal problems, which has been cited as a benefit of service-learning *(DeLuca et al., 2004; Markus et al., 1993)*. Another benefit often cited is that students learn to apply principles taught in the classroom to new situations. This was observed in our study, captured by the themes "real-world application of class material" and "self-reported learning experience" *(DeLuca et al., 2004; Markus et al., 1993)*. Deluca et al. *(2004)* also found that feeling personal satisfaction was an important benefit of service-learning, which we coded as a rewarding experience.

The six themes identified in our study can be divided into two broad groups. Themes that have an internal focus can be classified as "benefits to self," and those with an external focus can be classified as "benefits to others/the community." Three of the six themes ("self-reported learning experience," "rewarding experience," and "real-world application of class material") clearly focus on the internal benefits that student pharmacists themselves received from their volunteer efforts. The theme "aspirations for future participation," which suggests that students found enough utility in their experience volunteering that they aspire to do it again in the future, can also be placed in the "benefits to self" group. The remaining two themes ("realization of community need" and "ability to help patients") focus on the usefulness of the program to the beneficiaries and communities served and therefore belong to the "benefits to others/the community" group.

A potential limitation of the thematic analysis performed is that both the "aspirations for future participation" and the "self-reported learning experience" themes may have come about due to the wording of the paragraph used to prompt the reflection. However, students were aware that their reflections would be anonymous and would not impact their grade. Given this, students could have easily indicated the opposite (i.e., that they had no aspiration for future participation or that they did not learn anything), if this were the case.

The Importance of Collaboration

Consistent with the findings of Felten and Clayton *(2011)* regarding the importance of collaboration with external constituents, collaboration with Alabama SHIP was crucial to the success of the program. The partnership began in the planning phase and brought about multiple benefits. First, because SHIP is a state agency and is known to provide unbiased information to the target clients, the partnership legitimized the program and increased the program's credibility. Second, the collaboration introduced students to the real-world problems of seniors in the community. Assisting real Medicare beneficiaries in the program provided a memorable experience, which is evident from students' reflections. We found that students had meaningful learning experiences and a sense of civic engagement. We feel our results are generalizable to schools of pharmacy that want to implement a similar program. In fact, the Medicare Outreach Program was highlighted in the SHIP national newsletters as a success, and these newsletters urged other state SHIP programs to reach out to schools in various health disciplines to create similar partnerships.

What's Next?

Several lessons were learned from the first year of the program and can be classified into event logistics, students' preparation, and student assessment. For one, the distance that students must travel to an event has an impact on their willingness to volunteer. This led to an overabundance of student volunteers for events close to the school but too few volunteers for the more distant events. In the future, events will be held no more than 50 miles from the School of Pharmacy. Also, the number of student volunteers per event will be limited to four per 2-hour block to ensure that all students get to interact with beneficiaries. Regarding students' preparation, we recognized that students had limited knowledge of the Low-Income Subsidy programs. Therefore, a 1-hour lecture was added to the Pharmacy Practice course to introduce students to these programs. We also noticed that some students were overwhelmed initially and became more comfortable the longer they volunteered. This was mainly due to the significant amount of paperwork in addition to assisting beneficiaries. To address this issue, we plan to revise and streamline the workflow that students will engage in at events, including the paperwork. We also plan to add an online video to the training module detailing the workflow and paperwork, which should give students more familiarity with the process prior to an event. Finally, in terms of student assessment, multiple-choice exams may not capture the benefits gained from volunteering. In the future, assessment of students' confidence and skills will be added to determine outcomes of the program. Students' confidence level can be captured through a validated questionnaire, and skills can be captured through assessment using standardized patients or role-play activities.

Program Sustainability

The Office of the Vice President for University Outreach at Auburn University funded the first year of the program. Moving forward, a long-term plan for sustainability has been established. Both Alabama SHIP and the School of Pharmacy recognize the value of the program, and the program will therefore be continued with shared resources from both partners. During the second year of implementation, Alabama SHIP funded one graduate project assistant and travel costs, and the School of Pharmacy provided faculty to oversee the program and students to participate. Due to limited resources for students' travel reimbursement and the complexity of students' and SHIP coordinators' schedules, it is not feasible at this time to provide volunteer opportunities for all students. Therefore, student participation will continue on a voluntary basis. Additionally, we have identified and secured a source of funding to support the program for the next 3 years. We will continue to measure both the short- and long-term outcomes of the program and communicate with all stakeholders, as this is a critical component of sustainability. Short-term (annual) outcomes include students' confidence, skills, and experiences through participation; Medicare beneficiary satisfaction and cost savings; and number of beneficiaries assisted by student volunteers. Long-term outcomes include students' continued service activities with SHIP, number of beneficiaries who are repeat clients and new clients, and expansion of the original program. SHIP and the School of Pharmacy are planning to expand the program into new regions by utilizing fourth-year students on clinical rotations as well as licensed pharmacists throughout the state of Alabama.

Conclusion

Healthcare educators have recently shown an increased interest in service-learning opportunities for their students. Our study illustrates the benefits of service-learning in pharmacy education. Although our analysis did not show a statistically significant difference in the knowledge gained by student pharmacists who volunteered in the Medicare Outreach Program compared to those who did not, volunteering students did report that their efforts were meaningful and worthwhile. Students' reflections revealed that they gained a deeper understanding of beneficiaries' needs as well as the complexity of Medicare Part D plan selection and increased their ability to help patients with this process. Students also felt that volunteering was a rewarding and meaningful learning experience. In order to more accurately analyze knowledge and skills gained by volunteering students, future plans may utilize innovative methods to measure these constructs, such as videorecording and critiquing students as they assist a standardized patient with Part D plan selection. The Medicare Outreach Program has a viable plan for sustainability, with both SHIP and the School of Pharmacy committing resources for future implementation.

References

Association of Public and Land-grant Universities. (2012). *The land-grant tradition.* Washington, DC: Author.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Bringle, R. G., & Hatcher, J. A. (1995). A service-learning curriculum for faculty. *Michigan Journal of Community Service Learning, 2*(1), 112–122.

Cohen, E., Johnson, S., Nelson, L., & Peterson, C. (1998). Service-learning as a pedagogy in nursing. *Caring and Community: Concepts and Models for Service-Learning in Nursing, 1*, 53–64.

Curtin, A. J., Martins, D. C., & Schwartz-Barcott, D. (2014). A mixed methods evaluation of an international service learning program in the Dominican Republic. *Public Health Nursing, 32*(1), 58–67.

Cutler, T. W., Stebbins, M. R., Smith, A. R., Patel, R. A., & Lipton, H. L. (2011). Promoting access and reducing expected out-of-pocket prescription drug costs for vulnerable Medicare beneficiaries: A pharmacist-directed model. *Medical Care, 49*(4), 343–347.

DeLuca, E., Andrews, L., & Hale, P. (2004). “You learn how to act”: The impact of service with elders on student learning. *Journal of Higher Education Outreach and Engagement, 9*(2), 91–105.

Ehrlich, T. (1996). Foreword. In B. Jacoby and Associates (Eds.), *Service-learning in higher education: Concepts and practices* (pp. xi–xvi). San Francisco, CA: Jossey-Bass.

Eyler, J. (2002). Reflection: Linking service and learning—linking students and communities. *Journal of Social Issues, 58*(3), 517–534.

Felten, P., & Clayton, P. H. (2011). Service-learning. New Directions for *Teaching and Learning, 2011*(128), 75–84.

Hales, A. (1997). Service-learning within the nursing curriculum. *Nurse Educator, 22*(2), 15–18.

Jackson, E. A., & Axelsen, K. J. (2008). Medicare Part D formulary coverage since program inception: Are beneficiaries choosing wisely? *The American Journal of Managed Care, 14*(11 Suppl), SP29–35.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14–26.

Leung, A., Chan, S., Kwan, C., Cheung, M., Leung, S., & Fong, D. (2012). Service learning in medical and nursing training: A randomized controlled trial. *Advances in Health Sciences Education, 17*(4), 529–545.

Levesque-Bristol, C., Knapp, T. D., & Fisher, B. J. (2010). The effectiveness of service-learning: It's not always what you think. *Journal of Experiential Education, 33*(3), 208–224.

Markus, G. B., Howard, J. P., & King, D. C. (1993). Notes: Integrating community service and classroom instruction enhances learning: Results from an experiment. *Educational Evaluation and Policy Analysis, 15*(4), 410–419.

Nuffer, W., & Duke, J. K. (2014). Evolution and assessment of a service-learning nutrition pharmacy program. *Currents in Pharmacy Teaching and Learning, 6*(4), 527–534.

Patel, R. A., Lipton, H. L., Cutler, T. W., Smith, A. R., Tsunoda, S. M., & Stebbins, M. R. (2009). Cost minimization of Medicare Part D prescription drug plan expenditures. *The American Journal of Managed Care, 15*(8), 545–553.

Polinski, J. M., Bhandari, A., Saya, U. Y., Schneeweiss, S., & Shrank, W. H. (2010). Medicare beneficiaries' knowledge of and choices regarding Part D, 2005 to the present. *Journal of the American Geriatrics Society, 58*(5), 950–966.

Walberg, M. P., & Patel, R. A. (2009). Potential opportunity cost of neglecting to annually reassess Medicare Part D standalone prescription drug plan offerings: The price of contentment? *Journal of the American Pharmacists Association, 49*(6), 777–782.

Wright, D. W., & Hill, T. J. (2009). Prescription for trouble: Medicare Part D and patterns of computer and Internet access among the elderly. *Journal of Aging & Social Policy, 21*(2), 172–186.

Zhou, C., & Zhang, Y. (2012). The vast majority of Medicare Part D beneficiaries still don't choose the cheapest plans that meet their medication needs. *Health Affairs, 31*(10), 2259–2265.

About the Authors

Joshua C. Hollingsworth is a Ph.D. candidate in the Department of Health Outcomes Research and Policy at Auburn University Harrison School of Pharmacy. Josh earned his PharmD from AUHSOP and is currently working on his dissertation, *The Development and Testing of Two Novel Patient Medication Information Formats.*

Benjamin S. Teeter is a Ph.D. candidate in the Department of Health Outcomes Research and Policy at Auburn University Harrison School of Pharmacy. Benjamin earned his M.S. from Auburn University and is currently working on his dissertation, *Quality Performance in Community Pharmacies: An Exploration of Pharmacists' Perceptions and Predictors.*

Salisa C. Westrick is an associate professor in the Department of Health Outcomes Research and Policy at Auburn University Harrison School of Pharmacy. Her research interests include program evaluation and pharmacists' role in public health. She earned her Ph.D. in social and administrative sciences in pharmacy from the University of Wisconsin–Madison.

Practice Stories

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 157, (2015)

Reshaping the Boundaries of Community Engagement in Design Education: Global and Local Explorations

Travis L. Hicks and Rebekah Ison Radtke

Abstract

Community-driven design is a current movement in the forefront of many designers' practices and on university campuses in design programs. The authors examine work from their respective public state universities' design programs as examples of best practices. In these case studies, the authors share experiences using community-based design processes, local or global, with their design students. Goals of these two case studies include understanding the varying context and the cultural implications provided by diverse academic and geographic landscapes. In one case, students traveled thousands of miles to experience a different culture; in the other, students traveled across the tracks and down the street for cultural diversity. The comparison of the two suggests that although the site conditions were divergent, the boundary-spanning methodologies provided similar outcomes among students, faculty, and community partners.

Introduction

This *Practice Story From the Field* examines the community-engaged boundary-spanning work of two architecture and design faculty members in public land-grant institutions. By comparing and reflecting on case studies from these two different universities, the authors highlight the importance of reciprocal university–community partnerships; illustrate the challenges that community-engaged work presents for faculty, students, and community partners; and propose design pedagogy as a model for teaching and learning for community engagement. This article illustrates how the contexts and conditions of community engagement can differ widely while still immersing students in opportunities to explore cultural diversity. The methodologies explored in boundary-spanning teaching provide comparable results from students, faculty, and community partners.

The two case studies illustrated in this article come from fully accredited professional programs in interior design that prepare students to become licensed professional designers. The practices of most professional architects and designers are ones of collaboration and teamwork. Even for the smallest projects, teams of architects, designers, engineers, builders, and consultants are common in current professional practice. Design is a collaborative process that, at minimum, includes the voices of diverse trained professionals and, at its best, rallies divergent voices—both professionals and laypeople—around goals and objectives agreed upon through consensus building. This process, referred to as community-based design, participatory design, or public interest design, is pivotal in creating critical interventions that can transform spaces, places, and communities.

