Vol. 14 No. 3
2010

Journal of Higher Education Outreach & Engagement

a publication of the Office of the Vice President for Public Service & Outreach
and the Institute of Higher Education
The University of Georgia

Journal of Higher Education Outreach & Engagement

Volume 14, Number 3, 2010

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ISSN 1534-6102

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If adversity brings opportunity, great opportunity may now be on the doorstep. The dual forces of an economy transitioning from an industrial focus to an innovation imperative, and a global financial downturn of massive proportions are leaving families, organizations, and communities scrambling for relief, solutions, and hope. Meanwhile, a long-time community presence, Cooperative Extension, is finding itself increasingly marginalized as its agricultural roots and stakeholders constitute a diminishing influence within the university, the economy, and the political landscape. In the midst of this pressure for communities and Extension organizations to reinvent themselves, concerns about global warming, national security, and rising energy prices are pushing energy issues to center stage. The emergent possibility is for Cooperative Extension to play a catalytic economic development role in communities interested in taking advantage of energy opportunities by leveraging its ubiquitous community presence, and linking communities to the extensive energy expertise of universities.

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to implement local programs for cancer awareness and education. Located in an area characterized by high cancer rates and limited access to health care, the NACN has developed into a foundation for community-based participatory research in cancer prevention and control. The NACN has changed the approach to cancer research and training at Penn State: investigators test new strategies and students hone skills in bringing important cancer-related care to people where they live, work, and receive health care. The NACN, an example of engaged scholarship, is one of the longest-running and most successful community-academic partnerships for cancer prevention and control in the United States.

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Arizona State University (ASU) has become a foundational model for the New American University; committed to excellence, access and impact in everything it does. ASU's faculty and staff members measure themselves by those they include, not by those they exclude; pursue research that contributes to the public good; and assume major responsibility for the economic, social and cultural vitality of the community that surrounds them.

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Note from the Editor . . .

The *Journal of Higher Education Outreach and Engagement* maintains a unique connection to the National Outreach Scholarship Partnership. A special issue of each volume features manuscripts reflective of the annual conference sponsored by this non-profit educational organization. The partnership's mission is "to work collaboratively to build strong university-community partnerships anchored in the rigor of scholarship, and designed to help build community capacity" *(National Outreach Scholarship Conference, 2010)*.

The University of Georgia (UGA) joined the partnership in 2003. Historically, the conference has rotated amongst the partner institutions (nine institutions as of September 2009, and 16 institutions as of September 2010). UGA hosted the 10th annual conference on the Athens, Georgia campus on September 28-30, 2009. The title of the conference was *Pathways of Engagement: Connecting Civic Purpose to Learning and Research – Locally and Globally*. The presentations and posters explored four themes.

- **The Institution:** How institutions provide support and incentives for doing the scholarship of outreach and engagement;
- **The Community:** How strong relationships between communities and universities are built and sustained;
- **The Faculty:** How faculty members *do* the scholarship of outreach and engagement, and what is the impact on faculty members from interconnecting their research, teaching, and outreach and engagement roles; and
- **The Student:** How students contribute to outreach and engagement, and connect their academic learning to work in communities.

This special issues includes

- President of The Ohio State University, Gordon Gee's opening plenary address, which focused on how the scholarship of engagement has evolved over the last 10 years, and where that evolution will take us over the coming years;
- A conference presenter's analysis of how universities can address issues related to alternative energy sources by employing an Extension model;

- Descriptions of impact for each of the four 2009 Outreach Scholarship/W.K. Kellogg Foundation Engagement Award winning community engagement projects; and
- Two book reviews: one that examines the impact of service-learning and the challenges inherent in how service-learning pedagogy has historically been implemented; and one that explores the connection between faculty professional and personal motivations to practice civic engagement through doing community-based research, and by providing service-learning opportunities for students.

My thanks to the dedication of so many to bring Volume 14(3), Fall 2010, to press, including the members of the National Outreach Scholarship Conference partnership, which helps to underwrite the cost of publishing this special issue of the *Journal*; the *Journal*'s associate editor for book reviews, Ted Alter, editorial review board members, and guest peer-reviewers; copy editor Cathy Krusberg; and University of Georgia staff members, Katie Fite, Julia Mills, Drew Pearl, and Susan Sheffield. Collectively, we hope the reader will find the articles useful, and will consider attending a future National Outreach Scholarship Conference.

With warmest regards,

Trish Kalivoda

Editor

Reference

National Outreach Scholarship Conference. (2010). *About NOSC*. Retrieved from http://www.outreachscholarship.org/about.aspx

Outreach Scholarship Conference Theme Articles

Opportunity and Purpose: Outreach's Changing Mission

E. Gordon Gee

Remarks by the president of The Ohio State University at the National Outreach Scholarship Conference, Monday, September 28, 2009.

I am honored to speak at this 10th annual National Outreach Scholarship Conference, especially so since my university's incomparable Bobby Moser[1] helped to found this conference, along with colleagues from Penn State and the University of Wisconsin. The gathering and the work to create real change at our institutions have grown exponentially. I congratulate them on their initiative.

When I returned to Ohio State two years ago, it was clear to me that the time had come for us to reinvigorate and expand our commitment to communities. Doing so was one of the six strategic principles I set forth when I assumed the presidency in October 2007. I had left Ohio State 10 years earlier—first to lead Brown University, then Vanderbilt, where I often spoke of private universities with a public purpose. During my time away, Ohio State had matured in critical ways: better-prepared students; more accomplished faculty; more meaningful collaborations with community partners; and so much growth in so many other ways—research and health care among them. As our stature grew, so too did our responsibility to share our vast human resources with our communities.

Upon returning, I thought hard about first principles, about our land-grant institutions' founding ideals, and about this nation's particular moment in time. The sum of the equation was this: America's public universities, and particularly its land-grant institutions, must reach out as never before to fully understand the needs in our communities and to fully address them—as partners, together. That is the model of the new American university. It is not largesse. It is not charity. And it is not a transient act—vulnerable to the ebb and flow of financial realities or the whims of individual decision makers. Plain and simple, it is our moral duty. And never have we been called upon so urgently to act. The latest figures on income, poverty, and health care are bleak indeed:

- National unemployment has reached 9.7%.
- During the past two years, eight million Americans have lost their jobs.

- The official poverty rate has risen to more than 13% of the population.
- More than 15% of Americans do not have health insurance.

As we all know, our students and their families are struggling as never before. Federal student loan disbursements grew 25% higher during the past academic year. Additional double-digit increases are anticipated for the current year. We all understand these sober realities. And we cannot simply shrug our shoulders and look away. That is not who we are. It is absolutely antithetical to our founding principles.

Today, higher education faces not so much a tipping point as a turning point—a permanent shift in the ways in which we engage our larger communities. This is a galvanizing moment for higher education in the country. Our profound purposes have never been clearer. We cannot act as the Praetorian Guard, a chosen few fiercely encircling our institutions, holding ground, and protecting our precious resources. We are, in fact, guardians of a wholly different kind. We are guardians of the uniquely American ideal and practice of higher education: one that sustains the world's strongest and most diverse range of colleges and universities and one that prizes unfettered inquiry and debate, cultivates innovation and creativity, and aggressively seeks solutions to the world's most pressing problems. Our task—at this defining point in history—is not only to protect and preserve our proud legacy; it is to extend it. Many of our institutions are doing just that, approaching the matter from a perspective of inclusion, expansion of opportunity, and true commitment to communities. Our colleges and universities must constantly be seeking out ways to apply knowledge to real-world problems, to enhance our neighborhoods and schools, to conduct research for the public good, and to fuel our nation's economic prosperity.

"Today, higher education faces not so much a tipping point as a turning point—a permanent shift in the ways in which we engage our larger communities."

Those ideas are firmly embedded in our land-grant institutions, of course. They were affirmed in the Kellogg Commission report of a decade ago. I was honored to participate in that effort, which called on our universities to broaden work to help solve

community, state, national, and international problems. The need to do so grows each and every day.

As we struggle to simultaneously balance budgets and expand programs to meet growing needs, we should remember the time in which the Morrill Act was passed. In the middle of the darkest days of the Civil War, President Lincoln had the wisdom and foresight to invest in young people and communities by establishing new colleges that would vastly expand education beyond the wealthy, the privileged, and those living in cities. With a nation on the brink of splitting apart, Lincoln could see that making higher education available to the so-called industrial classes was the best choice for growth, peace, democracy, and prosperity. It was a radical act undertaken in terrifying times.

Ladies and gentlemen, our task is to build on Lincoln's vision. We must reach out, as never before, to others of good will and common intent. We must initiate wholly new kinds of collaborations that extend our missions more completely and effectively to every corner of our nation and beyond. And we must start close to home, in the neighborhoods that surround our campuses. In the most practical terms, the relationship between the university and its neighbors is symbiotic. The health and well-being of one affects the other.

When I first assumed the presidency at Ohio State in 1990, the painful effects of that era's economic downturn were obvious—not so much on campus, but deeply so in the University District in general and in an adjacent neighborhood known as Weinland Park. As some of you may know, the university's long-term engagement with Weinland Park received a 2008 W. K. Kellogg Foundation Engagement Award, a recognition for which we are grateful.

But the University District of nearly 20 years ago was far from prize-winning. The descriptive term that is both most polite and legally accurate is "blight." It was a problem for the students and families who lived there, and for the businesses that were trying to operate in the area. More important, that disconnect in 1990 between the thriving university on one side of the street and the boarded-up shops and crime on the other meant—to me—that we were not fulfilling our unique land-grant mission. And so we got to work.

The first step was to build consensus about the needs of the area, and then to create—together with all of the various stakeholders—a viable plan of action. We worked with the City of Columbus, several neighborhood groups, Ohio State student groups, K-12 schools,

and local businesses. Once the consensus-building and planning were well under way, we began acquiring 31 separate properties on a seven-acre parcel. That process took three years, and I will add that all of the properties were acquired privately through negotiated relocation agreements with businesses. We accomplished this by forming Campus Partners, a nonprofit redevelopment corporation, which also served as the developer of the area.

Just as things were taking hold and moving forward, I left the university in 1997 to assume the presidency of Brown. When I returned 10 years later, I really did feel like a proud father, seeing what had become of that work. Now, it is a thriving area—full of restaurants, shopping, the arts, and apartments that even parents love. And each and every one of those successes compounds the other. New developers are coming in and adding apartments. New residents will support more businesses. And all of this increases the vibrancy of the area. The work continues, much of it led by students, in fact. In the past two years, we have opened a new joint policing station in the area. And thanks to our undergraduate students, working with the City of Columbus, substantial new lighting has been installed.

One of the most important developments was the opening in fall 2007 of the new Schoenbaum Family Center, a preschool and learning laboratory colocated with the Weinland Park Elementary School. It is a unique collaboration among Ohio State's College of Education & Human Ecology, Head Start, the City of Columbus, corporate partners, caring alumni and friends, and Columbus City Schools. Through this partnership, faculty expertise is put into practice, our students get hands-on experience, and children in a financially distressed area of the city get what they desperately need—a solid early education and a strong foundation for the future. And, as with all of our engagement activities, the benefits are thoroughly shared. In its first year of operation, 700 Ohio State students worked and studied at the center.