American design education has not always prepared students for community engagement or participatory design *(Ockman, 2012).* For centuries, design pedagogy was based on the master–apprentice relationship. The design studio master, as keeper of knowledge and process, would put apprentices through a series of design problems to be executed in the vacuum of the studio or atelier. Although many such problems called for designs of large public buildings, the general public was not consulted in the design process. The integration of the social sciences, behavioral studies, and environmental psychology into architecture and design research through the social movement of the 1960s introduced theories that have taken time to gain a prominent foothold in design education.

Many community-engaged design-build programs in architecture programs began in the 1990s *(Schuman, 2012)*. This shift in the university training of architects and designers, with national models such as Auburn's Rural Studio and Mississippi State's Gulf Coast Community Design Studio in Biloxi, Mississippi, is toward developing the skills of consensus building, community engagement, and collaboration in institutions of higher education. By engaging stakeholders and students, design faculty can identify opportunities to rethink design as a catalyst for social activism in our university, state, and global environment. Building on the common threads of place making and cultural identity, the work explored here strives to span boundaries through design partnerships both globally and locally.

A case study from the University of Kentucky (UK) demonstrates how design faculty and students designed and built a sustainable community project in a geographically and culturally foreign land. From the University of North Carolina at Greensboro (UNCG) comes a case study of local collaboration and community engagement in a neighboring community that is equally foreign to the students. The authors, faculty leaders of these two initiatives, describe leading students through processes of discovery and understanding other cultures and communities through community partnerships and participation. It should be noted that both authors are tenure-track faculty members in interiors programs within public state universities. In this article, both similarities and differences between the two universities and the two community-engaged projects will be explored.

Literature Review

Over the past several decades, universities have sought to connect education and research with the responsibility of service. Commitment to engage with communities is fundamental to the mission of higher education institutions. This emergent need has developed the practice of engaged scholarship. Boyer *(1996)* defined community engagement as a "special climate in which the academic and civic cultures communicate more continuously and more creatively with each other" *(p. 20).* Similarly, the Carnegie Foundation for the Advancement of Teaching defined community engagement as "collaboration between higher education institutions and their larger communities for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity" *(Carnegie Foundation for the Advancement of Teaching, 2015, "How Is 'Community Engagement' Defined?," para. 1)*. This civic engagement in the classroom is recognized by scholars to have value that extends beyond teaching to outreach and applied research *(Barker, 2004).*

Community engagement in design education has enabled professional work and social change to dramatically impact the way design is instructed *(Angotti, Doble, & Horrigan, 2011).* The intersection of design practice and community engagement provides students with new opportunities to interact with people who will be users of the designs. The ability to empathize with users is an essential skill that designers utilize in practice. By seeing the world through other perspectives, innovative designs can meet users' explicit or latent needs *(Brown, 2008).*

Design education is founded in teaching students a process of critical thinking to execute a project addressing the needs of users. The initial challenge of addressing the needs of users is to understand "the other" *(Angotti et al., 2011)*. Outreach projects enable discoveries of relationships and collaborations outside the academic environment that integrate scholarship and service. Zollinger, Guerin, and Hadjiyanni *(2009)* stated that in interior design education, "service-learning involves the purposeful integration of thought and practice, that is, the application of theory to real-life problems" *(p. 32).* Community involvement in academia is enhanced when students become vocal advocates and can influence institutional commitment *(Angotti et al., 2011)*.

Holland encouraged developing evidence through assessment and monitoring as a means to make the case for engagement. By collecting data for institutional purposes, the value added by community engagement can be illustrated *(Holland, 2009).* It is essential to look beyond student surveys and monitor the impact on the faculty, partners, and institution. Important skills students develop from community engagement include the ability to collaborate and cooperate.

Weerts and Sandmann *(2010)* described differential roles in boundary spanning within public research universities—based on task orientation and social closeness—including community-based problem solvers, technical experts, internal advocates, and engagement champions. As an initial investigation into a selection of public research universities, their study proposed the need for additional studies of more universities and of more boundary spanners. The case studies presented in this essay explore two additional universities and two boundary spanners who conform to Weerts and Sandmann's definition of technical experts.

In recent years, architecture and design education in universities across the country has promoted the advancement of student engagement in community-based research, design, and design-build projects. Pearson *(2002)* revealed the wide range of design programs in college and university settings, and Bell *(2004)* called for pedagogy to instill in students the need for architects and designers to address underserved populations. The work illustrated in this essay fits into the paradigm of designing for the other 98% *(Bell, 2004)* by leveraging the power of teaching and learning to affect the future of design.

Overview of UNCG—Department of Interior Architecture

The University of North Carolina at Greensboro is a public land-grant research institution in a medium-sized city with a population of approximately 275,000. This university is also a community-engaged university as designated by the Carnegie Foundation. This elective, voluntary classification defines community engagement's purpose as

> the partnership of college and university knowledge and resources with those of the public and private sectors

> to enrich scholarship, research, and creative activity; enhance curriculum, teaching and learning; prepare educated, engaged citizens; strengthen democratic values and civic responsibility; address critical societal issues; and contribute to the public good. *(Carnegie Foundation for the Advancement of Teaching, 2015, "How Is 'Community Engagement' Defined?," para. 2)*

At UNCG, this classification dates back to 2008, although the university has been engaged in community-based research, teaching, and service for many decades.

UNCG has several administrative offices, in the form of a service-learning office and a community and economic engagement institute, to support engaged scholarship, and it has codified community engagement through its promotion and tenure guidelines. At a time when public universities are faced with ever-shrinking budgets and a need for differentiation, UNCG has leveraged its community engagement for a high return on investment. This university is a member of several national consortia, including Campus Compact and Imagining America, further solidifying its commitment to being a leader in the national conversation around community-engaged scholarship. Within this broader campus context, the Department of Interior Architecture is a signature program for community engagement on this campus.

Description

The case study from UNCG is a long-term partnership between the interior architecture department of this university and the local public library system. This relationship began approximately six years ago with student projects tied to design studios, the central curricular focus. The projects examined herein coincided with a departmental re-visioning around the central focus of community engagement and with the library's capital improvement plan (CIP) update that included renovations or additions to the first racially integrated branch library in the system, renamed after a neighborhood civil rights leader. Author Hicks began working with the library system in Fall 2010 on this historically significant branch library and has continued this working relationship since then.

Students in a fourth-year design studio were challenged to engage a historically African American community near campus. In a community whose citizens played a central role in the civil rights movement, students from UNCG were clearly outsiders. For some students, this was their first time visiting this neighborhood, even though it is only a few miles from UNCG's campus. At least one student in this cohort lived in the neighborhood; however, this student lived in a gated community disconnected from the neighborhood. Following the semester-long studio project, work with the library extended into a summer research project supported by the university's Office of Undergraduate Research, involving the first author and an undergraduate student from the aforementioned design studio. The project was extended further by a year-long research project involving the same faculty member with a graduate research assistant. These research projects relied on mixed methods to assess the technological needs of the library and the utilization of library spaces by community groups.

Between the design studio work, undergraduate research project, and graduate research project, the faculty and students at UNCG generated design proposals for a new branch library; conducted mixed-methods research through interviews, surveys, focus groups, and observations; and collaborated with the city's library system to produce a vision for the future of this important branch library. Through this work, the first author represented the university while spanning the university–community boundary as a technical expert *(Weerts & Sandmann, 2010)*, residing closer to the university while still collaborating with community partners.

Boundaries and Partnerships

Although UNCG has a history of community engagement, there are clear boundaries that separate the campus from the community that was engaged in this reciprocal project. A historically African American neighborhood, this community has stronger connections to the historically black college and university (HBCU) located nearer to the library. Students from the HBCU lead after-school study groups and tutor students from this neighborhood; students from UNCG perceive a clear boundary between themselves and this neighborhood, which they rarely venture into. Thus, although geographically close to campus, this neighborhood is culturally distant as well as demographically different.

Although diverse cultural backgrounds and identities tend to separate UNCG from this particular community, other forces played into creating an ideal alignment of university and community. In a department with themed design studios, this particular studio covers "institutional" design, for which libraries are appropriate subjects. Finding a library to use as a site for the studio work required perfect timing, coinciding with the library system's design work on two other branch libraries and with its placing this historically significant branch library on its CIP.

Success of the partnership required close communication between the first author and the library administration prior to and during the semester. During the semester, students attended public meetings and events related to the design of these other branches. Students from UNCG attended multiple meetings and events during the semester in which architects presented design concepts to community leaders. One branch held a ribbon-cutting ceremony and grand opening early in the semester; another branch held a series of community planning meetings. Students gained an understanding of the community-engaged design process from start to finish. In addition, students and faculty extended their engagement into at least two other neighborhoods in the city. This greater level of engagement into multiple branch libraries in multiple neighborhoods required a close partnership between the first author and library administrators.

Figure 1. Focus group, community leaders.

Execution

Author Hicks led well-prepared interior design students to engage the community through staff interviews, library patron surveys, archival research, and natural observations. The most fruitful tool for community engagement was a pair of focus group sessions inspired by the Deep Dive approach to design implemented by IDEO, an innovative design firm, the hallmark of which is an open-ended, creative exchange of ideas with clear rules and expectations *(Kelley & Littman, 2001).* One focus group consisted of senior leaders from the community and from the library advisory board. The other focus group consisted of youth from the community who regularly use the library facility for after-school activities. The students led both groups through an overview description about trends in library design and the main topics covered in the course, such as community identity, sustainability, and integrated design. The students led the senior group through a visioning activity to identify types of spaces that the group deemed important to the success of the library. The students led the youth group through a more open forum discussion about their vision for a community library.

Figure 2. Student brainstorming session.

Evaluation

The university students synthesized all the information gleaned from community input and collaborated to design a scheme for the future library building and site. Students were able to generate a design that met the vision of community leaders, balanced the wishes of diverse voices and user groups, and honored the history and heritage of the library. Feeling that they were doing important work for the community, the studio assumed an attitude of excellence beyond the norms for studios in the Department of Interior Architecture. Collaborative, fast-paced design workshops—charrettes—were the basis of all group work on the project. The charrette (from the French word *charrette*, or cart) is a technique from architecture and design. The history of design competitions in the French beaux-arts tradition suggests that students who worked very quickly near a deadline would jump onto the cart (*en charrette)* that instructors used to collect the work. The word *charrette* has come to mean a short period when participants engage in intense and active productivity with clearly stated goals.

In addition to working with the community off campus, students developed community-based working methods within the design studio setting. Students first honed their techniques used to interact with community partners in a safe environment on campus. Building consensus, understanding others' needs, and respecting the ideas of others are soft skills that students developed both on and off campus. The entire group of 18 students arrived at a unified scheme for the new library, while smaller groups of students hammered out different aspects of this single scheme.

Members of the library board who attended the final review of design work commented on how excited they were to see the students' scheme and how they would like to build the project as designed by the students. Funding for such a project, however, is still several years away, and all involved in the project recognize that a long-term relationship is required to maintain the initial success of the work. One way to ruin a perfectly good relationship with a community partner is failing to continue the relationship outside the particular project at hand. The first author continued the project with an undergraduate research assistant in Summer 2011 and with a graduate research assistant in 2011–2012. In Fall 2012, another class of students worked on the project from a different perspective, that of renovating the existing building in lieu of new construction. The relationship continues, relying on the faculty member to act as a campus boundary spanner and the library director to act as a community boundary spanner.

Overview of UK—School of Interiors

The University of Kentucky is a large public university located in the downtown of a city with over 300,000 people. With nearly 29,000 students, it is the largest in the state. UK is a Carnegie-designated Tier One public land-grant research institution fully engaged in community engagement from a state level to a global perspective. A Carnegie Community Engagement Institution since 2006, it also maintains curricular engagement, outreach, and partnerships classifications.

The College of Design at UK provides many opportunities for students to engage in boundary-spanning work at both the state and global levels. Many courses use real-life project scenarios that activate communities and provide experiences for students to work hands-on with community members. This foundation of engagement prepares future designers to be leaders in the profession. The College of Design seeks to bridge community partners with the design practice to enhance the quality of life of those it serves. It has supported many socially minded community outreach projects since its inception.

Interior design education seeks to provide students the ability to create spaces that protect the health, safety, and welfare of all people. Zollinger et al. *(2009)* stated that "service learning involves the purposeful integration of thought and practice, that is the application of theory to real-life problems"*(p. 32)*. Community-engaged service-learning is essential to creating meaningful applications of interior design issues in the classroom. The project described in this article was designed to offer students experiences that would enhance their understanding of the built environment within a world context, expand their understanding of sustainability, and broaden their understanding of different cultures. In addition, the second author, a university faculty member, sought to foster existing relationships within a community in rural Brazil and the surrounding coffee farms and to develop new connections within the village social groups.

Description

In 2012, the Summer Study Abroad Program to Brazil began because of the second author's previous collaborations in Igarai, a small rural village 300 km from Sao Paulo. The preexisting relationships in the village allowed partnerships to emerge quickly between the students and the community members, offering students an international experience grounded in community engagement.

The village of Igarai is a small yet vibrant community of mostly farmers who work the surrounding farms, which primarily produce coffee and sugar cane. The community lacked financial and community support to provide its early childhood day care center with the necessary tools and supplies to execute its educational models. The students at Institution B analyzed the existing facilities and interviewed the teachers and administrators, then designed and built new educational tools and furniture to create experiences and spaces within the school that support the vision of the school and its educational model.

While working in the small village school, the class resided at an organic coffee farm, which reinforced the principles of sustainability from an agricultural systems perspective. Cultural knowledge to complete the projects came from interviewing the school principal, playing with the children, and visiting local businesses to obtain donations.

Boundaries and Partnerships

Before instructing at UK, the program director of the Brazil Summer Study Abroad Program worked in the village of Igarai to design and build social infrastructure. With the active participation of the community, local architects, artists, and designers, many projects were identified that the community needed: a park, bocce ball courts, a bus stop, and a playground. These projects were completed throughout the course of Summer 2011. This work was foundational in building trust and cooperation with the community that supported development of the program for the undergraduate students at UK.

The program has operated the past two consecutive summers, with eight students in the first year and nine students in the second year. The students were all undergraduates in architecture and interior design, ranging from sophomore to senior level. Students were interested in participating in the program because they desired to apply the skills and knowledge obtained in the classroom and engage with communities that can utilize design thinking as an activator for community participatory interventions. Collaboration and cooperation are core values of the program and inspired two students to participate in the program both times it was offered.

International experiences with community engagement provide students the ability to experience the global context of design outside the classroom and better understand how it informs contemporary design practice. According to Asojo *(2007)*, "students have to understand the cultural, social, economic and political circumstances of the people they are designing for"*(p. 24)*. This discourse necessitates providing opportunities for practice beyond the campus to encapsulate community-engaged design abroad.

Execution

In the course of 3 weeks, students must adapt, explore, and investigate to design and build educational environments that support the theories and practices of the Brazilian culture. The students engage with the people, culture, and community to create interventions that respond to real-life design issues of the village. Through this process, they begin to understand principles of sustainability from a whole systems perspective as they apply to human environments.

Figure 3. Students and farm workers fabricating designs in a woodshop.

The program began with initial site visits to neighboring coffee farms to foster an appreciation of the community and generate insights into their methodology of construction and material resources. The need to rely on minimal supplies and funding encourages ingenuity and resourcefulness that is lost in a studio setting where materials are readily available. Even learning how to communicate effectively during construction when one isn't sure what the Portuguese word for "nails" is can be trying.

Implementation

The program required students to complete exploratory sketching, responsive writing, and an independent research project to chart learning based on the Council of Interior Design Accreditation (CIDA) standards for global understanding and collaboration. This data was analyzed to assess how well students met learning objectives for the course and how they were impacted both personally and professionally by the international experience. The students' written responses to Brazil were used to assess how they were transformed by the community-engaged international experience. This assessment of student learning outcomes was informative, yet not conclusive because of the small population of the study. The methodology used in this pilot study could be applied to any engaged scholarship as a means for recording the impact of working with varying perspectives. This study received exemption certification from the Institutional Review Board because it met federal criteria of anonymity, and the data collected did not contain any sensitive information.

Evaluation

Systematic assessment of the data collected revealed how education abroad can enrich the learning experience and provide boundary-spanning experiences. Students exhibited understanding of working with multiple stakeholders and a whole-systems approach to sustainability by participating in design processes abroad. The students showed evidence of awareness of varying socioeconomic conditions within other cultures through active engagement with community members. This uncovered the value of community-engaged international projects and demonstrated how universities can assess the value of designing within a world context.

Findings

The course required that each student keep a sketchbook to document their observations, take field notes, and record their responses to critical questions based on the required readings and learning requirements set forth in the syllabus. The intention was to provide a structure for recording daily reflections and cataloguing experiences so that the students would develop a habit they could continue once they returned home. One student responded to questions of what community is and its implications on design by saying,

> Becoming community is a long process with many factors that determine which direction it will go next. Communication is crucial.… When designing for community, it is important to remember that this is a long process with many details to foster a community's need for communication to keep a sustaining balance.

In addition, students were able to articulate an understanding for engaging in communities within a global context. One student stated,

> Practicing design in other parts of the world forces you to think in a different way than you would in the context of ideas, materials, and uses for things. Designing on a global scale means learning about the culture of the place (or places) you are designing for and fitting the design into that. It makes us be more analytical thinkers and notice more about our own culture.

Students were also directed to develop a research question. Their response could take any form and use any medium, but it had to fit in the school gallery for an exhibition. Having the rest of the summer to work on the research enabled students to reflect on what they had learned and contextualize it within their own cultural background at home. Ranging from nature's influences on the built environment to the cultural effects of graffiti, the research projects were as varied as the participants. The boundary-spanning work of community engagement was well stated in one student's response:

> After traveling [to] Brazil now for the second time, my knowledge of the world has really been transformed.… I have a broader understanding of how the world works. I have realized that "Design is not about the end product, but about the process." I have begun to realize that the issues I see in the U.S. are much smaller than those in other countries. I have really begun to become interested in educational and community design. I would not have this perspective if it had not been for my two experiences in Brazil.

Figure 4. Student's sketch of a bookshelf design.

Conclusions

Community engagement opens doors for new programs and initiatives on university campuses. The relationships between the authors and various community partners have opened doors for new initiatives to enhance student learning and develop applied research on engaged scholarship. Community-driven design projects in academia allow for boundary spanning across discipline, community, and the global context. These two case studies illustrate the opportunities that exist for integrating real-life projects into curriculum. The evidence of the student learning outcomes reinforces the notion that engaged work benefits the student as a scholar and as an individual.

Engaged design pedagogy enables students to experience being active citizens who work collectively to respond to a specific community need. Ultimately, the challenges that face a small village in Brazil aren't that different from the challenges of a historic inner-city neighborhood. Boundary-spanning work has a way of connecting the faculty as well. It cannot be successful without support from the collective whole. By connecting the faculty to a common cause, the group performance is enhanced, and the networks between university and community become much richer. One student stated,

> I think that my most successful collaborations have been when everyone wants to participate (i.e., design program). When collaboration is forced, it is always unsuccessful. Working in [UK instructor's] studio last year was challenging, but so rewarding working in a group, in a class with real client and students.

The work highlighted here extends the university outward to serve communities and students by providing real design solutions to those who are in need of them. Leveraging community engagement can function powerfully to advance an institution's mission. It removes the silos of thinking about teaching, research, and service as independent entities, enabling integration of the three that produces much richer results. Furthermore, the authors have adopted pedagogical approaches that bring notions of community into the university. Ultimately, these authors are piloting a new pedagogy that allows for a multidisciplinary, design-focused community of learning that addresses the needs of communities near and far.

Academia must evolve to provide flexible structures to support the diverse needs of those we are trying to serve. The diversity allows for innovative thinking and offers the students entrepreneurial experience that provides not only networking experiences but critical life skills. This is the mission of the university; however, how can we navigate a path in the future that allows us to press forward in this work that provides economic growth, civic responsibility, engaged stakeholders, and a sense of place for citizens? We offer community-engaged design pedagogy as one response to this vital question.

References

Angotti, T., Doble, C., & Horrigan, P. (Eds.). (2011). *Service-learning in design and planning: Educating at the boundaries.* Oakland, CA: New Village Press.

Asojo, A. (2007). Technology as a tool for globalization: Cross-cultural collaborative design studio projects. *Journal of Interior Design, 33*(2), 23–36.

Barker, D. (2004). The scholarship of engagement: A taxonomy of five emerging practices. *Journal of Higher Education Outreach and Engagement, 9*(2), 123–137.

Bell, B., (Ed.). (2004). *Good deeds, good design: Community service through architecture.* New York, NY: Princeton Architectural Press.

Boyer, E. (1996). The scholarship of engagement. *Journal of Public Service and Outreach, 1*(1), 11–20.

Brown, T. (2008, June). Design thinking. *Harvard Business Review.* Retrieved from https://hbr.org/2008/06/design-thinking

Carnegie Foundation for the Advancement of Teaching. (2015). Carnegie community engagement classification. Retrieved from http://nerche.org/index.php?option=com_content&view=article&id=341&Itemid=92

Holland, B. (2009). Will it last? Evidence of institutionalization at Carnegie classified community engagement institutions. *New Directions for Higher Education, 2009*(147), 85–98.

Kelley, T., & Littman, J. (2001). *The art of innovation: Lessons in creativity from IDEO, America's leading design firm.* New York, NY: Crown Business.

Ockman, J. (2012). *Architecture school: Three centuries of educating architects in North America.* Cambridge, MA: MIT Press.

Pearson, J. (2002). *University/community design partnerships*. New York, NY: Princeton Architectural Press.

Schuman, A. W. (2012). Community engagement. In J. Ockman (Ed.), *Architecture school: Three centuries of educating architects in North America* (pp. 252–259). Cambridge, MA: MIT Press.

Weerts, D. J., & Sandmann, L. R. (2010). Community engagement and boundary-spanning roles at research universities. *The Journal of Higher Education, 81*(6), 702–727.

Zollinger, S., Guerin, D., & Hadjiyanni, T. (2009). Deconstructing service learning: A framework for interior design. *Journal of Interior Design, 34*(3), 31–45.

About the Authors

Travis L. Hicks is an assistant professor in the Department of Interior Architecture and the director of the Center for Community-Engaged Design at the University of North Carolina at Greensboro. Hicks pursues scholarship that contributes to the sustainability of the Piedmont-Triad region and community partnerships that promote collaboration, interdisciplinarity, and economic development. He earned an M.Arch. from Princeton University.

Rebekah Ison Radtke is an assistant professor at the University of Kentucky School of Interiors. Radtke focuses on opportunities where collaborative learning and community-engaged design processes intersect. She undertakes current research and teaching about learning spaces, hybrid course design, and creativity in the design process. She earned an M.Arch. from the School of the Art Institute of Chicago.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 175, (2015)
 eISSN 2164-8212

Training Neighborhood Residents to Conduct a Survey

Susan Malone Back, Wan-Chun Tseng, Jiaqi Li, Yuanhua Wang, Van Thanh Phan, and Ibrahim Halil Yeter

Abstract

As a requirement for a federal neighborhood revitalization grant, the authors trained resident interviewers and coordinated the conduct of more than 1000 door-to-door interviews of a stratified random sample. The targeted area was a multiethnic, lower income neighborhood that continues to experience the effects of past segregation. Monitoring and pivots to the training procedures are described within the context of community development and capacity-building theory. Including local participation in the interview process yielded enhanced collaborative participation in decision making on the part of interviewers and interviewees. Resident contribution to community development is described within the framework of advocacy and consultative participation.

Introduction

In 2012, Texas Tech University received a Promise Neighborhoods grant from the U.S. Department of Education and became one of 12 implementation award recipients. According to the Department of Education *(Applications for New Awards, 2012)*, a Promise Neighborhood is both a place and a strategy: It is a physical community, and it is a strategy that mobilizes active participation of community members in coordinating neighborhood and external resources for the purpose of community revitalization. In the present context, *community revitalization* is defined as "the strategic process of transforming neighborhoods and communities (or sub-areas within them) that lack vitality into places of choice through collaborations of residents, organizations and other stakeholders" *(Holland, 2014, p. 1)*. Holland further elaborated on this process, indicating that it is an

> integrated, coordinated effort to increase the quality of a neighborhood's (1) educational and developmental, (2) commercial, (3) recreational, (4) physical and (5) social assets, sustained by local leadership over an extended period, to improve resident well-being and the community quality of life. *(Holland, 2014, p. 3)*

Targeted services for improvement and coordination included education for prekindergarten through post–high school graduation; children's health, recreational, and nutritional services; family services; parent education starting before birth; and college preparatory activities for students and parents.