Campus Partners continues to carry through on our longstanding commitment to the Weinland Park area, refurbishing low-cost housing in the neighborhood. Further, it is assembling a coalition to bring additional investment and programs that will fully encompass education, workforce development, economic development, and safety and security. What I see happening there—and throughout the areas we are partnering to redevelop—underscores the university's larger purposes. Our mutual assured survival—to twist an old phrase—depends on new collaborations among our cities, our neighborhoods, our businesses, and our universities. The

University District development embodies the seamless connection that should exist between town and gown. And our current long-range campus planning activities further exploit the now-vibrant area, creating an arts and culture district that blends campus and neighborhood boundaries in additional ways.

Even as we focus on needs close at hand, we must also reach out much further—expanding in ever-broadening circles the areas in which our students, faculty, and staff contribute their time and expertise. For all of us—regardless of our institution's character or size—our obligation today is to apply our unparalleled resources to the world's immediate and pressing problems. It is a natural extension of our public purpose. For my own institution, these global roots are extensive and deep, and they started with agriculture. One long-standing partnership is with Punjab Agricultural University, in India. What began some 55 years ago with student exchanges and basic agricultural assistance has flourished. The partnership now includes private corporations, and its work has resulted in vastly more grain being produced with less burden on the environment and natural resources.

Ohio State has always been, and always will be, Ohio's university—fully dedicated to enriching our state and our citizens. What has changed since our founding is this: The future of Ohio is now irrevocably bound to a global strategy. And we are the vehicle for executing that strategy. We best serve the needs of Ohioans and our students with global engagements, ensuring that our students, our businesses, and our citizens compete successfully in the world economy. My vision is for Ohio State to become the land-grant university to the world. By that, I mean a dynamic, student-centered, and academically distinguished institution working on a global scale. Each of us—mathematicians, philosophers, poets, engineers, physicians, scholars of all kinds—must fully appreciate that our place in the community and in the world has changed profoundly. Every one of our institutions now serves a thoroughly shared, world community.

On our campuses, our faculty, staff, and students possess both the intellectual capacity and the compassion needed to help solve the growing food crisis; to develop physical structures able to withstand the ravages of cyclones and earthquakes; to preserve wetlands and prevent further destruction of our natural resources; to make concrete advances in human health care around the world; and—finally—to more fully understand the complex intersection of political boundaries, cultures, and citizenship. We must be aggressive in strategic expansion of all facets of our global engagement.

I spend a good bit of my summers traveling. This past summer, I visited family farms, county fairs, and small businesses in 44 of Ohio's 88 counties. I also visited Germany, Poland, England, and India, among other places. From all of those travels, I am convinced of one thing: Today's college students simply must experience the world firsthand. It is not just a matter of understanding the interconnections of the world, of appreciating other cultures and other perspectives—although those are all important. Learning to navigate in unknown territory challenges us in critical ways. We grow from it. We gain confidence. We learn skills that last a lifetime.

A week ago today, I welcomed 6,550 new freshman to campus. In my remarks, I challenged them, urged them, and cajoled them to make international experience a part of their degree program. Roughly 20% of Ohio State's undergraduates spend time abroad. That is good, but we can and must do better. And from a question I posed last Monday, I believe the students are—as usual—leading the way for us. I asked for a show of hands of those freshmen who possess passports. To my surprise and delight, roughly two-thirds of them raised their hands. Our students—yours and mine alike—are ready and eager to go out into the world. They are calling for expanded programs abroad. And their vision is no longer that of the old European Tour.

If we are to live up to our noble callings, local and global, there are substantial changes we must make within our colleges and universities. To meet the growing challenges of the day, our institutions must fundamentally redefine the nature of scholarship and the ways in which new forms of engagement are rewarded. If we do not properly and tangibly value those activities, our efforts to extend our resources more fully into our communities will be stymied. We must take it upon ourselves to revisit and revise the centuries-old notions of scholarship and develop new evaluation and reward structures.

"We must take it upon ourselves to revisit and revise the centuries-old notions of scholarship and develop new evaluation and reward structures."

Without a doubt, this is a nettlesome issue. And I am surely not the first person to raise it. Ernie Boyer *(1991)* made the case nearly 20 years ago in his book *Scholarship Reconsidered*. Our campuses have long had faculty committees devoted to looking at

revising promotion and tenure standards. And yet, the status quo remains. Inertia is winning. When can we finally speak aloud the truth—that some arbitrary volume of published papers, on some narrowly defined points of debate, are not necessarily more worthy than other activities? What about the passionate faculty member who creates new electronic tutorials to teach literacy skills to kindergarteners? The comparative studies professor who incorporates fieldwork in remote Peruvian villages into her community development courses? Or the young music faculty member who develops year-long youth symphony programs in which graduate students gain valuable teaching experience and children learn the beauty of music, the challenges of public performance, and the traits of diligence and perseverance?

What university will finally dare to say, "No more," to quantity over quality? When can we stop looking at the length of a vita and start measuring its true heft? Who, finally, will be bold enough to say, "We judge by a different standard"? To achieve our goals—to do good in a world that needs more goodness—we must think in new ways about how we acknowledge and reward nontraditional faculty scholarship. We must be brave and wise enough to do so.

Ladies and gentlemen, I have been leading universities for 30 years now. And I can tell you this: The young people who fill our classrooms are more compassionate, more caring, more entrepreneurial, and more generous than any I have ever known. They choose substance over spin. Principle over profit. Action over apathy. That is the very best news—a full and effective counterbalance to the headlines that are so grim as to paralyze many institutions. Our duty is to help refine our students' direction, educate them for leadership, and watch them take the wheel.

Yes, today is very difficult. Yes, tomorrow is uncertain. Yes, funding streams are unpredictable. But we make our case for investment in our institutions by moral force. Taken together, our resources are enormous. Our capacity to adapt, to create, to chart a different course—those resources are truly without limit.

Quite honestly, this is the moment of truth for American higher education. We must maintain a singular focus on extending the transformative power of education to every person of willing heart. Now is not the moment for timid steps or staying within our comfort zones. We must know our mission and stick to it with unrelenting tenacity.

I will close by thanking you for joining me today, for thinking through these issues, and for working in partnership to resolve

them. We have much to do—in our own institutions and in collaboration with one another. The needs of the day are urgent. We must hasten our pace. We must move decisively. And we must be mindful always of the sacred trust that is ours to nurture and to pass along to those who will follow us on this earth. That, finally, is our common obligation and our common purpose.

Endnote

1. Bobby Moser is the Vice President of Agricultural Administration and Dean, College of Food, Agricultural, and Environmental Sciences at The Ohio State University. He served as the director of Ohio State University Extension from 1988 until he became Vice President and Dean in 1991. From 2001 to 2008 he also served as Vice President for University Outreach. Together with James Ryan (Pennsylvania State University) and Kevin Reilly (University of Wisconsin-Extension), Moser was instrumental in founding the National Outreach Scholarship Conference in 2001.

Reference

Boyer, E. (1991). *Scholarship reconsidered: Priorities of the professoriate.* Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

About the Author

E. Gordon Gee, among the most highly experienced and respected university presidents in the nation, returned to The Ohio State University in 2007 after having served as Chancellor of Vanderbilt University for seven years. Prior to his tenure at Vanderbilt, he was president of Brown University, The Ohio State University, the University of Colorado, and West Virginia University. Gee is a national leader in calling for higher education to undergo a radical reinvention or else face extinction.

A Time of Opportunity: Energy, Extension, and Economic Development

Nancy Franklin, Jordan Humphrey, Greg W. Roth, and Daney G. Jackson

> "It was the best of times, it was the worst of times; it was the age of wisdom, it was the age of foolishness; it was the epoch of belief, it was the epoch of incredulity; it was the season of Light, it was the season of Darkness; it was the spring of hope, it was the winter of despair; we had everything before us, we had nothing before us; we were all going directly to Heaven, we were all going the other way."—*(Dickens, 1859)*

Introduction

This article, commissioned by the Ford Foundation in conjunction with the Reducing Rural Poverty through Wealth Creation from Investments in Environmentally Appropriate Energy Strategies and Activities project, focuses on the role that a reenvisioned Cooperative Extension (Extension) organization could play in the revitalization of economically distressed communities. It argues that a refocused Extension organization could draw more extensively upon some of its current, underutilized capacities to make much more substantive contributions to communities looking to leverage emerging energy opportunities for economic gain. As evidence of the range and richness of the possible roles of Extension as a catalyst for energy-related economic development, the article provides 13 examples of the ways in which Extension acts like a community change agent. The authors begin the article with an overview of salient trends having an impact on the economy, the energy landscape, and Cooperative Extension. The article concludes with a vision of how Extension could be repositioned to play a much greater role in helping communities capitalize on energy opportunities to drive economic development.

The Shifting Economy

Today the United States finds itself in the midst of a large-scale economic transformation. This economic sea change is propelling some regions to new levels of prosperity but is leaving many regions, particularly rural and semirural regions, far behind. Drabenstott *(2005)* catalogs three eras of economic development: industrial recruiting, cost competition, and innovation. He points out that

during the first two eras, government incentives and shoring up the health of existing industries drove the economic development focus. In contrast, he asserts that the current innovation era puts the focus on the region itself. This regional focus requires the identification of economic assets and the creation of critical economic mass across jurisdictional boundaries to compete effectively in a global marketplace. In the innovation economy, regions grow when they create competitive advantage within the global marketplace. Effective economic development strategies are driven by a region's unique assets and its intellectual capital. Thus, successful regions work to identify and exploit their assets, and to compete for innovation and talent.

Moving distressed regions to economic self-sufficiency and ultimately to economic prosperity entails the development of innovation economy assets in these regions. Examples of such progress include creating competitive advantage through adoption of innovative technologies and practices, cultivating entrepreneurship, developing and attracting science and technology talent, and investing in place through the development of "creative class" *(Florida, 2003)* assets. Thus, it is no surprise that the question increasingly being asked is how to effectively partner higher education institutions with economically distressed regions to create innovation capacity *(Johnson, 2007; Mattoon, 2007)*. Universities, particularly land-grant institutions, are uniquely equipped to assist regions in transitioning to innovation-based economies, but will have the greatest impact if they organize themselves to partner in ways that can stimulate and catalyze private sector investments in those regions *(Franklin, 2008)*.

Energy Challenges and Opportunities

Economic prosperity is dependent upon access to reliable sources of energy. The U.S. Energy Information Administration *(2010)* estimates that the world's energy consumption will grow by 49% between 2007 and 2035. Evidence of the link between global climate change and the burning of fossil fuels, anticipation of peak oil, and concerns about dependency on foreign sources of fuel have contributed to a renewed interest in alternative and renewable energy development. The Council on Competitiveness *(2007)* has charted "dramatic" private investment increases in energy innovations, and predicts that energy will be the new innovation frontier.