Promise Neighborhood grantees are required to conduct neighborhood surveys at the initiation of the grant to establish baseline data. Subsequent surveys are required in Years 3 and 5. In this article, we describe lessons learned while training residents to collect the required baseline data. Prior to the formal surveys, however, the grant proposal process itself required that applicants gather and submit preliminary baseline data. Due to time and fiscal constraints during proposal preparation, it was not possible for Texas Tech to devise a sampling plan and conduct a survey of a scientific sample of the neighborhood. As an alternative, the present article's senior author coordinated a team effort to identify data from existing sources such as the U.S. Census Bureau; county, state, and national health records for the area; and housing, crime, and school data. These data provided the background information used for proposal submission. Upon receipt of the award, a door-to-door survey of the neighborhood was conducted.

With this article, the authors present a rationale for the active participation of neighborhood residents in conducting the one-on-one interviews as well as the previous background information on the setting for the survey. Also included is a description of the scientific survey that was conducted. Training procedures are described, as well as difficulties encountered along the way, the types of interventions offered to ensure survey consistency, and lessons learned from both the training and survey processes that may be of use for others wishing to involve stakeholders in neighborhood research.

Literature Review

As noted above, a major purpose of a Promise Neighborhood grant is to involve community members in a process of active engagement in community revitalization that includes improvement of education, health, and social services in coordination with nonprofit groups and individual volunteers. Stagner and Duran *(2014)* highlighted the importance of encouraging active participation by community residents in planning, designing, and implementing initiatives. This approach achieves success through "the strengthening of the capacity of neighborhood residents" *(p. 135)*.

Mills *(2005)* pointed out that residents of low-income inner-city communities often feel disenfranchised, and the process of community revitalization should empower them to take a stronger role in sustainable revitalization efforts. Roth *(2011)* noted that collaborative revitalization efforts should involve multiple stakeholder levels, including the involvement of residents in dialogue and identification of specific areas of focus.

Beyond enhancing community capacity-building, involving residents in a community survey as both interviewers and interviewees contributes to the validity of the data collected. Wallace and Teixeira *(2014)* found that cooperating with resident team members led to enhanced data collection in a neighborhood survey. King and Cruickshank *(2012)* pointed to the value of a systematic approach to problem identification and solution development and the need to gather information in a culturally sensitive manner.

A further benefit of the data collection method chosen for the survey is its role in community advocacy. Crocker *(2007)* made a distinction between passive and consultative participation. He defines passive participation as being a member of a group and attending events such as meetings. Consultative participation is more active in that individuals provide information and give their opinions to those in a position to make a difference. Lopez-Baez and Paylo *(2009)* found that having residents contribute to community development is itself a component of advocacy. Likewise, they cite effective listening and identifying strengths and weaknesses as also contributing to advocacy.

Community Description

Lubbock, Texas, population 233,740, is located in a rural section of northwest Texas that is one of the world's leading cotton-growing areas. The area's colleges and universities also contribute to a robust economy. Nevertheless, one area, East Lubbock, does not benefit from the surrounding economic vitality. With the mechanization of the cotton industry, many area African Americans moved to the city, where they were confined by city ordinance to the eastern end of town *(Amin, 1989).* Although the geographic barrier for residency was eventually lifted, schools remained segregated long after the U.S. Supreme Court 1954 *Brown vs. Board of Education* desegregation decision.

East Lubbock is no longer primarily African American: 49.2% of residents are now Hispanic, and only 28.5% African American. The effects of previous segregation remain, as reflected in a median family income of only $25,355. The area has high rates of unemployment, crime, poverty, and ill health, and schools demonstrate low academic achievement. In 2011, Lubbock was classified as having the sixth highest crime rate per capita in the United States, primarily due to youth becoming involved with drugs and gangs *(Giuffo, 2011)*. East Lubbock youth account for more than 80% of juveniles in Lubbock County detention facilities *(McKenzie, Johnson, Vasquez, & Nelson, 2010)*.

The state's child abuse fatality rate exceeds that of any other state *(Austin Children's Shelter, 2014)*. Within Texas, the Lubbock area has the highest rates of child abuse and neglect *(United Way, 2014)*. Some of the highest rates of teen pregnancy in Texas occur in zip codes corresponding to East Lubbock; Lubbock ranks eighth of 254 Texas counties in sexually transmitted diseases *(Gonzalez, 2013).*

According to the U.S. Health Resources and Services Administration *(2012),* Texas has the highest rate of uninsured individuals in the United States, and East Lubbock is a "Designated Health Professional Shortage Area." Childhood and adolescent obesity rates in Texas are the sixth highest in the United States, and East Lubbock is considered to have significantly limited access to healthy foods *(County Health Rankings, 2014).*

Requirements for Promise Neighborhoods Grantees

In accord with the Government Performance and Results Act (GPRA) of 1993, each agency within the federal government must produce performance plans and indicators of progress. The GPRA indicators for the Promise Neighborhoods initiative include the following, which must be measured in Years 1, 3, and 5 of the grant period:

- Number and percentage of children, from birth to kindergarten entry, who have a place where they usually go, other than an emergency room, when they are sick or in need of advice about their health.
- Number and percentage of children, from birth to kindergarten entry, participating in center-based or formal home-based early learning settings or programs, which may include Early Head Start, Head Start, child care, or publicly funded preschool.

- Number and percentage of school-age children who participate in at least 60 minutes of moderate to vigorous physical activity daily.
- For children birth to kindergarten entry, the number and percentage of parents or family members who report reading to their children three or more times a week.
- For children in kindergarten through eighth grade, the number and percentage of parents or family members who report encouraging their children to read books outside school.
- For children in the ninth to 12th grades, the number and percentage of parents or family members who report talking with their child about the importance of college and career.

The U.S. Department of Education provided previously validated survey questions that grantees could use to collect baseline data on the above GPRA measures. The Data Resource Center and the National Center for Education Statistics had validated specific items drawn from the previous studies. These previous surveys included the National Survey of Children's Health *(Data Resource Center, 2010)*, the Early Childhood Longitudinal National Nine-Month Parent Questionnaire *(NCES, 2002)*, and the National Center for Education Statistics' Educational Longitudinal Study *(NCES, 2002)*. In addition to the required questions, the authors added one question at the end of the interview in which respondents were asked if there was anything they would like to see change in their neighborhood.

Survey Method

Desiring a high participation rate for purposes of validity of results, the present team chose to conduct door-to-door interviews rather than conduct the interviews by telephone. Furthermore, we decided to hire and train neighborhood residents to conduct the survey. The rationale for this decision was based on several factors: (a) resident interviewers were familiar with the neighborhood, (b) they had a high likelihood of being accepted by residents, and (c) a major purpose of the project was to facilitate active engagement of the residents in the community revitalization effort. Crocker *(2007)* asserted that only those who are within a context understand it.

By employing neighborhood residents, the authors were utilizing the strategy noted by King and Cruickshank *(2012)* of involving community members in creating their future in a manner that is culturally and linguistically sensitive. Actively involving the community in systematic identification of problems and solutions has been noted by King and Cruickshank *(2012)* as an effective means of community engagement and creation of shared meaning. The senior author of this article served as survey director and oversaw all aspects of recruitment and hiring of interviewers, as well as the conduct of the survey.

Grantees were instructed by the U.S. Department of Education to gather the data in a survey of a stratified random sample of households with children. The authors hired a statistician who constructed the sampling plan. Due to the size and stratification of the neighborhood, it was necessary to complete 10 interviews for each of the 93 blocks included in the stratification. Thus, the goal was to complete 930 interviews. The sample was derived from 2010 U.S. Census data and took into consideration the number of single-family dwellings and apartment buildings in the target area. The sampling strategy consisted of random selection of 93 city blocks, followed by convenience sampling of 10 interviews per block. Interviewers were to knock on doors and determine whether there were children in the household. If the resident declined to participate or if there was no answer, the interviewer would go to the next house. This would continue until 10 interviews were completed.

The university Institutional Review Board (IRB) approved the project as an anonymous data-gathering project. In addition, the IRB approved the statement that was read and handed to all residents explaining the confidentiality of their responses, noting that they could terminate the interview at any time, and providing a telephone number for them to call if they had questions or comments. In order to ensure confidentiality, names and addresses were not recorded on the questionnaires. Instead, a record was kept of addresses contacted on a separate form. This record made it possible for us to return to the block to complete a total of 10 interviews without going to households previously interviewed, those without children, or those which had declined to participate. The address record forms were stored in a locked file cabinet separate from the completed questionnaires.

Recruitment and Training Method

The process of recruitment of interviewers started with the senior author consulting with the university Human Resources Department about hiring part-time, temporary interviewers from the target neighborhood. The department advised that to advertise and hire these positions through the university would take considerable time. Unfortunately, time was of the essence since it was necessary to collect the baseline data prior to initiation of the project. Human Resources recommended an employment agency as the more expeditious choice. Simultaneously, the authors had identified several residents who were thought to be good interviewers.

The senior author contacted an employment agency and negotiated an agreement whereby the project paid the agency $15.14 per hour for work performed. The agency handled all payroll responsibilities and paid interviewers $11 per hour. The authors arranged for a 1-day group hiring session at the agency to which the authors referred candidates. In addition to these candidates, the employment agency identified several other candidates. The agency conducted an orientation on its ethical principles and time sheet requirements, had the candidates complete an application package, and conducted the necessary background checks according to agency procedures.

As a result of this process, the project hired 28 interviewers. In addition, two full-time university employees and two graduate research assistants were assigned to work on the project 20 hours per week as coordinators to assist with training, coordinating data collection, and reviewing completed questionnaires for compliance with the research protocol.

Initial training. The project negotiated a contract with a local community center to use its facility to conduct a 1-day interview training session, beginning at 8:00 a.m. and ending at 4:30 p.m. Arrangements were made for both breakfast and lunch to be served. The presence of food and coffee, together with get-acquainted activities, generated a warm and hospitable atmosphere.

After breakfast, the new hires' first activity was pairing up with someone they did not know and "interviewing" that person. Next, each person had to "introduce" his/her partner to the group. It was pointed out that this was an exercise in the importance of listening during an interview. Because the interviewers would eventually work with partners as a small team, it was useful for them to become familiar with one another as soon as possible.

The survey director showed slides that began with the overall context of the study, including the nationwide Promise Neighborhood objectives and how the local project was part of a much larger program. She emphasized the need to collect data from the community and indicated that it would ultimately be combined with data from other communities. This was done to communicate to the interviewers a sense of their importance in a national program. Topics covered in the slide presentation, in question-and-answer format, appear in Table 1.

Table 1. Training Topics

Questions	Description
What is a survey?	An instrument to collect information on specific characteristics of a population
What is the population we are studying?	We are interested in the population of adults with children 0-18 years of age residing in East Lubbock.
Will we be collecting information from all adults in the community with children 0-18 years of age?	No. We will be collecting information from a randomly selected, representative sample of blocks in the community. Certain U.S. Census blocks have been chosen as representative of the population.
How many households will we be studying?	In order for us to be sure we have a truly representative sample of the neighborhood, we will need to conduct surveys at 930 households.
How long will this take?	It will take approximately 10 minutes to actually ask the list of required questions at each household. However, we are allowing time for you to introduce yourselves and explain the purpose of the survey. We will provide you with a copy of the introduction you will use at each household.
Do we have to ask all the questions in exactly the way they appear in the questionnaire?	Yes. This is because all the other Promise Neighborhood grantees around the country will be conducting the same exact survey in their neighborhoods and the federal government wants to take all the responses from all over the country and combine them into a report which will be presented to the U.S. Congress. So we cannot deviate in any way from the questionnaire. The questions must be asked using the wording on the questionnaire and in the order that appears on the questionnaire

Do we have copies of the questionnaire in Spanish?	Yes, those of you who are fluent in Spanish will administer the questions in Spanish. We will send out teams to each census block. Some teams will have at least one fluent Spanish speaker.
How will we know what households to interview?	Each day, you will be given the census blocks assigned to your team. Basically, you will attempt to interview a certain number of households on each block. You will start with one household and if there is no answer there or if someone refuses to be interviewed, you will go to the next house and the next. Once your team has completed the required number of interviews on that block, you will proceed to the next block.

All interviewers were given a handout containing these questions and answers. Another handout contained tips on what to do if residents did not want to respond. During the session, participants who had served as telephone solicitors in the past suggested methods of coercing people into participating in the survey. The survey director provided corrective guidance, indicating that the project did not want to use any type of coercion and that this was not a sales pitch. However, it was acceptable to remind residents that the survey was for a worthwhile cause and that responses would be kept confidential and reported only in the aggregate. Should interviewers be unable to overcome a resident's objections to participate, they were to accept the refusal as courteously as possible and thank the person for his or her time.

Review of survey questionnaires. For the next step in the training, the survey director went over the introduction procedures at the beginning of an interview, which included brief statements about the project and the purpose of the interview. These items had been approved by the university's Institutional Review Board. The survey director then went over the questionnaire, reading each question and explaining that it had to be asked with that exact wording. The importance of maintaining confidentiality was also covered.

Both English and Spanish versions of questionnaires were presented at the training session. The trainees who could communicate in fluent Spanish would be assigned to the Spanish census blocks in order to achieve valid responses to questions.

During a break, each person's picture was taken in order to make name tags that they would wear during the interviews. All the interviewers and coordinators were required to sign a confidentiality agreement and to maintain the confidentiality of those participating.

The trainees were given 2 hours to practice introduction procedures and administer questionnaires to each other. Thus, the trainees experienced both administering the survey and responding to it. One of the trainees had previously worked as a U.S. Census interviewer and offered helpful interview techniques such as being courteous and thorough.

Survey rehearsal. Once trainees had interviewed each other several times, they were then required to "interview" one of the regular staff members on the project. This quality control step was useful in identifying trainee errors and providing correction. Project staff reported back to the director on types of errors, which included the following:

- Using language other than that provided in the questionnaire.
- Asking all questions, not just those for the ages of children in the household. For example, if the oldest child in the household was 6 years old, interviewers were to skip the questions pertaining to middle school and high school youth. Several trainees asked all the questions in the survey, including those for specific ages that were not represented in the household. Several questions involved decision trees, indicating that if the respondent answered "no" to a question, the interviewer was supposed to skip the following two questions. However, some trainees asked all the questions on the questionnaire.
- In a question that required a response of either *Often*, *Sometimes*, or *Never*, the interviewer would sometimes write in *Yes* or *No*.

Without identifying those making errors, the survey director went over these examples and explained the proper procedures once again. An additional component of the intensive training session was a rehearsal of the complete procedures as they would be practiced in the field. This step included practicing sign-in, receiving the assignment of blocks to interview, picking up a clipboard and large manila envelope with all necessary supplies, and returning to the facility to sign out. The rehearsal of these procedures during the intensive training helped prepare for a streamlined sign-in and sign-out process once the survey actually began.

Survey implementation and ongoing training. Thereafter, each weekday at 5:00 p.m., the interviewers and the coordinators were required to gather in a local community center that acted as a staging area for the interview neighborhood and sign in. Interviews were conducted 3 hours per day, from 5:30 to 8:30 p.m. On those days when the intense Texas heat prohibited going door-to-door until it was later, the authors had the interviewers go over the previous day's questionnaires, checking for errors. This process took place under the supervision and in full view of project staff. In addition, the time was spent on plotting future routes that would maximize the number of blocks covered in an evening.

Usually, however, each interviewer was given a clipboard with blank survey questionnaires, copies of introductory statements and thank you cards to distribute to residents, maps identifying the specific blocks assigned for that evening, blank Block Forms (see Table 2) for each city block assigned, and a Master Completion Form (see Table 3). In addition, the coordinators distributed bottled water and granola bars.

Table 2. Block Form

	Block #					
	Date					
	Name of the Interviewer					
		Accept				
			Incomplete			
No.	**Address**	**Complete**	**No**	**Return**	**Declined**	**N/A**
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Table 3. Master Completion Form

Block #	Address	Completes (√)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Fill in address ony after complete		

The Block Form was used to determine which households were not to be revisited. In addition, teams completed Master Completion Forms to help keep a running count of up to 10 completed interviews per block. Questionnaires were randomly assigned code numbers, which enabled coordinators to review questionnaires the day after the interviews to determine if there were mistakes in coding or number of questions answered. If so, the project arranged for someone to return to the correct address to complete a survey if necessary. To ensure confidentiality at the end of each evening, completed questionnaires were stored in a locked file cabinet at the university, separated from the forms that contained addresses.

Interviewers were separated into several teams, each of which contained one coordinator and two interviewers. Every day, the census blocks to be interviewed were assigned to the individual teams. The coordinator in each team was responsible for driving the interviewers to the section of East Lubbock where they would be conducting interviews that day. The coordinator also watched over the interviewers' safety and contacted the staging area if, for example, the interviewers had completed the assigned blocks but still had time to cover others. One coordinator always remained at the community center ("Action Central") to respond to these questions and make new assignments as needed.

Review of completed questionnaires. After the day's interviews were finished, the survey director packed up all questionnaires and materials. The following afternoon, the director and coordinators reviewed all questionnaires and Block Forms to check for errors. For several weeks, numerous errors persisted. The categories of errors were noted in a project lab notebook. Several difficulties arose: The coordinators and the interviewers were sometimes confused about the census blocks and went to the wrong addresses, some interviewers would skip important questions, some made wrong marks on the response items, and some forgot to write down the visited addresses on the Block Form.

The project quickly fell behind in the process of reviewing questionnaires and eventually paid some of the better interviewers to join the coordinators in the project office at the university at 1:00 p.m. each day to help spot errors and keep track of which blocks needed to be revisited. When it was suspected that some addresses did not correspond to the assigned blocks, the coordinators used Google Maps to confirm the location of specific addresses. Whenever the locations shown on Google Maps were also confusing, the survey director drove to those blocks in person to make certain the coordinators and the interviewers were given accurate directions at the beginning of each day's staging session. The discovered problems were pointed out, and instructions were clarified at the beginning of each survey evening so that the interviewers would not repeat previous mistakes. If any questionnaire was found to be incomplete due to interviewer error, the interviewers were asked to go back to the household and collect the missing information. If the interviewers went to the wrong addresses the first time, they were required to visit the correct addresses.

Redirection. In addition, each evening a mini training session was conducted, at which common errors and appropriate procedures were covered. Nevertheless, the same errors persisted for several weeks, and a few interviewers consistently did not note blocks and addresses on forms or did not ask the appropriate questions for an age group. Those who made the most serious errors were eventually terminated. One interviewer refused to adhere to the safety protocol of periodically calling in from the field. On the second evening of the study, he returned to the staging area 45 minutes after the community center closed, just as we were beginning to organize a search party. He was given one more chance to participate, with the stipulation that he adhere to the supervision of a coordinator. He refused this direction and quit on the spot.

In less serious cases, those in which the errors were sporadic, the survey director designed an intervention in which she asked a community pastor to make a compassionate presentation to interviewers about how he was sure they would be able to succeed. This was coupled with the survey director's stern message that there would have to be more attention paid to detail. Thereafter, a noticeable improvement in questionnaire completion and block coverage was noted.

"Lessons Learned" Method

The authors gradually developed an understanding of factors pertaining to the training and survey implementation methods through an iterative process of noting errors made by the interviewers and subsequent trial and error of interventions to maximize the validity of data collected. A variation of naturalistic design was employed to the extent that behavior of interviewers was observed and recorded by the trainers and coordinators who were present in the training sessions and in the field as they followed interviewers through the neighborhood. In the interest of ensuring that interviews complied with the interview protocol, the coordinators who were accompanying the interviewers in the field began to capture processes and note variations from the survey protocol.

At the end of each evening, the coordinators reported errors to the survey director. In addition, during each day after the evening interviews, the coordinators reviewed completed questionnaires for errors and omissions and brought these to the attention of the director, who used this information to plan introductory comments at the beginning of that evening's meeting prior to assigning blocks to the interviewers. Thus, the team employed an inductive process of gradually identifying patterns of behavior that could be addressed in ongoing training and coaching.

These observations could not be classified as purely naturalistic, however, in that they were not detached from the data-gathering process *(Bernard & Ryan, 2010).* Subsequent intervention was meant to alter interviewer behavior. Therefore, the method employed closely paralleled that of the Chicago school: a social interactionist perspective in which the research approach is flexible, diverse, and inductive *(Berg & Lune, 2012)*. The process was inductive in that meaning was derived from observations of interviewers and review of completed questionnaires, which in turn led to descriptions of patterns to be addressed; flexible in that the trainers and coordinators interacted with the interviewers in order to alter their behavior; and diverse in that several different interventions were tried and observed.

Another characteristic of the social interactionist method that emerged in our work was the development of author sensitivity to the viewpoint of the resident interviewers. This empathic understanding has been noted by several methodologists as a strength of the social interactionist approach in that it can result in deeper understanding of the meaning of the social behavior being observed *(Berg & Lune, 2012)*.

Results of Training

Originally, it was anticipated that the survey would be completed within 4 weeks. In fact, it took 3 months and 1 week. Several factors contributed to the prolonged data collection: (a) numerous errors were made in the first few weeks, which resulted in unusable questionnaires; (b) revisits were made to blocks and addresses; and (c) time was spent each evening in retraining interviewers at the staging area just prior to data collection, and this further delayed actual field work.

Another factor that contributed to the extended time period was the length of time for each interview. Most residents were very pleased that someone was interested in their opinion and had much to say beyond what was asked in the questionnaire. It was not unusual for a resident to say, "Now you be sure to tell them this" or "Write this down." Many interviews took more than half an hour.

Surprisingly, we had only two incidents in which a resident did not complete an interview after it was begun. In the first case, the individual had to finish making dinner and in another, time ran out and she had to take a child to football practice. No one terminated the interview because of objection to the questions asked.

It was not possible to obtain 10 interviews for all blocks. This was partly due to the blocks having been selected based on 2010 Census data for a study conducted in 2013. In the intervening 3 years, the neighborhood experienced high mobility, and in some blocks the number of households with children diminished significantly. Families had moved, or there were no longer children under 18 years of age in the home. In addition, interviewers noted a high rate of abandoned homes.

Discussion

The process of arriving at a conceptualization of lessons learned was not one in which theory about training interviewers preceded research, nor was it one in which research preceded theory. Rather, it was a process that has been described as the "spiraling research approach" *(Berg & Lune, 2012, p. 25),* in which ideas precede theory and design but are reconceptualized as a result of data collection and analysis. In the present case, the authors' ideas about how to train interviewers and conduct a survey were continually reformulated as a result of field observations and review of the completed protocols. Original theory concerning the importance of resident involvement in the study expanded into a deeper understanding of the resident interviewers and the respondents, and this new information was used to alter the design of ongoing training. In retrospect, the authors underestimated the time it would take to train resident interviewers. At least two entire sessions should have been devoted to rehearsal of the survey process. Also, the authors should have anticipated that most of the trainees had never participated in either a community project or university study, and that ongoing training and encouragement would be a wise precaution. The resulting training strategy was an iterative process whereby the authors tried various methods, noted errors that continued, and then implemented new training practices based on that information. Although the process did take more time than originally planned, most trainees were truly attempting to adhere to the study protocol and did eventually attain proficiency in conducting the interviews and completing all paperwork.

In addition to increased interviewer proficiency, coordinators noted a gradual improvement in interviewers' confidence. Whereas early in the study, the coordinators took responsibility for planning which city blocks were to be covered each evening, after the first month the interviewers spontaneously did this themselves. They would offer their own opinions on which blocks should be covered in what order so as to maximize the number of interviews that could be completed within the 3-hour time period.

Over the course of the study, the number of interviews completed each day increased. Interviews were taking less time, and fewer households declined to participate. The authors believe the increased confidence of the interviewers contributed to the willingness of residents to participate in the survey. King and Cruickshank *(2012)* outlined an approach to community involvement that included increasing the skills of community members in a manner that incorporates cultural and linguistic distinctions. They asserted that investing in community skills in engagement is the most expeditious strategy for change. Indeed, over the course of the study, several interviewers who had been unemployed applied for and obtained permanent employment in the community. In addition to the job training provided for the survey, the survey director assisted applicants with resume development and provided them with letters of reference. Thus, conducting the study was itself a strategy for increased employment.

Shaw *(2008)* noted that community development is most successful when coupled with people's real interests and their active engagement with policy. It was clear to all involved with the study that respondents did perceive the survey to be relevant to their interests. Many expressed a desire for the neighborhood to reach its full potential. Cornwall *(2008)* asserted that being involved in a process in a passive manner does not equal having a voice. The very act of voicing their perceptions was itself a form of engagement. Those who provided information during the interviews were engaged in what Crocker *(2007)* described as development from a state of passive participation that involves being a member of a group such as a church or being a parent of a school-aged child, to a state of consultative participation. This latter level of involvement is characterized by providing information to those who are in a position to make changes. Many participants indicated that they had never been asked their opinion about matters pertaining to the neighborhood and were very pleased to participate. Thus, although the survey was designed primarily to collect information, it also served as a venue for community participation and advocacy.