According to U.S. Secretary of Energy Steven Chu *(2009)*, the need for more basic energy research is critical. Equally

important, however, is the need to move new developments out into the commercial sphere. In addition to increasing the strength of linkages between research scientists and private sector capitalists, new energy technologies often require "translational research" in order to become feasible and practical. Such research establishes a more interactive relationship between laboratory development and field deployment of these emerging, new technologies *(Anadon, Gallagher, Bunn, & Jones, 2009; Weiss & Bonvillian, 2009)*.

Energy may represent a watershed opportunity for Extension to engage higher education in high-impact solutions for communities both locally and nationally. Leaders and citizens in communities across the country are facing unprecedented challenges and opportunities associated with controlling energy costs, and developing new clean and renewable energy resources. These individuals are looking for guidance and assistance on such topics as technical questions about energy conservation and production, financing options associated with retrofitting existing structures and developing localized energy production capacity, workforce development for green jobs, and trade-offs between energy and environmental impacts. Research universities have much to offer on all of these fronts, with research, education, and outreach expertise spanning agriculture, engineering, business, and more.

"Energy may represent a watershed opportunity for Extension to engage higher education in high-impact solutions for communities both locally and nationally."

Alternative energy production is predicted to be a hugely disruptive economic force. In contrast to the high concentration of production in specialized facilities such as coal plants, renewable energy can be produced on a distributed basis—on both the residential and the community scale. Ownership of energy production in a renewable energy landscape shifts from the monopoly of utility companies to a more dispersed realm. This diffusion of energy production holds much promise for rural America, even though public policy in this area lags. According to Morris (2007), "The link between local ownership and rural prosperity has been overlooked" *(p. 1)*.

Most regions have assets that can be developed in conjunction with energy opportunities. Agricultural areas may look to growing

and processing biofuels. Regions with high wind volume might consider wind farms. Areas with low-cost land can investigate the feasibility of solar farms. Manufacturers of outdated industrial products might be able to retool facilities to produce wind turbine components. Industries producing large volumes of wastes, such as manure or plastics, can investigate the opportunities for waste energy production and across-industry collaboration. Electronics and appliance makers can develop more energy efficient products. Enterprising rural communities might consider community-scale, biomass-fueled combined heat and power systems.

Given the changing economic and energy landscapes, what role can and should higher education, and land-grant universities in particular, play in assisting economically distressed regions? How might such regions, specifically those that are not proximate to a research university, gain a foothold in the new economic environment? How can universities leverage their energy technology expertise to assist economically struggling communities? Can the university presence—Cooperative Extension—already embedded within counties across the country, be repositioned to facilitate the engagement of a broad cross-section of university expertise in order to address energy-related regional development? This article addresses these questions by providing a discussion and analysis of case studies in which land-grant universities, communities, and local companies have partnered to explore solutions to community- and state-based energy issues.

Cooperative Extension

Authorized by the Smith-Lever Act of 1914, the Cooperative Extension service was established to link land-grant university expertise to practical applications in society through applied research, education, and on-site demonstrations. When Extension was created, agriculture dominated the U.S. economy, and the national transportation and communication infrastructure remained underdeveloped. Given this, it made sense to develop a corps of university-affiliated people situated within communities to extend practical agricultural and home economics knowledge to rural residents. Since its establishment, Cooperative Extension, with one foot in the nation's land-grant research universities and the other foot in more than 3,000 counties across the United States, has been credited with significant contributions that have advanced human welfare and the public good. The United States is currently recognized as having one of the most productive agricultural

economies in the world, due in large part to the service of Cooperative Extension.

Funded with federal monies channeled through the U.S. Department of Agriculture and matched with state funding, Cooperative Extension has continued to be tightly aligned with agricultural interests even though the economy has radically shifted, and land-grant universities have embraced a much broader portfolio of research and education expertise. Acting in an extensive network, agriculture interests at the local, state, and federal levels of government have retained the primacy of their role with Extension, thus effectively cordoning off Extension for their own purposes. This combination of forces has constrained Cooperative Extension to a narrow band of expertise and a rigid adherence to federal regulations, thus slowing it down or preventing it altogether from addressing some of the most pressing modern-day issues and opportunities of local communities. According to the 21st century vision document crafted by national Extension leaders, "The capacity of the Extension model for grass roots engagement is unparalleled, but the communities that Extension serves may be so narrowly defined as to preclude Extension from becoming a credible partner in university-wide engagement" *(Extension Committee on Organization and Policy, 2002, p. 2)*.

Under the legacy funding model, Cooperative Extension has been held captive to agricultural interests at its considerable expense. With the rise of the industrial economy, a manufacturing Extension program was created and administered separately from the agricultural Extension organization. Other parts of universities looking to interface with citizens, communities, and the public good have similarly had to develop their own systems of outreach. As a result, Cooperative Extension has been relegated to a niche role in communities and in universities. Under pressure to demonstrate higher returns on the public's investment, Cooperative Extension has also shifted much of its work to a one-on-many focus, and to standardized programming. To this end, Extension has turned its attention to creating knowledge "products" for "customers," which, according to Diebel *(2008)*, "puts citizens on the receiving end, with not only a limited voice over what they receive, but with fewer opportunities to shape their own futures" *(p. 17)*. In the face of both the increased capacity of other entities to provide similar educational programs and the pervasive access to information through the Internet, the value of such models has been increasingly difficult to demonstrate.

National funding for Cooperative Extension has shrunk as the perceived value of the organization relative to other public priorities has diminished. As federal funds for Extension have lessened, increased pressure on other funding associated with Extension (state and local) has occurred. The net result has been a cutback of funding in many states for Cooperative Extension. For example, in Michigan, a state under extreme economic pressure due to job losses associated with the auto industry, the governor's 2010 budget proposed to cut Michigan State University's Extension Service funding by 50%. Although reductions have not been as dramatic in other states, the trend line is clearly headed downward. Consequently, if ever there was a time for Cooperative Extension to embrace change, that time is now.

Nonagricultural interests in communities, in land-grant universities, and even within Cooperative Extension have held out hope that Extension could embrace a broader interface across the university. There has been the sense that, as a university-affiliated presence embedded in every county, Extension holds the promise of brokering a two-way partnership between communities and higher education in an effort to find and implement solutions to complex problems. Indeed, Extension's 21st century committee "envisions that Extension will build upon its existing capacity, credibility and network of local offices to become an integral part of university-wide engagement" *(Extension Committee on Organization and Policy, 2002, p. 2)*. This vision followed on the heels of the 1999 Kellogg Commission report, *Returning to Our Roots*, that called on public institutions, and land-grant universities in particular, to embrace the concept of "engagement"—engagement defined as a two-way, reciprocal relationship with local communities *(Kellogg Commission on the Future of State and Land-Grant Universities, 1999)*. The university movement associated with engagement grew slowly but significantly in the ensuing decade. At the current juncture, an elective Carnegie "engaged institution" classification has been developed and granted to nearly 200 colleges and universities. Within the same time frame, the National Science Foundation added a "broader impacts" merit review criterion to its competitive grant requirements, serving to further heighten higher education's attention to connecting research and education to people and issues beyond the campus.

Extension Today: A Catalyst for Energy Opportunity Development

The kinds of impacts that Extension has had within the agricultural sector of the economy could conceivably be realized in the energy sector, through the effective partnering of university expertise with community-level issues. The development and assimilation of energy-efficient approaches to building systems and the design and development of new energy technologies in American communities could move the country rapidly ahead on an energy conservation and energy independence agenda. People in far-flung communities could be educated on energy production and consumption best practices, thereby enriching their own lives as well as their community's well-being. Regional conversations about energy-related choices and strategies could ensure that a representative cross-section of voices is engaged in decision-making associated with energy challenges and opportunities.

Opportunities to implement alternative and renewable energy production on a community scale are often missed and can be derailed for various reasons. One possibility is lack of both community understanding of the project issues and discussion of these issues in a balanced approach. Such a lack of community understanding can be a difficult phase, particularly if the issue is controversial. Extension professionals can help communities assemble appropriate knowledge, and organize public forums to build public support for appropriate developments. As part of this knowledge transfer, Extension professionals can also help local communities identify other communities or university experts who can share knowledge on the issues associated with the project.

Another reason for derailment of implementation could be missed financing opportunities. Extension faculty and educators can help communities understand the external costs of conventional energy sources, and the potential ecosystems services or credits associated with a development project. Extension can interface with outside developers of energy projects to help them understand the need for community engagement early in the process, and adopt techniques that would be most effective in working with community stakeholders. Extension can also establish a dialogue among state leaders regarding the effectiveness of financial policies surrounding the development of an alternative energy resource.

A final reason for derailment could be the wrong choice of technology. Extension can play a role in identifying appropriate technologies, design of the facilities, or development of the

feedstock production base for small-scale projects or for projects that lend themselves to new technologies. Often, such small-scale projects can lead to a growth in the development of a private consulting industry. This happened in the crop consulting industry, for example, when the importance of Extension-provided services became evident to Extension clientele. In the 1980s, Extension in Pennsylvania helped farmers organize and hire an independent crop consultant to improve the crop input recommendations they were receiving. During the 1990s, the economic benefit of crop consultants became apparent, and numerous private crop consulting enterprises developed. These consulting firms then became a new market for Extension training programs. A similar process seems to be occurring in energy technology assessment and development. Initial efforts by Extension staff focus on working with community groups to identify prospective technologies and funding. Later, these tasks could be assumed by consultants who then look to Extension for training and technology updates.

Evidence to support the kinds of roles that Cooperative Extension can play with regard to energy-related community and economic development is outlined in the next section of this article. Although Extension is far from adopting a systemwide, high-impact commitment to energy-associated engagement that spans all energy production and usage sectors, small pockets of promising activity are developing. The following sections include 13 examples showing the range of roles, activities, and impacts that are occurring. With the right kinds of resource partnerships, the authors believe impacts like these could be systematized, thus creating benefits that are orders of magnitude greater than current impacts at the local, state, and national levels.

The examples that follow are drawn from the work of Cooperative Extension in six different states: Pennsylvania, North Carolina, Indiana, Virginia, Washington, and Minnesota. The examples are organized by the role of Extension in energy-related community and economic development. Far from the narrow model of mass program delivery to agriculture-associated stakeholders that characterizes the majority of Extension's work nationally, these examples demonstrate Extension's ability to develop innovative, flexible, two-way relationships with communities and university faculty members across a wide range of disciplines. Since most of the efforts described are relatively new, and targeted to yield long-term impacts, the ability to conclusively present the full benefits associated with these activities remains limited.

The examples included are not intended to be a comprehensive review of Extension work in energy nationally, but rather to provide a sampling of the range of roles Extension has assumed in the energy sphere. The authors' familiarity with energy extension work in various geographies influenced the selection of examples presented here. Information about the work associated with examples included was derived from publicly available sources, coupled in several instances with interviews of one or more key actors associated with an example.

Extension as Convener

Energy opportunities at the regional level abound, particularly in light of the federal stimulus money flowing directly to municipalities. However, many areas need to sort through options and weigh associated costs and benefits—financially, environmentally, and socially. This triple bottom line of sustainability is a critical issue for communities to consider in order to balance short-term results against long-term impacts. Although expedient decisions could be made in isolation by community leaders, an arguably sounder approach to weighing complex trade-offs is engaging a broad cross-section of citizens through community-wide dialogue. It is important to note that community organizing in rural settings was a widespread role of Extension before World War II and contributed to civic leadership development and community capacity-building to address issues of public significance *(Peters, 2002)*.

Universities are often uniquely positioned to play a convening role. Because of their educational and research missions, they can, in many cases, serve as a respected third party unbounded by the constraints of municipal lines or the composition of participants. As university agents in communities faced with new energy opportunities and challenges, Extension professionals can play a critical facilitation role. Examples in Indiana and North Carolina shed light on this facilitation function.

Benton County wind farm.

(http://extension.purdue.edu/benton)

Purdue University Extension professionals are helping Indiana landowners harness the winds of their state. In 2007, construction of a wind farm began in Benton County, a rural county 90 miles northwest of Indianapolis. The Fowler Ridge Wind Farm, the result of a partnership between BP Alternative Energy North America, Inc., Dominion Energy Marketing, the state of Indiana, Indiana

Michigan Power, Appalachian Power, and Purdue University, will be one of the largest wind-power facilities in the world. Featuring 222 wind turbines, the farm will generate enough carbon-free electricity to power more than 200,000 average American homes while bringing sources of revenue to local landowners.

Benton County became the first county in Indiana to investigate and then adopt a wind energy ordinance. Based on this experience, Extension professionals from the Benton County Office have provided information about the Benton County Commercial Wind Energy Experience to local governments and landowners throughout central Indiana. Before Jimmy Bricker, the Extension director for Benton County, and Purdue University Extension became involved in 2004, proposed wind farm development was met with local resistance by citizens concerned about environmental and aesthetic impacts. Through Bricker's work with local economic development groups to write a zoning ordinance for wind farms, and to educate community residents about the turbine technology and economic impacts, the county has embraced wind power development.

Since the Benton County wind turbines became fully operational in 2008, Bricker has spoken about landowner leases and wind conversion systems ordinances in over 45 different Indiana communities. It is estimated that over 2,500 people now have a better understanding of the process, logistics, regulatory details, and financial outcomes of wind energy development because of Bricker's educational efforts. In addition, a number of other Indiana counties have since implemented their own wind energy ordinances, thus providing the foundation necessary for the expansion of wind-energy initiatives throughout the state.

North Carolina regional energy forums.

(http://www.ncsu.edu/iei/)

In North Carolina, the state's land-grant institution—North Carolina State University (NCSU)—played an important role in convening a high-profile, statewide conference on energy in early 2008. The university-affiliated Institute for Emerging Issues (IEI) organized the event that drew together top national and North Carolina business, government, university, and public opinion leaders to outline energy challenges and opportunities. This two-day gathering was followed in the ensuing months by regional discussion forums that IEI conducted across the state in partnership with regional economic development organizations and NCSU Cooperative Extension.

Extension, through its connections with community members, helped IEI to identify key stakeholders for each regional forum. A total of seven regions participated in follow-up forums. Each of the seven forums included an agenda that presented general information about the changing energy environment within North Carolina, with panel presentations tailored to the specific energy issues of the host region. Panelists provided forum participants with examples of energy initiatives currently being employed within the region. Cooperative Extension then built on each panel presentation by convening small discussion groups that explored ways in which the information presented within each forum could be applied within each specific region. NCSU faculty members from a broad array of disciplines also helped to facilitate these small group discussions with all participants working toward the goal of identifying energy initiatives driven by the needs of each individual community. Over 230 individuals participated in these regional planning and discussion forums, and outcomes ranged from general ideas about "next steps" to the identification of regional energy partners. Each forum also helped to build momentum for subsequent discussions on the many issues—economic development, energy, education, and health care—that the state continues to face.

From these two examples, the authors can draw some lessons about Extension as a convener. The North Carolina State University example demonstrates the value Extension can bring to community-based strategic energy planning, particularly as a partner with one or more other conveners. Extension draws on its indigenous knowledge of community politics and players to ensure that appropriate organizations, leaders, and constituent groups are represented and are involved in the process. Another valuable convening role for Extension is helping a community to understand and discuss the pros and cons associated with new energy opportunities, as demonstrated by the Purdue University example. As a neutral third party with access to subject matter experts, county Extension can facilitate constructive dialogue grounded in facts rather than speculation. In essence, Extension works as a convener to build knowledge and strengthen networks.

Extension as Catalyst

Sometimes opportunity does not arrive in tidy packages with step-by-step instructions. In the fast-moving current associated with energy opportunities it is not always easy for individuals and organizations in communities to see an opportunity, or to have the knowledge base to respond when an opportunity arises.

In some cases, a catalyst is required to engage people, expertise, and resources. Such a catalyst provides innovative leadership to establish partnerships, to engage appropriate knowledge resources, and to identify potential project funding. Because Extension is an embedded presence within communities, yet has ties and access to an array of expertise, it is well-positioned to play a catalytic role. Innovative, well-networked Extension professionals can take ideas and solutions tried elsewhere and bring them to the attention of actors in local communities who may be unaware of certain possibilities. Extension has acted as such a catalyst in the following three examples taken from southwestern Pennsylvania and Minnesota.

"Because Extension is an embedded presence within communities, yet has ties and access to an array of expertise, it is well-positioned to play a catalytic role."

Southwest Pennsylvania energy business incubator.

(http://westmoreland.extension.psu edu/2008Fall West moreland-News.pdf)

In April 2008, Pennsylvania State University (Penn State) Extension educator Ed Johnstonbaugh went to officials in Westmoreland County with an idea for using woody biomass as an economic benefit to the county. The key to Johnstonbaugh's initiative was an abandoned plant built in the 1980s but shut down in 1997 due to economic shortfalls and technical challenges. Prior to its closing, the Westmoreland plant provided heat and electricity to a local nursing home and prison through the burning of the county's municipal waste. Johnstonbaugh suggested to local officials that they consider reengineering the abandoned plant to provide heat to the local Westmoreland Manor Senior Care Center via the use of woody biomass (scrap wood).

Johnstonbaugh saw additional potential for the abandoned plant, however. In order to help boost the economy of the county, Johnstonbaugh recommended that officials consider using space within the facility to develop and test other fuel sources produced within the county. The Southwest Renewable Energy Business Incubator, as it has become known, would thus help to keep money within the region by providing a venue for the development of

business models that utilize the area's own resources as fuel sources. For example, Johnstonbaugh believed that unused farm property within Westmoreland County could be used to grow and harvest grasses and other fuel materials that could, in turn, be used within the plant. Pennsylvania State University faculty and Extension professionals are currently working with individuals from Westmoreland County to make Johnstonbaugh's vision a reality. The reengineering of the former waste-to-energy plant is the first step in the Southwest Renewable Energy Business Incubator initiative, and a $40,000 grant recently received from the Mellon Foundation has provided the funding necessary to begin this reengineering process.

University of Minnesota Clean Energy Resource Teams.

(http://www.cleanenergyresouceteams.org)

Community members, the University of Minnesota, nonprofit organizations, and government entities of Minnesota have formed a public-private partnership that has helped to develop local energy initiatives within the state similar to the energy business incubator initiated by Ed Johnstonbaugh in Westmoreland County, Pennsylvania. Launched in 2003, the CERTs (Clean Energy Resource Teams) initiative aims to connect individuals with "the technical resources needed to identify and implement community-scale energy efficiency and clean-energy projects" *(http://www.cleanenergyresourceteams.org/about)*. CERTs addresses conservation, efficiency, renewable energy, and regional energy self-reliance through partnerships that span grassroots communities, local institutions, government agencies, nonprofit organizations, and university entities. Within the University of Minnesota, CERTs is tied to the College of Food, Agriculture and Natural Resource Sciences *(http://www.cfans.umn.edu)*; Extension *(http://www.extension.umn.edu)*; and the Minnesota Agricultural Experiment Station.

Like the regional forums held in North Carolina (described in the preceding section), each of the state's six CERTs regions is responsible for developing the agenda that drives the region's priorities in clean energy. In the early phase of the CERTs initiative, this included the development of the regional team's mission and strategic energy plan; the organization and facilitation of the team's meetings; and the prioritization of team projects. Any team can autonomously develop and implement regional energy initiatives; however, each team is supported, in part, by the University of Minnesota's Regional Sustainable Development Partnership, and the University of Minnesota Institute for Renewable Energy and

the Environment. These university partners serve as a resource to connect the CERTs-developed projects with the technical resources of the university. In addition, university partners help disseminate information from the region-based strategic energy plans; help conduct education and outreach on conservation, energy efficiency, and renewable energy within the community; and contribute to seed grant funding for CERTs projects.

The CERTs initiative has been a success. CERTs won the 2006 Minnesota Environmental Initiative's Partnership of the Year Award because of the "diverse collection of stakeholders the project has mobilized" *(McKeown and Nelson, 2007, p. 2)*. By 2008, 84 community-scale projects were funded with more than $2.6 million, and over 1,100 individuals have participated in CERTs meetings and educational forums throughout the state. Base funds appropriated by the Minnesota legislature to the CERTs initiative are leveraged against private foundation and federal monies to finance regional projects, many of which involve university partners.

Renewable energy credit aggregation.

(http://pubs.cas.psu.edu/FreePubs/pdfs/uc202.pdf)

One of the emerging opportunities for local organizations and communities implementing small-scale renewable energy projects is the sale of alternative energy credits. In an environment of increasing legislative mandates to shift energy production from fossil sources to renewable sources, electricity suppliers need to increase the renewable portions of their portfolios. One way this can be accomplished is through the purchase of alternative energy credits from nonutility sources. The challenge for most producers of small-scale renewable energy is understanding how to interface with electricity generation suppliers and how to function using a scale of production so small that the credits are not marketable.

A Penn State Cooperative Extension educator with a previous career in the electric utility industry has taken a leadership role in learning about Pennsylvania's laws governing alternative and renewable energy production, and in serving as a catalyst to aggregate the credits being produced by schools, hospitals, and other community organizations. Packaged as a unit, the credits from several small renewable energy producers represented sufficient value to be marketable to utility companies. In May 2008, 27 solar credits were sold in the marketplace. Through the sale of the credits, money has flowed back to these organizations. Even though only a few thousand dollars resulted from the sale, for the small organizations involved in the relationship it was a much

appreciated additional source of revenue. This partnership also provided a stepping stone to what could be a larger role for Extension in helping to develop the renewable energy credit aggregation market.

As the preceding examples demonstrate, Extension can play an important catalytic role to mobilize community action around energy opportunities. As long-term community partners, innovative Extension educators, such as the Penn State University Extension member cited above, can assist communities in identifying emerging community-scale energy production possibilities because they understand the region's assets as well as the renewable energy technologies. Identifying such emergent community opportunities effectively on a broader scale will require Extension to recruit, encourage, and support innovative people who can catalyze community action on emerging renewable energy development. One of the great strengths of the University of Minnesota model is the regional scale of grassroots energy planning, and "in-reach" to the university for appropriate faculty and student engagement. The CERTs program promotes community ownership of ideas for developing and implementing clean energy projects and suggests possibilities for systemically catalyzing to exploit energy opportunities through regional approaches. In addition, the creative ideas spawned in regions can lead to future research proposals and significantly enriched courses on the Minnesota campus.