The primary lesson learned from the project was that despite the increased number of weeks devoted to the survey and the challenges encountered along the way, the process was a rewarding one for all involved. The authors began to develop an understanding of the neighborhood through the eyes of the resident interviewers and the respondents. In debriefing with the interviewers, it became clear that some of the omissions and inconsistent notation on the survey instruments were due to the interviewers becoming deeply involved in conversation with the residents. In this respect, the survey process approached the symbolic interactionist model *(Berg & Lune, 2012),* in which meaning is derived from the process of persons interacting with each other. Thus, the process was a two-way learning experience for all involved.

Acknowledgment

The East Lubbock Promise Neighborhood project is supported by the U.S. Department of Education (Grant No. U215N120013).

References

Amin, J. (1989). Black Lubbock: 1955 to the present. *West Texas Historical Association Yearbook, 65*, 24–35.

Applications for New Awards; Promise Neighborhoods Program—Implementation Grant Competition, 77 Fed. Reg. 23675 (April 20, 2012). Retrieved from https://federalregister.gov/a/2012-9597

Austin Children's Shelter. (2014). Statistics on child abuse. Retrieved from http://goo.gl/NfMsV1

Berg, B. L., & Lune, H. (2012). *Qualitative research methods for the social sciences*. Boston, MA: Pearson.

Bernard, H. R., & Ryan, G. W. (2010). *Analyzing qualitative data: Systematic approaches.* Los Angeles, CA: Sage.

Cornwall, A. (2008). Unpacking "participation": Models, meanings and practices. *Community Development Journal, 43*(30), 269–283.

County Health Rankings. (2014). *County health rankings and roadmaps.* Retrieved from Rankings & Roadmaps website, http://www.Countyhealthrankings.org/app/texas/2013/lubbock/County/outcomes/overall/snapshot/by-rank

Crocker, D. A. (2007). Deliberative participation in local development. *Journal of Human Development, 8*(3), 431–455.

Data Resource Center. (2010). *National survey of children's health.* Retrieved from http://www.childhealthdata.org/learn/NSCH

Giuffo, J. (2011, October 3). America's most dangerous cities. *Forbes*. Retrieved from http://www.forbes.com/sites/johngiuffo/2011/10/03/americas-most-dangerous-cities/

Gonzalez, E. (2013, July 31). Lubbock STD numbers still climbing. *Lubbock Avalanche-Journal.* Retrieved from http://lubbockonline.com/local-news/2013-07-31/lubbock-std-numbers-still-climbing#.UvvLgvm-3J8

Government Performance and Results Act of 1993 (GPRA). Pub. L. 103-62, 107 Stat. 285 (1993). Retrieved from http://www.gpo.gov/fdsys/pkg/BILLS-103s20enr/pdf/BILLS-103s20enr.pdf

Holland, S. (2014). Weaving policy, people and place together. Retrieved from http://www.mpnh.org/~ASSETS/DOCUMENT/WPPPT/REVITALIZATION--%20Working%20Definition1.pdf

King, C., & Cruickshank, M. (2012). Building capacity to engage: Community engagement or government engagement? *Community Development Journal, 47*(1), 5–28.

Lopez-Baez, S. I., & Paylo, M. J. (2009). Social justice advocacy: Community collaboration and systems advocacy. *Journal of Counseling & Development, 87*, 276–283.

McKenzie, G. E., Johnson, C. M., Vasquez, B. E., & Nelson, E. P. (2010). *Assessment of Lubbock County juvenile probation programs compared to nationally recognized evidence-based best practices*. Lubbock, TX: Lubbock County Juvenile Justice Center.

Mills, R. C. (2005, Spring). Sustainable community change: A new paradigm for leadership in community revitalization efforts. *National Civic Review, 94,* 9–16.

National Center for Education Statistics. (2002). *Educational longitudinal study of 2002.* Retrieved from http://nces.ed.gov/surveys/els2002

National Center for Education Statistics. (2006). Early childhood longitudinal program, 2001–2006. Retrieved from http://nces.ed.gov/ecls/birth.asp

Roth, K. J. (2011). Rural downtown revitalization strategies for university and community collaboration. *SAM Advanced Management Journal, 76*(1), 35–47.

Shaw, M. (2008). Community development and the politics of community. *Community Development Journal, 43*(1), 24–36.

Stagner, M. W., & Duran, M. A. (1997). Comprehensive community initiatives: Principles, practice, and lessons learned. *The Future of Children, 7*(2), 132–140.

United States Health Resources and Services Administration. (2012). *Shortage designation.* Retrieved from http://muafind.hrsa.gov/index.aspx

United Way. (2014). *Community status report.* Retrieved from http://www.liveunitedlubbock.org/commstatus.shtml

Wallace, J. M., Jr., & Teixeira, S. N. (2014). Assessing the state of the village. In R. M. Silverman & K. L. Patterson (Eds.), *Schools and urban revitalization: Rethinking institutions and community development* (pp. 136–150). New York, NY: Routledge.

About the Authors

Susan Malone Back is a research scientist in the Institute for Measurement, Methodology, Analysis and Policy at Texas Tech University and director of the university's Small Business Innovation Research/Small Business Technology Transfer Research (SBIR/STTR) Resource Center. Her research focuses on education methods; program evaluation; business and nonprofit education; science, technology, engineering, and mathematics (STEM) education; and community engagement. Back received her Ph.D. in educational psychology from Temple University.

Wan-Chun Tseng is a research assistant at Texas Tech University. She is a Ph.D. student majoring in curriculum and instruction. Her research interests in the field of education include language acquisition, instructional technology, and language assessment. She earned her M.A. in applied English from Southern Taiwan University of Science and Technology.

Jiaqi Li is an assistant professor in the Department of Counseling, Educational Leadership, Educational and School Psychology in the College of Education at Wichita State University. His research focuses on multicultural counseling, counselors' cultural competencies, issues of cultural diversity, racism and mental health, school counseling, and play therapy. He received his Ph.D. in counselor education and supervision at Texas Tech University.

Yuanhua Wang is a research assistant in the College of Education at Texas Tech University. She is a Ph.D. student majoring in curriculum and instruction. Her research interests focus on teacher education. She has an M.Ed. degree in curriculum and instruction from Texas Tech University.

Van Thanh Phan is a research assistant in the College of Education at Texas Tech University. She is a Ph.D. student in instructional technology. Her research interests are instructional technology and management. She has an M.A. in teaching English to speakers of other languages from Murray State University.

Ibrahim Halil Yeter is a research assistant in the College of Education at Texas Tech University. He is a Ph.D. student in curriculum and instruction. His research interest is science, technology, engineering, and mathematics (STEM) education, with a focus on engineering education. He has an M.Ed. degree in secondary education in natural sciences from Clemson University.

Book Reviews

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 197, (2015)

Atalay, S. (2012). *Community-based archaeology: Research with, by, and for indigenous and local communities*. Berkeley, CA: University of California Press. 312 pp.

Review by Margaret Brown Vega

Initiatives such as crowd-sourced research, citizen science, and service-learning courses at colleges and universities are part of a larger shift in how scholars, and specifically scientists, not only relate to the public, but collaborate with the public as well. Heavily influenced by the work of foundational figures in education and critical pedagogy such as John Dewey, Myles Horton, Paolo Freire, and bell hooks (all cited in this book with the exception of Dewey), teacher-scholars in higher education continue to shift toward a more democratic way of building knowledge in our society. In *Community-Based Archaeology: Research with, by, and for Indigenous and Local Communities*, Sonya Atalay makes the case that this must happen in archaeology, but the points she makes apply well beyond this discipline.

Sustainability is a word used far too often today with little thought as to what it really means. However, Atalay begins Chapter 1 by effectively using this word and makes the case that archaeology cannot sustain itself without becoming an "archaeology that matters" *(p. 5)*. For both philosophical and practical reasons, archaeology must benefit not just archaeologists, but communities as well. To do this, archaeological research must be performed *with* communities, not just *for* them. As Atalay indicates at various points in the book, the latter way of thinking about research is paternalistic and very much part of the colonial mentality out of which anthropology (and archaeology) was born—a history from which we struggle to break free. Atalay seeks to guide us in this effort by drawing upon a range of experiences with five archaeological community-based participatory research (CBPR) projects: the Çatalhöyük CBPR (Turkey), the Ziibiwing Repatriation Research Project and the Ziibiwing Sanilac Petroglyph Intellectual Property Project (both in Michigan), the Flint Stone Street Ancestral Recovery and Site Management Project (also in Michigan), and the Waapaahsiiki Siipiiwi Mound Project (Indiana).

Atalay's book provides a historical review (Chapter 2) of CBPR in archaeology, identifying the broader contexts that helped shape this shift in the discipline, beginning with the Red Power Movement and civil rights activities of the 1960s. Within archaeology, indigenous archaeology and public archaeology developed out of this historical context. As an indigenous archaeologist, Atalay understands very well the tensions that have existed between archaeologists and indigenous groups in the United States and around the world. But the missteps of past (and some current) archaeological research endeavors create tensions that may go unrecognized in *all* communities, indigenous or not. Communities impacted by archaeological research include those living near major cultural heritage sites such as Çatalhöyük. Atalay points out that there are differences between CBPR projects and other kinds of collaborative archaeology initiatives. Table 1 *(p. 49–50)* is very useful for enumerating the variety of approaches that have been pursued in order to make the distinctions clear. Atalay's objective is not to dismiss other kinds of collaborative work, but rather to point out that CBPR involves a different approach from these other initiatives.

CBPR is guided by five basic principles (Chapter 3) that serve as a compass when trying to navigate the sometimes challenging waters of CBPR in archaeology. These principles are more of a commitment and shift in mindset than rules, and Atalay identifies them by examining what has worked in a variety of successful CBPR projects. She responds to concerns and outright criticism that such projects lack scientific rigor or that they have done more harm than good (commonly documented in many development projects). In reviewing these critiques, Atalay concedes that participatory research presents, and will continue to present, challenges. Honest reflection about what has worked and what has not is necessary to move the endeavor forward.

The bulk of the book details ways of moving toward and executing a CBPR project, with abundant examples of effective strategies and pitfalls, with some treatment of outright failures. She observes that connecting with communities and how to define what constitutes a community is not a straightforward issue (Chapter 4). Most archaeologists are not trained in the kinds of skills, such as ethnography, that may be critical for effectively making these connections. Gaining consent and navigating both community and institutional levels of review can present challenges (Chapter 5). Atalay emphasizes the importance of "like-mindedness" *(p. 143–145)*, which means that community members and researchers alike must be on the same page about goals and how to proceed in order to negotiate the research process.

Identifying research questions collaboratively, in fact, should ideally be part of a successful CBPR project (Chapter 6). This aspect of participatory research, however, is probably the most challenging for scholars to adopt. Conventional approaches to research place the sole responsibility for specifying what questions to examine or pursue with the researcher. Involving communities not just in research, but in *research design*, is what fundamentally distinguishes CBPR from other common collaborative efforts. Communities should be involved at the inception of research projects and throughout stages at which data are gathered, analyzed, interpreted, and ultimately shared (Chapter 7). Practical and ethical dilemmas must be negotiated by communities and researchers alike, especially when it comes to knowledge building, and the path is not clearly laid out. Addressing this, Atalay offers an important concept that she calls "braiding knowledge" *(p. 207–208)*. Communities and researchers sometimes have different ways of knowing the world. Finding ways to bring together and share those distinct forms of knowledge, rather than view them as mutually exclusive, is critical to the success of a CBPR project, as well as to the creation of a more inclusive and "multifaceted view of the past" *(p. 207)*.

In her concluding chapter (Chapter 8), Atalay sums up nicely all that is at stake with moving toward more participatory research in archaeology. She returns to each of the five projects in which she was directly involved to identify some of the most lasting impacts. Benefits to the community are one result, but archaeology as a *discipline* also benefits by moving further beyond its colonial roots. It is not easy, and Atalay does not claim it to be. She reminds us of many challenges, from the difficulties with establishing community ties to the realities of securing funding for CBPR projects or securing tenure in a system of higher education that still does not fully recognize such projects as legitimate research. But Atalay rightly ends with the kind of activities that will ultimately change this situation within higher education: incorporating the teaching of these approaches as part of the archaeology curriculum and training our students (both undergraduate and graduate) to be engaged with communities from the beginning. Even if students do not go on to become professional archaeologists, the approaches of CBPR can be implemented by all students in various ways so that they may make contributions within their own communities.