Extension as Knowledge Translator

The most highly prioritized activity in research universities is discovery of new knowledge. Discovery and research are generally associated with faculty, but knowledge creation can and does occur throughout universities. In many cases, the applicability of newfound discoveries extends well beyond the department where they were initiated. Sometimes Extension professionals act not just as purveyors of knowledge, but as proactive generators of new approaches to issues. Whether in a research laboratory or in an applied field setting, knowledge creation generally builds on preexisting discoveries and knowledge.

Some of the great—and mostly uncharted—territory associated with new energy solutions is bridging the chasm between laboratory research and field implementation. Without strong connections between practitioners and scientists, research agendas can lag behind the most pressing needs and opportunities of the market or—in worst-case scenarios—produce completely

irrelevant discoveries. Faculty concerned with directing their research to address real-world problems welcome the opportunity to engage in community-based problem-solving. Such applied research has been a hallmark of land-grant agricultural research and has produced an extraordinary impact on the practice of agriculture. In a well-oiled Extension environment, field Extension personnel connect relevant faculty expertise with community-situated problems (or opportunities). The following examples illustrate the role of Extension in translating knowledge between researchers and practitioners.

Biodiesel research partnership.

(http://extension.psu.edu/energy/biofuels/PSUBiodiesel)

The tractors used in the fields at Penn State University are "going green." So are the vans, trucks, and cars that service the university. Currently, 9% of the approximately 20,000 gallons of fuel used by the university's diesel vehicles and tractors comes from pressed vegetable oil, and officials hope that soon every university vehicle will operate on the B20 (20% biodiesel fuel) fuel manufactured from campus food services' waste cooking oil, which originated as oilseed grown in the university's fields. This achievement marks another significant advancement in the research conducted at the university on the use of biodiesel fuels in vehicles and farm equipment.

University faculty members and Extension professionals first began to experiment with biodiesel fuel in 2002 after Glen Cauffman, the College of Agricultural Sciences' manager of farm operations, who also held an Extension appointment, brought the idea to campus. At this time, little was known about the effects of biodiesel fuels in farm equipment, and university researchers sought to better understand how the use of B20 affected the engines of tractors. By experimenting with commercial biodiesel fuel in university tractors, researchers determined that B20 was safe for farm use.

This demonstration attracted the attention of New Holland, Inc., an international farm equipment corporation. Officials from New Holland contacted researchers at Penn State and asked them, "How far can we go with biodiesel fuels?" To answer this question, New Holland and Penn State partnered for a three-year experiment of 100% biodiesel use. New Holland provided four tractors that the University used for the three-year period, each running on 100% biodiesel that could now be manufactured on-campus by Penn State. As the project progressed, chemical engineering and

fuel science faculty members became involved with Cauffman, by participating in the demonstrations and, ultimately, by providing more credibility for the science behind the biodiesel use. At the same time, the researchers were able to develop research proposals in these areas building on the success of the outreach program. In the fall of 2007, New Holland, in partnership with Penn State researchers, announced that New Holland equipment could successfully and safely operate on 100% biodiesel. This was the first announcement of its kind. Since the announcement, Cauffman has taken news of this biodiesel discovery to the farms surrounding the university. In his role with Extension, Cauffman routinely addresses farmers, and answers their questions about the use of biodiesel fuels in their farm equipment and their role in the production of biodiesel fuels. Cauffman also presents the findings of this biodiesel research at the international level with support from both New Holland and the university.

The partnership between New Holland and Penn State University continues. Cauffman wanted to take the biodiesel research one step further. He approached New Holland officials about testing the use of vegetable oil in tractors. New Holland agreed, and Penn State researchers are now testing vegetable oil pressed on-site in tractors provided by New Holland. Cauffman plans to parlay this experience into the use of recycled cooking oil from the university's dining facilities, taking the lessons learned from biodiesel engines to reengineer other university vehicles so they can run on the used cooking oil.

Fairview Swiss Cheese Plant.

(http://www.jgpress.com/archives/_free/001579.html)

What do cheese and sugar cones have in common? Tom Wilson, an agricultural engineer from Penn State University's Cooperative Extension, recognized that cheese and sugar cones have more in common than most would think. In 2005, Wilson helped to establish a biogas partnership between the Fairview Cheese Plant located in Fredonia, Pennsylvania, and the Joy Cone Company located in nearby Hermitage, Pennsylvania, after he determined that wastes from both companies could be used to generate biogas energy for the cheese plant. Wilson was able to connect the cheese plant with the sugar cone manufacturer as well as to state and federal sources of funding, to allow the project to move forward *(Greer, 2008)*.

The Fairview Cheese Plant owned by John Koller & Son utilizes an anaerobic digester that uses food wastes (cheese whey from the

cheese plant and cone process wastewater from the cone company) to make 40 million cubic feet of biogas each year—the equivalent of 28 million cubic feet of natural gas. This biogas generates up to 2,000,000 kWh of electricity and offsets 65,000 gallons of fuel oil, thereby reducing the plant's yearly energy costs and reliance on fuel oil. The owners of the Fairview Swiss Cheese Plant ultimately hope to power the facility entirely on its own biogas energy *(Greer, 2008)*.

Mason-Dixon farms.

(http://masondixonfarms.blogspot.com/)

Penn State University agricultural engineers and Extension educators helped a large dairy farm in southeast Pennsylvania to become energy self-sufficient through "cow power." Mason-Dixon Farms, located in Gettysburg, Pennsylvania, is home to 2,400 milking cows, which produce 52,000 gallons of manure and urine per day. Instead of polluting the land and water, since 1979 Mason-Dixon Farms has utilized an anaerobic digester that turns the animal waste into methane gas. This gas is then used to produce 320 kilowatts of power daily, which is more than enough to run the 2,500-acre farm. Consequently, Mason-Dixon Farms sells the excess electricity it generates to the grid, providing an additional revenue stream to the farm. In the 25-plus years since the digester first became operational, Mason-Dixon Farms has been out of electricity for only 15 minutes, and farm owner and operator Richard Waybright has shared the message of his farm's energy success in venues throughout the nation and the world.

Fuels for schools.

(http://www.pafuelsforschools.psu.edu/default.asp)

Education through collaboration is the hallmark of the Pennsylvania Fuels for Schools and Beyond initiative. Launched in 2008, the Fuels for Schools program represents more than 50 organizations, federal and state agencies, and individuals from throughout the commonwealth who are working collaboratively to promote biomass energy as a fuel source. Penn State Extension is actively involved in the organization's working group. The Fuels for Schools program, which began in Vermont as an effort to promote renewable energy use, is a statewide energy-use initiative aimed at providing reliable energy for schools and businesses within the commonwealth from locally available wood and biomass sources. Organizationally, the program aims to make Pennsylvania a leader in establishing decentralized, sustainable biomass heat and power systems for economic and community development.

Education and outreach are crucial to attaining this goal. Partcipants from Extension support the evaluation and implementation of biomass energy projects by providing education and technical guidance to interested parties. Educational workshops and site visits inform interested individuals, as well as public and private organizations, about the benefits and logistics associated with biomass energy. In addition to providing education and outreach, Penn State Extension's role has been to provide leadership to the group, add credibility to the effort, champion Fuels for Schools in policymaking circles, and develop a web site with associated educational materials.

Fuels for Schools organizers have achieved progress toward their goal of educating and informing over 10,000 end users, elected officials, and public individuals on renewable resources and biomass heating opportunities. Approximately 10 schools have already benefited from the program, and organizers would like to have an additional 50 to 60 participating schools within the next year. To reach this goal, organizers of the Fuels for Schools program aim to secure $1.5 million to fund the program and to assist in the installation of biomass heating systems.

Penn State Extension was able to leverage its experience with the Fuels for Schools program in a new partnership with wind energy experts at Penn State to successfully compete for a U.S. Department of Energy Wind for Schools grant in January 2010. In the Wind for Schools project, Penn State will be working with Pennsylvania K-12 schools to install small wind turbines that can be used to support learning experiences for students. Through the Wind for Schools program, the Department of Energy aims to educate a future workforce about wind energy technologies.

Smethport community heat and power system.

(http://smethportpa.org/boro/green-energy-biomass/)

Located in the center of a vast "wood basket," the borough of Smethport, Pennsylvania, is perfectly situated to take advantage of the natural resources that surround the town. In 2008, the Smethport Borough Council began to explore the possibility of making the town energy self-sufficient. To do this, council members hope to turn low-grade, unmarketable timber (woody biomass) retrieved from the Allegheny National Forest—located near the borough—into fuel for the town's electric system. Exploring this biomass heating option further required the establishment of the Smethport Woody Biomass Leadership Team (SWBLT) led by cochairs Ross Porter, mayor of Smethport, and Tim Pierson,

Penn State University Extension professional. Pierson and other members of the SWBLT, including five Extension staff and a dozen industry professionals, traveled to Güssing, Austria, to learn about the biomass gasification plant there. Researchers estimated that if Smethport could mirror the plant in Güssing, the borough's combined heat and power system (CHP) would utilize about five truckloads of woody biomass (wood chips) each day *(Muller, 2008)*. And, because of the borough's proximity to the Allegheny National Forest, there would be an ample supply of woody biomass to support Smethport's fuel needs.

In addition to providing the borough with a clean fuel source, the harvest of woody biomass has the potential to be of great economic benefit to the Smethport community. The CHP system would help to stabilize the timber industry near Smethport through the creation of jobs for the removal of the woody biomass from the forests. New jobs in construction, trenching, pipe fitting, maintenance, installation and service, repair, engineering, process control, and eco-energy tourism would also be created, thereby helping to save the ailing Smethport economy through both the creation of jobs and the retention of local dollars within the borough's economy.

The SWBLT is well on its way to achieving its goals of energy self-sufficiency and economic recovery for the borough. In March 2009, the Smethport Board of Trade announced that the borough received a $50,000 planning and engineering grant for the project from the Richard King Mellon Foundation of Pittsburgh. This, in addition to a $25,000 grant that the project had already received from the Community Foundation for the Alleghenies, has helped the borough hire a project engineer consultant to oversee the planning phase of the project. As the planning for the Woody Biomass project continues, Extension educators like Pierson lend credibility to the initiative by offering presentations on biomass energy to the community. With examples from the Güssing plant and discussions by Penn State University faculty like Dr. Charles Ray, associate professor of wood products operations, Smethport residents have acknowledged that their community is ideal for a biomass CHP system. Ultimately, officials and residents hope that Smethport will serve as a model for other communities.

The five preceding examples demonstrate the translational value of Extension in connecting cutting-edge energy research from university laboratories to community settings. By applying their knowledge of renewable energy generation to address specific energy needs of constituents in their regions, Extension

personnel can play a key role in the adoption of sustainable energy practices. There is tremendous potential for accelerated development and adoption of renewable energy technologies; critical to achieving these goals, however, is enhancing the interface between laboratories and the dynamics associated with community implementation. Extension is uniquely positioned at this interface point to assist in finding solutions to complex problems, but to date has directed minimal focus and resources nationally on renewable energy knowledge translation.