Woven throughout the book are examples drawn from Atalay's own work, in addition to other CBPR and collaborative projects and fields other than archaeology. Presenting relevant points and examples in this way, rather than with a case-by-case presentation of various projects, is very effective. It is clear that Atalay has a tremendous amount of firsthand experience with CBPR. She shares a great deal of this in the book.

To be honest, the first few chapters felt slow in some ways and difficult to get through. However, by the middle of the book, I no longer felt that way. Atalay's book must be a slow read because there is no recipe for CBPR. Those hoping to thumb through the book to quickly pick up the latest lingo on community engagement, or quickly find ready-made strategies to put into a proposal, will be disappointed. As Atalay points out, good CBPR projects do not result from throwing some buzzwords or superficial engagement into the research mix. They require much more thought and much more work. They are more time-consuming, and still less rewarded by the academic system, than other forms of research. In today's scholarly world, where there is never enough time to juggle academic responsibilities, and differential value is assigned to some activities over others, scholars may struggle with moving toward CBPR. Far more than rewards for individual scholars or institutional prestige, there are rewards for *society*. CBPR is about decolonizing scholarship and collapsing traditional barriers between scholars and the public that should no longer be maintained if scholarship is to truly be of broad significance (as most proposals to major granting agencies, especially in the United States, claim).

Many of us (including myself) are not there yet. But Atalay's book provides abundant food for thought and concrete examples that serve as guides for making this paradigm shift happen in archaeology. Though the book is mainly about archaeology, teacher-scholars in many natural science, social science, and humanities fields, especially those who do any kind of fieldwork, should find this book useful. It dovetails nicely with, and indeed draws upon, the literature of efforts that have been afoot in education for decades. CBPR may be an approach that, at least for scholars, connects the realms of teaching, research, and service in meaningful ways.

About the Reviewer

Margaret Brown Vega is an assistant professor of anthropology at the Indiana University–Purdue University at Fort Wayne. Her research focuses on examining ancient warfare along the coast of Perú and trying to understand war's impact on society, past and present. Brown Vega earned her Ph.D. from the University of Illinois at Urbana–Champaign.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 201, (2015)

Etmanski, C., Hall, B. L., & Dawson, T. (Eds.). (2014). *Learning and teaching community-based research: Linking pedagogy to practice*. Toronto, Canada: University of Toronto Press. 416 pp.

Review by Elizabeth A. Tryon

This volume on community-based research (CBR) from the University of Toronto Press is full of refreshing perspectives from a diverse group of scholar-practitioners in Canada, where CBR has been well established for decades and often works extensively in partnership with indigenous First Nations. Coeditor Hall, founding director of the Office of Community-Based Research at the University of Victoria (UVic), was one of the earliest adopters of community-based participatory research *(*CBPR*; Ferreira & Gendron, 2011)* and now holds a UNESCO cochair for civic responsibility in higher education. Dawson is the director of the Learning and Teaching Centre at UVic, and Etmanski has been closely associated with both centers, so all editors are extremely well-credentialed as arbiters of this subject matter.

Numerous scholars in Canada have embraced concepts such as knowledge mobilization that emerged from the European science shop model *(Mulder & DeBok, 2006)* and form the vocabulary of a growing global movement. CBR centers established at York University, Guelph University, and especially UVic connect to national CBR networks (e.g., Research Impact, Community-Based Research Canada), which are in turn closely aligned with international networks (e.g., Living Knowledge, the Global Alliance for Community-Engaged Research, the Global University Network for Innovation). This book is filled with examples of the concepts and terminology that inform this movement and stories that illustrate their meanings and relevance in practice.

An emphasis on validating indigenous knowledge is highlighted in many chapters. Provocative essays such as Corntassle and Gaudry's "Insurgent Education and Indigenous-Centred Research" explore how terms like *warrior-scholar* denote the radical indigenous resurgence in educational settings. A Canadian practice of inviting a tribal elder to open conferences with a welcome blessing in the native tongue as an acknowledgment that White settlers are gathering on unceded territory is indicative of the level to which settler–indigenous relations have evolved at Canadian academic institutions. This cultural mindset is reflected in the descriptions of an equitable philosophy of community–university research partnerships throughout the book.

Following a context-setting introduction including history, terms, primary sources, and CBR "soft skills," the book is divided into five sections. Section 1, "Learning by Doing," is followed by sections on teaching in the community, innovations in CBR programming, classroom teaching to promote knowledge democracy, and a concluding section on productive tensions. The many practical ideas and strategies in the book are underpinned by an overall theme of moving from "servicing" communities to "engaging in creative change" (p. 123). The imbued message is that for CBR to truly succeed, scholars must consider not merely what method to utilize in the research, but with what ethical frame of mind to approach it.

Chapter 1, "On Thin Ice," details risks and tensions in the ethics of the community–university research dyad. Although research has been conducted in communities for years (e.g., education, engineering), the recent academic enthusiasm for civic engagement creates concerns: "Differences exist between communities and universities in the ways that knowledge and resources are organized, managed, and distributed" *(p. 27)*, and this has impact on both student learning and community outcomes. The often-indeterminate results are a recipe for graduate student panic that must be anticipated and calmed. The best learning outcome of CBR is often a new comfort level with ambiguity, but this must be balanced with community benefit. The authors point to the value of negotiating memos of understanding to manage partnership expectations and ensure that community partners derive benefits from involvement in the research. The two other chapters in this section, written by UVic graduate students and community partners, illustrate how these partnerships worked to answer some of the tensions laid out in Chapter 1. There is a fascinating story of girl empowerment through documentary film and a case study about the struggle to bring back a needle-exchange program to the city of Victoria as community researchers informed the work of a student team.

Subsequent sections also contain valuable stories and lessons. Musoyett, DeFinney, Kundouqk, Brown, and McCaffrey's "Siem Smun'eem: A CBR Training Story" stresses the need to break down stereotypes of the "researcher" and the dynamic of "insider/outsider." The authors quote indigenous scholar Linda Tuhiwai Smith: "[Research] is probably one of the dirtiest words in the indigenous world's vocabulary" *(p. 105)*. Much work was needed to "re-story" the word to regain trust. The indigenous partners never considered themselves researchers until the project helped them correlate research to ways of knowing and teaching used in their community for generations. They were then able to reclaim the word on their own terms.

Corbett and Lydon's chapter describes a project of community mapping using a participatory framework as key to their success, as well as power-shifting to "re-present" the concept of physical and spatial relationships away from a Western bias. Mapping as an activity illustrated environmental justice/equity issues in stark visual relief. This clearly written chapter includes an appendix of mapping resources, useful "how to" guidelines for community mapping, and discussion of the tension in academe between the value placed on the accumulation of peer-reviewed papers and the choice to align with subordinated groups struggling to disrupt the status quo.

In a similar vein, recommending a focus on process rather than product, Clover's chapter on arts-informed inquiry shows how by using fabric, glue, and magazines as tools, art can be more than self-expression or a therapeutic tool; it can serve as a way to foreground the voices of marginalized people and democratize knowledge. The author explains that the instructor need not be an artist—as she is not—to engage a professional community-based artist in capturing images of women's power, serve as an important facilitator to lead the community members in the artwork, interpret the messages, and mobilize the work in public showings. Likewise, Etmanski's chapter in a later section draws community art-making into the teaching and research realm, including a discussion of "what is art?" There's a nice visual on page 276 of a spiral design model adapted from Arnold et al.'s *(1991)* version of Kolb's *(1984)* experiential cycle that can be used in any discipline.

In his chapter "Learning to Listen," Hall gives insights into his accidental discovery of CBR in the 1960s and 1970s through a circuitous journey from UCLA to Tanzania and ultimately British Columbia. The theme of values resurfaces, as echoed throughout this book: the belief in relationship as the heart of the CBR process and the question "If research has been a tool of colonial domination, how can we change it to be useful to community transformation and capacity-building?" *(p. 160)*. He details a "Power Flower" exercise *(p. 155)* and offers examples of poetry he has used in teaching students how to learn to listen. This chapter is like having a beer with Budd and picking his brain for sources that have influenced him over the past 40 years, from Paolo Freire to the aforementioned Darlene Clover—priceless.

Marshall, Peterson, Coverdale, Etzel, and McFarland's chapter describes a rationale for getting involved in CBR as an aboriginal: indigenous communities need to own the documentation of their knowledge so it can be seen and used by others. "If the research is based only in Western knowing, it is added to an already traumatically colonized people" *(p. 213)*. This aboriginal scholar goes on to say,

> Finding ways… to shift our thinking is going to be a challenge.… some of you who read this will struggle with my explanation… of taking research beyond the mind. Some may even go as far to say it is "unprofessional." And to answer, I have no words to convince you until you have learned to see beyond your mind. *(p. 213)*

This and other densely worded chapters containing indigenous language can be challenging for readers accustomed to a Eurocentric lens: One must work to decode some phrases written in native tongues. It is worth it to devote the time, however, as these perspectives are not often given voice in academic literature. Many researchers in the Lower 48 do not have much opportunity to work with indigenous peoples, who were so greatly displaced or wiped out entirely. The use of their words illustrates how communication is but one manifestation of a cultural disconnect between majority academic institutions and marginalized communities, the larger message being respect for different ways of knowing, teaching, and doing. Author Marshall, a (White) "visitor" academic researcher, says it best: "[In facing the challenges of] the process of decolonizing a postsecondary graduate program… I am grateful to have been guided by wise and patient teachers… from both cultures" *(p. 220)*. An additional point: Even in populations whose first language is English, the differences between "academic speak" and nonacademic communication styles can be stark. This volume provides a useful reminder of how *all* terminology must be translated or communicated in a way that can be received and comprehended by its target audience.

The last section merges with the vein of aboriginal research, echoing the Lil'wat principles of teaching and learning, which are discussed holistically as "part of the relationships that are part of everyday living" *(p. 295)*. Antone and Dawson's chapter discussing tenure dossiers describes how instead of categorizing activities rigidly as teaching, research, or service, Antone was able to integrate them and achieve deep scholarship through a storytelling approach.

The book ends with a restatement by the editors of the main tensions, and the realization that CBR and CBPR, while moving toward acceptance, still have their detractors and that "marginal voices are often misunderstood, rebuked, undermined or blatantly ignored" *(p. 310)* by the powers that be. However, for those whose values direct them to embark on a path toward equity, this book is an extremely helpful and unique resource.

References

Arnold, R., Burke, B. James, C., Martin, D. & Thomas, B. (1991). *Educating for change*. Toronto, Canada: Between the Lines, and Doris Marshall Institute for Education and Action.

Ferreira, M. P., & Gendron, F. (2011). Community-based participatory research with traditional and indigenous communities of the Americas: Historical context and future directions. *The International Journal of Critical Pedagogy, 3*(3), 153-168. Retrieved from https://www.partnershipsjournal.org/index.php/ijcp/article/view/254.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. New Brunswick, NJ: Prentice-Hall.

Mulder, H., & De Bok, C. (2006). Science shops as university–community interfaces: An interactive approach in science communication. In D. Cheng, J. Metcalfe, & B. Schiele (Eds.), *At the human scale: International practices in science communication*. Beijing, China: Science Press. Retrieved from http://www.crepeweb.net/wp-content/uploads/2010/10/mulderdebok.pdf

About the Reviewer

Elizabeth A. Tryon is assistant director for community-based learning at the Morgridge Center for Public Service, University of Wisconsin–Madison, developing and supporting community-based learning and research across campus. Her research focuses on relationship building, the need to examine community impact, and engagement frameworks and global networks. She earned her M.A. in education from Edgewood College.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 207, (2015)
 eISSN 2164-8212

Ernst, C., & Chrobot-Mason, D. (2011). *Boundary spanning leadership: Six practices for solving problems, driving innovation, and transforming organizations.* New York, NY: McGraw-Hill. 302 pp.

Review by Sally G. Parish

The concept of creating boundary-spanning leadership is not new to the higher education community, and Ernst and Chrobot-Mason's work has been widely reviewed and received for nearly 4 years. However, the conversation about this important approach to leadership needs to continue, and the lessons included in *Boundary Spanning Leadership: Six Practices for Solving Problems, Driving Innovation, and Transforming Organizations* are perhaps more relevant and urgent today than ever before. In the ever-evolving landscape of higher education, scholars and professionals are continuously challenged to traverse a variety of boundaries in order to create partnerships and possibilities that extend beyond the university. As they strive to connect communities and campuses through reciprocal partnerships, the insights and skills of boundary-spanning leadership offer a truly promising guide to collective action.

In her foreword, Marian Ruderman writes: "Today, the leadership advantage goes to the people who are most closely linked to others and can work with a great variety of people from differing positions, backgrounds and locations" *(p. xvi)*. Ernst and Chrobot-Mason's work supports this claim and provides a road map for getting there. Through their study of 25 different organizations, the authors identify and recommend practices for leading across differences and for developing asset-based partnerships. These partnerships can and should extend across departments and divisions and into larger communities, making the contributions of universities to society most meaningful and impactful.

The authors define and explore the concept of boundaries as two connected but differing notions: borders that limit human potential, and frontiers that house advanced thinking and breakthrough possibilities *(p. 3)*. Both definitions are embraced and advanced through the work of boundary-spanning leadership, defined by the authors as "the ability to create direction, alignment and commitment across boundaries in service of a higher vision or goal" *(p. 5)*. The authors recognize five primary boundaries that are encountered in organizations:

1. vertical boundaries: hierarchical boundaries where people are separated by title, rank, power, and privilege
2. horizontal boundaries: boundaries that exist because of "turf" or silos in our organizations
3. stakeholder boundaries: boundaries that exist where sources of value are kept distinct and separate between organizations and partners, vendors, and communities
4. demographic boundaries: boundaries found in the differences of identity in our communities and places of work
5. geographic boundaries: boundaries of space, distance, region, and location

Horizontal boundaries were found to be the most prevalent. The authors describe horizontal boundaries as "the walls that separate groups by areas of experience and expertise" *(p. 23)*.

To navigate the complexities and challenges of aligning groups to achieve greatness while acknowledging and working across the five most prevalent boundaries, Ernst and Chrobot-Mason outline six critical practices for boundary-spanning leaders. The authors offer chapter-length discussions of these practices, which collectively make up more than half of the volume. The practices include the following:

1. buffering: creating intergroup safety through monitoring and protecting the passage of information and resources across groups (Chapter 4)
2. reflecting: fostering intergroup respect through the understanding of boundaries and the facilitation of the exchange of knowledge across groups (Chapter 5)
3. connection: building intergroup trust through the suspension of boundaries and the bridging of people and divided groups (Chapter 6)
4. mobilizing: reframing boundaries and developing intergroup community through the development of a common purpose and a shared identity across groups (Chapter 7)
5. weaving: advancing intergroup interdependence, "the state of mutual dependence and collective learning

that develops when intergroup boundaries are interlaced within a larger whole" *(p. 195)*, by drawing out and integrating group differences within a larger whole (Chapter 8)

6. transforming: enabling intergroup reinvention through the partnership of multiple groups to create emergent, new directions that crosscut existing boundaries (Chapter 9)

The job of a boundary-spanning leader, Ernst and Chrobot-Mason observe, is to build bridges and provide the space for the six practices of boundary-spanning leadership to occur. They note: "The days of 'I lead and you follow' are over. Gone are the days when leaders work within an intact group in which leaders and followers share a culture, values and interests. Instead, today you must lead across groups" *(p. 7)*.

Taken together and in the context of higher education, the six practices of boundary-spanning leadership suggest a potentially powerful approach for faculty and professional practitioners to employ in fostering synergistic university–community collaborations. As the authors state, "When safety, respect, trust, community, interdependence and reinvention characterize the interactions between groups, these groups will achieve something together above and beyond what they could achieve on their own" *(p. 219)*. Such groups have the potential to achieve what the authors refer to as the Nexus Effect, characterized as the "limitless possibilities and inspiring results that groups can achieve together above and beyond what they could achieve on their own" *(p. 223)*. The authors paint a picture of a synergistic community that we should all strive for; however, attempts at such synergy are often challenging and complex when operationalized within the framework of higher education.

Boundary Spanning Leadership should be viewed as less of a "how to" model and more of a call to action—a call to do more, to try harder, to be better, and, most importantly, to work together for a greater good and a better tomorrow. The authors remind readers to view partners, on campus and off, as valued members of our community who will help it to advance to new heights. They make a persuasive case for cultivating and honoring a particular set of talents, roles, and relationships that may be vital to the work of coconstructing effective, mutually beneficial university–community partnerships. "The pace of societal change and progress is breathtaking. Perhaps now we stand at the precipice of the last, great final frontier: our relationships with one another. In a world that spans boundaries, so too must leadership" *(p. 253)*.

Ernst and Chrobot-Mason have provided a compelling depiction of the challenges people face in organizations, businesses, and communities, but in the end, it is up to individuals to transform complex communities as boundary-spanning leaders. Readers who work in higher education will find themselves challenged to reimagine their relationships with peers, divisions, departments, and community partners. Cultivating and sustaining partnerships is not always as simple as Ernst and Chrobot-Mason posit, and the harsh reality is that the artful navigation of their six steps can often be met with competing demands, the least of which are often bound to politics, finances, time, and human resources. There is turf to navigate, egos to contend with, and time to be spent. Nonetheless, to truly engage with others, faculty and professional practitioners must seek to understand, respect, and connect in order to craft a common purpose, reframe boundaries, and weave their work and spaces together. Only then can there be hope of collectively transforming our communities, our universities, and the lives around us. Gone are the days of "us and them," as we grapple with a new and exciting approach to leadership. I am up for the challenge, and I hope you will join me.

About the Reviewer

Sally G. Parish is the director of the Center for Leadership and Service at the University of Tennessee, Knoxville. She also serves as the co–program director of the university's Leadership Studies Minor, housed in the Educational Leadership and Policy Studies Department within the College of Education, Health and Human Sciences. Parish earned her master's degree from Florida International University.

© *Journal of Higher Education Outreach and Engagement*, Volume 19, Number 2, p. 211, (2015)

 eISSN 2164-8212

Kronick, R. F., Cunningham, R. B., & Gourley, M. (2011). *Experiencing service-learning.* Knoxville, TN: University of Tennessee Press. 171 pp.

Review by Glenn Sterner

Community–university partnerships are an essential component of higher education's contribution to our society. These partnerships have the potential to create a context for public access to the knowledge created within our institutions. At a time when American public opinion of higher education continues to wane, reinvigorating and reestablishing our relationship with the public is critical to future support for our work. This may seem self-serving, that the motivation for establishing community–university partnerships is a public relations strategy. Rather, it ensures that the knowledge creation process has a conduit for application, and through our partnerships with community members we enrich our understanding of concepts and phenomena by learning from local practical knowledge and wisdom. This respectful, reciprocal, and mutually beneficial relationship ensures that the knowledge creation and application process remains relevant.

Higher education must reclaim its public purpose, and our institutions must strive to be publicly-engaged colleges and universities. Institutions that are assisting in this endeavor embrace and implement a shift toward an engaged scholarship paradigm across the missions of teaching, research, and service. Engaged scholarship, with its roots in Ernest Boyer's work, references the endeavors of scholars within the academy who partner with the public, across disciplinary lines, to engage in projects for the public good. These partnerships are grounded in the principles of mutual respect, reciprocity, and plurality, ensuring that they are not merely one-directional or university centric. Although some institutions and scholars are exemplars of engaged scholarship, others struggle with how to develop this approach to their work.

Service-learning is one approach that may be employed within the umbrella of engaged scholarship. The term service-learning refers to a teaching technique that bridges the classroom–community divide. Students engage with community-based issues through partnerships between the faculty member(s) and community. This teaching approach enhances student learning while simultaneously addressing critical, community-identified issues. Kronick, Cunningham, and Gourley help to bring greater nuance to our understanding of service-learning through their text *Experiencing Service-Learning.*

The target audience is explicitly students interested in service-learning and faculty members who hope to understand service-learning from the student perspective. This important detail is easily overlooked if one neglects to read the preface. This is not meant to be a "how to" for service-learning, but a tool to help students make meaning of their experiences in communities. The text is relevant not only for undergraduates but for graduate students, as it includes sections that reflect graduate student experiences. It will also be of interest to faculty who are new to establishing service-learning within their courses. It helps to contextualize the deep learning that can occur during student involvement in service-learning experiences. Additionally, it provides a rationale for the importance of integrating service-learning within teaching in higher education by explicating the outcomes for students. Finally, although those within higher education are clearly the book's intended audience, it should be noted that utilizing student reflections to help community partners recognize their powerful role in service-learning may serve to catalyze and orient them during these experiences. I find that understanding the learning they provide students empowers community partners' local knowledge, reinforcing the mutual respect and reciprocity in university–community partnerships.

I found the text was organized into three sections. The first, including the introduction, Chapter 1, and Chapter 2, emphasizes theory. The second and largest section, Chapters 3–6, evidences the learning within the student service-learning experience through direct quotations of student reflections. Finally, the third section includes Chapter 7, the conclusion, and the appendices, and may be most helpful for faculty interested in implementing service-learning. It is worth noting that the book's examples and reflections do not provide a comprehensive review of student experiences across service-learning or of service-learning experiences. Rather, they represent the experiences of students at one institution and examples of service-learning projects within this institution. This text is thus best understood as a case study, and may be best utilized in conjunction with other service-learning and engaged scholarship that can offer points of comparison enhancing the perspectives of the students and authors of this text.

In the first section of this book (the introduction, Chapter 1, and Chapter 2), the authors provide a brief overview of service-learning and related theoretical foundations. The first chapter helps to orient the student within the context for their service-learning experience, recognizing the importance of cultural competence and sensitivity. This chapter could have been strengthened by integrating more fully the concept of reflexivity and acknowledging the need to deeply reflect upon the role a student plays within the context of a service-learning experience. Reflexivity is an important skill, not just in service-learning and engaged scholarship, but for being a responsible citizen in our world. Helping students to build this skill, to critically examine how they interface with, interact with, and impact individuals according to their values, beliefs, biases, and actions within a community, will ensure that the experience is not only beneficial to the student, but also respects the local community and its members. The second chapter provides an important section on experiential learning, breaking down the concept into three interrelated components: sensing, acting, and reflecting. This provides a critical guide for how students may make meaning of their experience, to ensure that the deeper learning of their service-learning experience is not lost. The authors bring this critical component to the scholarship of teaching and learning and to the scholarship of engagement, as this model for learning helps move the student's activities from volunteerism to service-learning.

The next section of the text, Chapters 3–6, is the largest, providing student reflections and testimonials. The third chapter provides reflection and learning from a graduate student perspective, and would be best suited for that audience. The fourth chapter provides a lengthy account of undergraduate student reflections, broken into thematic sections, such as student background and its effects on the service-learning experience, student experiences in mentoring in service-learning, and impacts on students' lives. The fifth chapter explores how service-learning may affect a student once they leave their institution, using one of the author's reflections as a case study. Finally, Chapter 6 explores the transformational nature of service-learning and its effects on student learning. Although this section was quite comprehensive in its use of quotes to evidence the powerful learning students experience within service-learning, the presentation of the data could have been strengthened by utilizing a more dialogic approach, inviting reflection on these quotes and experiences. This would allow the student reading these chapters to more fluidly identify how their own experiences compare with the examples presented.

In the final section (Chapter 7, the conclusion, and the appendices), the authors provide several resources that may be of assistance to faculty. Chapter 7 identifies several challenges in implementing service-learning that a new faculty member may wish to be aware of. The conclusion provides a nice, albeit brief, summary of the main service-learning concepts and the rationale for service-learning initiatives within higher education. Finally, the appendices provide a rich description of the authors' experiences in service-learning as well as examples of service-learning projects. It is important to reiterate that this text is not a "how to" on service-learning, but instead provides a brief overview of opportunities and challenges that faculty, as well as students, may want to consider when exploring and beginning to utilize service-learning in their classrooms. Such information is likely less important for seasoned faculty who may, however, find utilizing portions of the first two sections within their classroom helpful in orienting their students to service-learning.

Experiencing Service-Learning is a helpful text within the greater context of service-learning literature and within the umbrella of engaged scholarship. It adds to the understanding of the impact of service-learning on students, emphasizing the important role this teaching method and strategy may play in the context of university–community partnerships. Although explicitly student-centric, this text helps to elucidate how an engaged institution can assist in community matters as well as prepare students to be engaged, involved citizens of our society once they leave our institutions. It is through experiences such as this that higher education can begin to reclaim its public purpose, and rebuild our connection to the publics we serve.

About the Reviewer

Glenn Sterner is a Ph.D. candidate in rural sociology in the Department of Agricultural Economics, Sociology, and Education at the Pennsylvania State University. His research explores how communities may maximize their potential for developing innovative solutions to the issues and opportunities they face. He received his M.A. degree at Michigan State University.