Extension as Knowledge Transferor

Higher education is most associated with knowledge transfer, typically from faculty member to student, in a structured learning setting. Cooperative Extension itself has a long history of knowledge transfer, particularly in providing applied education to local citizens. In recent years, as outlined in the first part of this article, Extension has reinforced its educational role by recasting its field people as "educators," and by focusing predominantly on developing curricula and delivering workshops in community settings. Knowledge transfer in the networked world is much less dependent on person-to-person education; however, there are still topics and settings that lend themselves particularly well to face-to-face knowledge transfer. The following examples from Pennsylvania and Virginia address high-value Extension-delivered education. Because the Internet has vastly improved most citizens' access to information, web-based portals for energy information resources can be vital tools for communities. The third example below, from Washington State University, highlights what is arguably the most robust energy Extension web portal in the country.

Marcellus Shale.

(http://extension.psu.edu/naturalgas)

The development of new techniques to mine deep-seated natural gas brought gas industry executives with checkbooks in hand to the front doors of Pennsylvania landowners. Uncertain of the potential value of gas under their land, many property owners leased their land to industry executives at rates far below market value. Others began to question the contracts they had been offered, and wondered about the effect of gas mining on their land. Thus, they turned to Extension professionals from Penn State, who had a long history of advising rural property owners on land management, for help. The result was a partnership between Penn State Extension, landowners, regulatory agencies and commissions

within the commonwealth, and the Department of Economic and Community Development that aimed to educate and prepare the public and the state for the natural gas boom.

By providing workshops and educational resources like *Natural Gas Exploration: A Landowner's Guide to Leasing Land in Pennsylvania*, Penn State and its partners have helped landowners to better understand the lease agreements and market values of their land. More than 12,000 people have attended Extension-sponsored workshops, resulting in negotiated gas leases worth more than $100 million. Even though the Marcellus Shale gas exploration is a new issue confronting Pennsylvania communities and citizens, understanding its implications plays to the historic expertise of Extension in areas including land use, water quality, environmental management, local public policy, and family finances.

Pennsylvania, located in the heart of the Marcellus Shale play, is expected to see significant economic and workforce development impacts as a result of the gas extraction. The educational resources developed and offered by Penn State Extension have also helped to address emerging issues related to the natural-gas exploration. These include: "1) how communities can keep some of the windfall natural-gas revenues at home to create jobs and promote economic development; 2) how potential environmental impacts can be minimized to protect water-quality and quantity; 3) how competing lands can be reconciled to encourage sustainable growth and development; and 4) how gas exploration can affect local tax revenues, property values, and farmland preservation programs" *(Penn State College of Agricultural Sciences, 2008).*

Virginia Natural Resources Leadership Institute.

(http://www.virginia.edu/ien/vnrli/)

The classroom can be a place for sharing more than just ideas. At the Virginia Natural Resources Leadership Institute (VNRLI), classrooms serve to educate "students" about the commonwealth's environmental issues. These same classrooms also provide "students" with a forum for developing the leadership skills needed to enact the change about which they are learning.

The VNRLI is a partnership between the Virginia Department of Forestry, Virginia Tech's Cooperative Extension, and the University of Virginia's Institute for Environmental Negotiation. The institute was launched in 1999, its mission to "develop leaders throughout Virginia who can help groups involved in contentious natural resources issues move beyond conflict toward consensus

building and collaborative problem solving" *(Virginia Natural Resources Leadership Institute, n.d., p. 2)*. Two major objectives are key to achieving the institute's mission: 1) creating a leadership network of people who are engaged in working with natural resources within Virginia, who are drawn from all parts of the commonwealth, and who will earn each other's trust while developing the leadership skills needed to engage in problem solving around environmental issues; and 2) creating and implementing a curriculum that challenges people to gain a deeper understanding of and appreciation for the commonwealth's emerging environmental issues while also developing the leadership skills necessary for collaborative problem solving.

A number of innovative partnerships and community collaborations serve as a testament to the success of the institute. For example, to identify and advocate for sustainable solutions for both agriculture and clean water, the Agriculture and Conservations Partnership for Water Quality was formed and brought together partners such as the Virginia Farm Bureau, Virginia State Dairymen's Association, Virginia Agribusiness Council, James River Association, Chesapeake Bay Foundation, and Soil and Water Conservation Districts. Formed to address specific, place-based land-use problems, the Shenandoah Forum addresses the proposed widening of I-81, and other county growth issues. VNRLI fellows also reflect the success of the institute. A survey of all VNRLI alumni conducted in 2007 reveals that more than 90% of the responding alumni agree that VNRLI provides tangible benefits to the commonwealth's natural resources, and more than 80% of alumni indicated that they seek collaborative solutions in their work, and the skills gained from participation in VNRLI have been integral to this work.

Strategic energy management.

(http://www.energy.wsu.edu/Projects ResourceConservation Management.aspx)

Washington State University's (WSU) Extension Energy office provides a program to prepare people to assume responsibility for strategic energy management in their organizations, the Shared Resource Conservation Manager Program (RCM). The RCM program is designed to help participating municipalities reduce expenditures for energy, water, and waste through improved resource management practices, analysis of utility bills, and installation of resource conservation equipment and technologies. Created with funding from the U.S. Department of Energy and Washington

State Department of Commerce, the RCM program is aimed at the development of long-term energy efficiency strategies associated with the management of county and city buildings. Target program participants are small cities and counties that can benefit by pooling resources to create a regional RCM program. Through the RCM program, WSU Extension Energy personnel provide training and tools for participating municipalities as well as ongoing technical and programmatic support.

With escalating energy costs, and increasing legislative mandates to curb energy use, organizations are interested in managing their energy resources more strategically. Extension is well positioned to provide energy efficiency education on a mass scale. Its reach into every county offers the opportunity to provide equitable access to information that is as critical in rural places as it is in urban areas. Extension's community knowledge and relationships permit it to readily connect with local government, school systems, hospitals, local businesses, and nonprofit organizations. Unlike many entities beginning to offer energy efficiency programs, Cooperative Extension is not selling energy products or services, so it can act as an unbiased source of information to citizens and organizations.

As these examples demonstrate, face-to-face education on applied topics still has a place in Extension activity despite the wide prevalence of electronically available information. In the case of the Penn State Marcellus Shale education programs, individuals have a significant financial stake in ensuring that they have the most current, trustworthy information to use as a basis for their decision making. In addition, the speed of the leasing and drilling activities and imminent need for dependable information is spurring people to attend in-person education programs. As the Virginia Natural Resources Leadership Institute example demonstrates, another viable context for Extension to engage in person-to-person knowledge transfer is targeted leadership development. High-quality energy and environment leadership programs designed by Extension in partnership with other credible entities can have a notable impact on community development decision-making. Finally, the topic of energy efficiency has gained such widespread interest that virtually every organization is looking at close management of its energy resources. Consequently, a well-designed program to train strategic energy managers, as in the example of Washington State University's Resource Conservation Manager program, lends itself well to Extension on a broad scale.

The Future of Extension as an Energy Catalyst in Communities

Based on the examples presented in this article, the authors envision an energy Extension organization that plays a number of vital roles in connecting communities to university expertise. A set of mass education programs constitutes just a small part of the opportunity for Extension to be a major force in catalyzing community and economic development around emerging energy challenges. A reenvisioned Extension role as it relates to energy should encompass the range of functions outlined in this article, including convening, catalyzing, translating, and transferring people, organizations, and knowledge. As a convener, Extension can bring communities together to do strategic planning and to address strategic energy opportunities. In this role, Extension field personnel can bring research experts on new energy technologies, environmental impacts, and economic analyses into community conversations and state policy forums to arm citizens and decision makers with critical information.

Energy Extension personnel can play an active role in catalyzing small renewable energy business development, and can serve as regional aggregators of alternative energy credits in ways that complement existing business development support systems and commercial energy credit traders. Renewable energy can be a game-changing opportunity for communities because production can be done effectively and efficiently on a small scale. Clayton Christensen's *(1997)* now famous notion of "disruptive innovation" speaks to the possibility for distributed energy production that occurs in communities via renewable sources to displace some of the highly centralized utility-owned energy production. This disruptive innovation is already changing cost structures and market incentives in ways that offer financial returns on renewable energy investments even to very small-scale producers. Organizations and communities can consider options

"Extension's intimate knowledge of community assests, people, and issues provides a vital knowledge base for appropriately connecting university expertise to energy-related economic and community development opportunities"

to generate their own power, thus keeping dollars saved close to home. They can also evaluate opportunities for selling excess power to the grid, and for harvesting renewable energy credits.

Translating research knowledge and new technologies into broad-scale use is another highly important need that Extension is uniquely positioned to address. Extension's connections to engineers and scientists who are developing the new energy technologies, business school faculty members with expertise in entrepreneurship and markets, and social scientists who study human behavior can link universities to emerging energy opportunities in communities. And, on the other side of the equation, Extension's intimate knowledge of community assets, people, and issues provides a vital knowledge base for appropriately connecting university expertise to energy-related economic and community development opportunities. In addition, Extension benefits from being a long-standing, highly credible organization, which opens the door to partnerships with a wide range of other relevant entities spanning government, education, business, and nonprofit sectors.

Given the broad landscape of opportunity for Extension to assist in catalyzing energy-related community and economic development, it is not sufficient to think about an energy Extension organization that only interfaces with colleges of agriculture and faculty members associated with agriculture. Extension's expertise in agriculture, however, provides it with some important core knowledge as it relates to energy. Crop-related renewable energy, land use planning, and energy efficiency of farms are related to skill sets that can be expanded or applied to a broader portfolio needed for effective community interface within the new energy terrain.

A New Model: A University-wide Energy Extension Program

To create an effective energy focus for Extension, a coordinated field staff of energy-savvy, community-oriented individuals must be developed. These individuals must be conversant with various aspects of renewable and alternative energy. In addition, they need the skills to engage community leaders, and to guide the development of projects. A thorough knowledge of policy and funding opportunities associated with energy is also essential.

Training.

Many Extension educators have little formal training in the development of community-based energy programs, but do have

considerable experience working with community leaders and other professionals. This imbalance has yielded an emerging need to design formal training that will enhance the skills necessary for developing community-based energy projects. Potential topics should include developing effective teams and partners, securing funding, accessing technical knowledge, coping with political and regulatory issues, and developing good project management skills. The training should also review previous case studies relevant to local resources as well as potential project roadblocks that can surface and strategies to cope with them. Development of these skills should help Extension professionals create projects with the best potential for success.

The authors envision the development of an energy Extension field staff created through the retraining of some existing Extension educators who have demonstrated the capacity to apply their expertise in new ways, as well as through the recruitment of new personnel, particularly individuals with engineering backgrounds. In addition to full-time Extension field staff, the authors advocate the inclusion of part-time, targeted expertise in conjunction with specific project deliverables. Such part-time personnel could be selected on the basis of particular expertise needed in conjunction with a grant or project and drawn from an array of domains, including industry and government, thus facilitating tighter connections between communities, researchers, and relevant business interests. Field personnel in energy Extension would be tied to a statewide energy Extension program leader, an individual who ideally would be hired on a senior Extension associate appointment. Senior Extension associates typically are charged with the responsibility for conducting a substantive outreach program, often involving cross-departmental, multiuniversity, and federal agency collaborations. They are mentored by and report to a faculty researcher. The statewide energy Extension program leader the authors envision would likely report to a single faculty member but would be responsible for regularly interfacing with faculty mentors in disciplines associated with an array of energy technologies, issues, and opportunities.

Campuswide coordination.

An important skill set for the statewide energy Extension leader is the ability to facilitate coordination across the university. The predominant modus operandi in research universities tilts heavily toward single investigator research and individual contributions to society, limiting the capacity of many institutions to adequately

address complex societal issues *(Kellogg Commission, 2009)* and big problems. The coordination needed from the statewide energy Extension leader should occur in two domains: on campus and in the field. On campus, the program leader needs to effectively engage faculty members with various kinds of energy expertise, as well as other Extension associates working in the energy domain, and to gain the support of their respective department chairpersons. In the field, the program leader needs the cooperation of Extension educators and their respective county and regional leadership.

A link between community and university.

Energy Extension professionals dispersed throughout a state could build on each other's successes by sharing the knowledge generated through participation in various project development activities. The resulting knowledge network would not only enable future projects to be streamlined, but would also facilitate the rapid spread of possibilities and best practices in energy-related community and economic development. Extension energy professionals would also serve as a conduit between university academicians and the local knowledge generated in community applications of energy technologies and practices. Through this knowledge exchange, university research agendas would be strengthened and student learning enhanced. University energy Extension professionals would develop linkages with counterparts in key state and federal agencies. Through these relationships, energy Extension professionals could serve as facilitators to efficiently identify candidates, based on community interest and capacity, for funding effective renewable energy projects.

Funding and organizational structure.

A new source of base funding beyond the U.S. Department of Agriculture would be required to establish a university-wide energy Extension program. First, although an important segment of energy work in communities is associated with agriculture, many segments are not. Thus, a federal funding entity with interests across the energy spectrum (or multiple entities with diverse energy foci) would be essential. The authors believe that several federal agencies might see the value of funding a limited cadre of targeted energy Extension professionals, particularly if such a new investment effectively leverages the existing Extension organization infrastructure. The Department of Energy, the Department of Housing and Urban Development, the National Institute of

Standards and Technology, and the National Science Foundation all have some energy interests that would lend themselves to one or more of the Extension functions outlined in this article.

Second, it would be important to allow and encourage a university-wide energy Extension program to be nimble and flexible by establishing its own culture, operational methods, and accountability mechanisms rather than being tightly tied to the culture and expectations associated with agriculture Extension programs or traditional academic departments—yet still retain close working relationships with both. Since Extension programs exist within the context of major research universities, one important consideration is the difficulty inherent in developing successful collaborations across numerous units in large institutions. To address this concern, the establishment of a successful energy Extension program would need to prioritize the careful hiring and evaluation of staff members who are committed to the concept and who have some background in working with either agricultural Extension or the various departments involved in energy-related research and education across campus.

Third, an energy Extension program funded by federal dollars from one or more agencies should be supported by state and local contributions, which will ground the work of the organization in addressing state and local needs. The authors advocate looking beyond the public sector for matching dollars, by engaging the private sector. Private sector engagement that is centered on regional industry clusters could strengthen not just individual businesses or communities but also interrelated groups of companies and their associated regional economies. New funding for Extension work in energy should make use of the existing administrative infrastructure and overhead in Cooperative Extension organizations. To not use these existing organizations would result in the loss of an opportunity to capitalize on a university presence that already is conveniently located in every county. Existing partnerships that Cooperative Extension has established with local and state governmental entities and many segments of private business would also be leveraged by building from the existing Extension organization. In addition, energy-related information and educational content could be accessible via Cooperative Extension's local and national Internet portals.

New resources provide opportunities to explore new partnerships, engagement mechanisms, staffing, and program models. As intimated above, linking to existing agricultural Extension programs may limit new energy programs to farms and agricultural

or rural audiences, or it may limit energy generation to bioenergy production systems. The authors suggest that a university-wide energy Extension program should not necessarily be linked to any one academic college within the university unless there is a clear interdisciplinary connection from that college to all the other academic colleges that conduct energy research and education.

Further, because they envision a university-wide energy Extension organization that is interdisciplinary and intercollege in nature, the authors suggest that funding for a university-wide energy Extension program be channeled into the university through an interdisciplinary, college-agnostic unit. At Penn State, as in some other research universities, energy and environment research that spans multiple disciplines, departments, and colleges is coordinated through an interdisciplinary unit. Such a unit provides a logical and highly credible base for anchoring an Extension organization that engages with faculty members associated with a wide range of energy issues. This model provides the opportunity to make meaningful commitments to a range of energy programs and community engagement activities.

Since the university-wide energy Extension program would include educators and extension associates from agriculture as well as other colleges, some portion of the funding for this effort would be contributed by agricultural Extension. Conversely, a portion of the funding emanating from nonagricultural Extension sources would be used to establish a financial relationship with the existing agricultural Extension to leverage its statewide presence. Essentially, the energy Extension program, through its fiscal interdisciplinary energy unit, would connect to and leverage with Cooperative Extension's county-based administrative infrastructure. By doing so, energy Extension would connect to the far-reaching Cooperative Extension county presence to develop and maintain ongoing relationships with key community stakeholders. These embedded community relationships could assist in triggering the engagement of energy Extension professionals with expertise applicable to current opportunities and challenges.

Conclusion: The Promise for Community Development

Experts have argued that the land-grant university system, with its focus on applied research, geographically distributed experiment stations, Cooperative Extension service, and commitment to practical education, played a central role in transitioning

the United States economy from an agrarian society to an industrial powerhouse. The nation is on the threshold of another major economic transition, and faces daunting challenges with regard to meeting future needs with our industrial energy models. New energy technologies rooted in renewable sources, distributed energy production options, and emerging market models all point to a critical juncture of opportunity for the advancement of community welfare. The equitable distribution of this opportunity is possible through an interface that is embedded at the county level, thereby connecting communities with cutting-edge energy expertise and technologies.

Initiating a university-wide energy Extension service will create a new, more flexible entity while leveraging an existing human infrastructure that has historically linked communities and universities. The promise of simultaneously creating sustainable environments, advancing economic prosperity, and improving the quality of life for citizens can be fulfilled if the emerging energy opportunities are broadly understood and accessible. The model proposed in this article could yield a win-win-win outcome for land-grant universities, too: the successful Extension concept could be expanded to nonagricultural disciplines, the support base for agricultural Extension could be broadened, and a higher degree of support for land-grant university outreach could be created. The authors submit that an energy Extension organization is an effective vehicle to ensure the equitable distribution of opportunity among America's communities and modernize the land-grant vision of Justin Morrill.

Acknowledgments

This article was developed in conjunction with Reducing Rural Poverty through Wealth Creation from Investments in Environmentally Appropriate Energy Strategies and Activities, a project of the Ford Foundation's Economic Development Unit. Wayne Fawbush, with the Ford Foundation, served as program officer.

The project that was the basis for the article was one of 14 project reports written for the Ford Foundation outlining possibilities for energy to be leveraged by low wealth communities to generate economic value. The project reports examine workforce, institutional, resource development, and financing opportunities associated with community-scale energy activities. The project offers tools for communities to assess their energy opportunities

using a "triple-bottom line" framework to measure impacts. The cases focus on best practice efforts, policy inventories, and assessment tools at the community scale.

Amy Glasmeier (Penn State University and Massachusetts Institute of Technology) served as principal investigator, and David Riley (Penn State University) served as co–principal investigator. Support was provided by Penn State University's Earth and Environmental Systems Institute and MIT's Department of Urban Studies and Planning.

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Daney G. Jackson was named the director of Penn State Cooperative Extension, associate vice president for outreach, and associate dean, College of Agricultural Sciences, in August 2004. As director of Cooperative Extension he provided leadership for policy, educational programming, budget administration, facilities, and human resource management. Dr. Jackson also served on the Executive Leadership Team for University Outreach. In this capacity, he assisted the vice president for outreach in the overall administrative leadership and facilitation of collaboration across the College of Agricultural Sciences as well as other colleges and outreach units across the university. Jackson earned dual bachelor's degrees (forestry, banking and finance) and a master's degree (extension education) from Mississippi State University in 1984 and 1990, respectively. He received his doctorate in agricultural education from the Ohio State University in 1994.

The Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards and The C. Peter Magrath University/Community Engagement Award 2009

In the pages that follow, you will find articles chronicling the programs of the four 2009 Outreach Scholarship/W.K. Kellogg Foundation Engagement Award winners. 2009 marked the third year of the Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards and the C. Peter Magrath University/Community Engagement Award, which recognize four-year universities that focus learning, discovery, and engagement functions on signature community-engagement endeavors. The awards are supported by the W.K. Kellogg Foundation and administered by the Association of Public and Land-grant Universities (APLU), a non-profit association for members of public research universities, land-grant universities, and state university systems.

The awards program actually comprises two separate awards: the Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards, and the C. Peter Magrath University/Community Engagement Award.

In 2009, the Outreach Scholarship/W.K. Kellogg Foundation Engagement Awards recognized university-community engagement in the South, North East, North Central, and West geographic regions. The award winners received a certificate and $6,000, and made presentations about their signature outreach and engagement programs at the National Outreach Scholarship Conference (held September 28-30, 2009 on the University of Georgia campus in Athens, Georgia), an annual conference dedicated to presentations related to building strong university-community partnerships that are undergirded by rigorous scholarship, and which are designed to help address the complex needs of communities.

A panel of experienced outreach and engagement leaders judged the presentations. One regional award winner was selected to receive the C. Peter Magrath University/Community Engagement Award (named for C. Peter Magrath, APLU president from 1992 to 2005), which was presented at APLU's annual meeting in November. The 2009 award was presented to Arizona State University's American Dream Academy program, and included a

trophy and $20,000 to be directed toward sustaining the award-winning program, or to support other engagement projects.

The awards program is shepherded by Dr. Mortimer "Mort" Neufville, who served as an APLU executive vice president from 2000 to 2008, and who continues to manage the awards program with great care and enthusiasm.

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

The 2009 Outreach Scholarship/W.K. Kellogg Foundation Engagement Award winners are

- **Michigan State University's *Adolescent Diversion Project***, which was created as an alternative to court-processing for young offenders in Ingham County, Michigan to address the pressing social issue of juvenile delinquency. (North Central Region)
- **Pennsylvania State University's *Northern Appalachia Cancer Network***, which has evolved into one of the longest-running and most successful networks of community cancer coalitions in the United States. (Northeastern Region)
- **The University of Georgia's *Archway Partnership***, which was established to strengthen the university's ability to fulfill its land-grant and sea-grant missions by partnering with communities in a grassroots approach to meet locally identified community and economic development needs. (Southern Region)
- **Arizona State University's *American Dream Academy***, which is a ten-week school-based program to encourage parents to acquire skills to be the primary motivating forces in their children's education. (Western Region, and C. Peter Magrath University/Community Engagement Award winner)

Engaged Research in a University Setting: Results and Reflections on Three Decades of a Partnership to Improve Juvenile Justice

William S. Davidson II, Jodi Petersen, Sean Hankins, and Maureen Winslow

This article provides an overview of Michigan State University's Adolescent Project, a partnership with the community to improve juvenile justice in Ingham County. The project was recognized with the 2009 Outreach Scholarship W. K. Kellogg Foundation Engagement Award for the North Central Region.

Introduction

Historically, the most prominent pedagogical models used in universities have served to separate instructional styles and settings from communities *(Greenwood & Levin, 2000)*. Within the United States, there has been a call for a shift in this relationship *(Edwards & Marullo, 1999)*. In addition, there have been many presses for higher education in the United States to develop student abilities in ways that produce more active learning, and a more diverse set of skills. Relatedly, there has been a press for engaged scholarship *(Kenny, Simon, Kiley-Braback, & Lerner, 2002)*. In engaged scholarship, the scientific and intellectual resources of the university are partnered with the community to address significant problems.

The engaged scholarship model creates a unique opportunity for universities to accomplish their tripartite mission of education, research, and community engagement. For students, service-learning opportunities cultivate student knowledge and skills in interactive and applied venues, which will serve them well later in life as they participate in a free and democratic society. Active-learning, experiential instructional models facilitate more productive, culturally sensitive, and responsible citizens as students are taught to work in partnership *with* their communities *(Freire, 1970; Rhodes, 1997)*. Today, colleges and universities are better able to employ educational methods that promote critical thinking, interpersonal interaction skills, problem solving, and conflict resolution abilities because more universities are connecting with communities, particularly through university-engagement centers that promote university-community collaborations *(Lerner & Simon, 1998; Kenny, Simon, Kiley-Braback, & Lerner, 2002)*.

University-community collaborations aim to provide better educational, science, and community outcomes and to leverage resources for all members of the partnership through the scholarship of discovery and systemic change *(Morton, 1995)*.

The Michigan State University–Ingham County Partnership: Setting the Context

Michigan State University Context

Michigan State University (MSU) is a large midwestern land-grant university with commitments to advancing knowledge, transforming lives, and collaborating with the world community. As an organizational context, MSU provided a unique setting given its diversity of mission, size, and strength as an institution. The seeds for the current engaged scholarship were being sown at the time the Michigan State University Adolescent Project (MSUAP) was originally established. Particularly important in the development of MSUAP was community psychology, which was rapidly becoming an active subdiscipline of psychology. With this new perspective on community health and well-being came demands for increased relevance. Specific models of involving the academy, its science and its students, in community issues were developing. Seidman and Rappaport *(1974)* had articulated an "educational pyramid" as one particular model. It is within this context that a group of researchers at the University of Illinois at Urbana-Champaign, in collaboration with the local community, designed the original MSUAP model *(Davidson, Seidman, Rappaport, Berck, Rapp, Rhodes, & Herring, 1977)*. Based on that original model, MSU's partnership with Ingham County was forged.

Why MSU and Ingham County Partnered to Address Juvenile Crime

The Michigan State University Adolescent Project (MSUAP) started in the 1970s to address an increase in juvenile crime and an increase in public awareness of the problem *(e.g., Davidson, Redner, Amdur, & Mitchell, 1990)* Ingham County is a medium-sized midwestern community with a broad economic base in manufacturing, government, and higher education. Michigan State University (MSU) and Ingham County, Michigan, partnered to address juvenile crime for three reasons. First, juvenile crime represented a threat to community safety. The early 1970s saw an unprecedented increase in crime rates, particularly juvenile crime

rates *(Davidson, et al., 1990)*. Second, in response to the crime rate, the community was expending increasingly scarce resources. At that time, as today, the cost of the juvenile justice system was outpacing inflation *(Davidson et. al., 1990)*. Third, the county's attempts to reduce juvenile crime by traditional means had been found ineffective. In fact, there had been strong suggestions that traditional approaches to juvenile crime correction were ineffective *(e.g., Gold, 1970)*.

What the MSUAP Hoped to Accomplish

As stated above, the program had three goals. For the community, the program sought to provide an alternative method of handling juvenile offenders that would reduce crime and costs. For the MSU students, the program sought to provide a service-learning experience that would enhance their education generally and allow them to focus their career goals. For the faculty, the program provided a vehicle for knowledge generation, education, and community engagement.

What MSU and the Community Brought to the Partnership

The community provided a setting, organizational support, referrals of juvenile offenders from the local juvenile court as an alternative to court processing (diversion), experiential expertise, and access to records. The key community partners were the chief juvenile court judge, the court administrator, the chief of police, commissioners from the county board, and probation officers from the Intake Division of the juvenile court. The judiciary, administrators, and commissioners served in an advisory capacity for project and intervention design. The probation officers provided referrals to the MSUAP as an alternative to court processing and assisted with training students.

In developing MSUAP, the university contributed faculty and student time, theoretical and intervention information, and research and methodological acumen. University partners included faculty and graduate students from the Psychology Department as well as the administrators. They worked with the advisory group to design the program, which would be implemented by undergraduate students. They also designed a manual to train the students to participate in a new, two-semester course in which they received three hours of weekly training and supervision for their community work. They were trained and supervised in

delivering a hybrid of child advocacy and behavioral interventions *(Davidson & Rapp, 1976; Davidson, et al., 1990; Davidson & Sturza, 2006)*.

Four federal research grants were received to support the initial phase of project development. The grants supported the training and supervision of the students who worked one-on-one with juveniles referred by the court. The grants also supported research on the effects on the community (reduced crime), the students (learning and future careers), and the justice system.

How the Michigan State University Adolescent Project Program Works

The Michigan State University Adolescent Project (MSUAP) partners sought to design and validate an intervention model that would jointly engage the university and the community, provide an effective alternative intervention for juvenile delinquency, and provide a platform for long-term sustainability of the partnership.

MSUAP: Program Description

MSUAP is a community-based and university-run project to identify cost-effective alternatives to primary service delivery systems for juvenile offenders. Juvenile offenders are referred to the program, which employs undergraduate students as advocates for the youth.

The program provides an alternative to sending youth to a formal hearing before the judge and placement in residential correctional settings. Rather, it provides activities to keep local youth out of the formal court system and away from out-of-home placement. Other goals of the program include developing the self-advocacy skills of the youth, providing families alternative models of conflict resolution, establishing or reestablishing their positive identity and relationships with their community, and increasing their access to resources in their community. Basic values of the program include building on the participants' strengths, providing needed resources for the youth, maintaining open communication and confidentiality, working in their natural environment, and avoiding victim blaming. All of the activities of the project are based on this value system. In order for the MSU students to be effective as change agents, it is critical that they adhere to these values.

A large number of people are involved in the operation of the project: the college undergraduate student change agents, the trainers/supervisors, the project director, and the sponsoring

faculty member. The undergraduate student change agents furnish the critical ingredients of providing quality service to the youth in the local community. The student change agents are trained and work within a two-semester, 30-week service-learning course experience, and receive four credits per semester. The students participate in training and supervision in weekly, two-and-a-half-hour class sessions in small groups of six to eight students.

Faculty Expertise

The community-university MSUAP has three theoretical underpinnings, which helped to shape the program and the subsequent research projects. The project founders first turned to social learning theory. If juvenile criminal behavior operated according to the principles of social learning theory, then rehabilitation was not only possible, but plausible. Specific interventions within the natural environment, rather than distant institutional interventions, would be necessary. If all behavior was a function of its context, through the processes of social learning, rehabilitation or retraining in artificial environments was not likely to have lasting effects. If the specific role models and environmental contingencies present in the real-life situations of delinquent youth produced crime, then intervention in the natural environment of youth was indicated.

Second, social conflict models argued for the importance of differential distribution of social and economic resources in producing crime *(e.g., Davidson & Rapp, 1976)*. The Chicago School of Sociology *(e.g., Merton, 1957)* provided a basis for the observation that many social problems, including delinquency, were most prevalent in the presence of differential access to pro and antisocial resources. For example, youth in the United States are given equal access to awareness of desirable life outcomes, yet the means to attain those outcomes are unevenly distributed.

Third, symbolic interactionism, as detailed specifically in social labeling theory, was employed to explain the role of traditional justice system interventions in increasing crime. Seminal work done by Martin Gold *(1970)* had raised the ironic possibility that the juvenile justice system increased, rather than decreased, future crime. It was suggested that labeling mechanisms, both those labels attached by the system and those accepted by the apprehended youth, increased the probability of future criminal activity. The theoretical mechanism employed to explain these effects was not

only differential self and other views, but differential expectations and surveillance.

Student Involvement

MSUAP is an intensive program involving constant peer support, discussion, and reflection for students. Trainers/supervisors (graduate students) teach from two to four courses per semester. Within each class there is a lead trainer/supervisor and a teaching assistant (TA). The TA is usually a student who has recently completed the course and is viewed as a resource to the students. Trainers/supervisors conduct the class meetings where the undergraduate students learn the curriculum and discuss practical issues. The project director supervises the trainers/supervisors throughout the project, oversees the project implementation and fidelity, and maintains the collaborative relationship with the courts. The sponsoring faculty advisor acts as an advocate for the project in the context of the university department in which it is housed, oversees the project's research and evaluation, and maintains the collaborative relationship with the local community.

Intervention activities are carried out entirely by the efforts of undergraduate college students who are trained as change agents and supervised by MSUAP staff. A new two-course sequence is started each semester throughout the year so that the project is available for referrals from the court year-round. Training is rigorous and consists of assigned readings, weekly written and oral quizzes, in-class assignments, role-play exercises, and homework. The first component of the curriculum of the training/supervisory sessions occurs in the first nine weeks of the two-semester course. This component provides students with structured activities to train them in effective methods of intervention with adolescents who come into contact with the justice system. These weeks are focused on training students to think within a paradigm of advocacy and conflict resolution (behavioral contracting) *(Davidson & Rapp, 1976; Davidson et. al., 1990)*. Attendance is mandatory at all of these training/supervision sessions because it is expected that the mutual discussion and input that occurs within these sessions will have an important impact on the work of the volunteers with individual youth.

Student change agents are trained to understand human behavior and delinquency through two models, behavioral and environmental. The environmental model emphasizes the importance of the youth participants' situations in determining

their actions and asserts that the change that needs to occur in their lives is within their environment. The behavioral model promotes conflict resolution techniques, effective communication, and negotiation skills among the advocate, the youth, and significant others in the their lives.

In addition to learning these two intervention approaches, students are trained in skills and techniques to assist them throughout the intervention. The skills gained are associated with the four major stages that each case moves through over 18 weeks. These skills include (1) administering a strength-based needs assessment, (2) implementing specific intervention strategies, (3) developing monitoring charts for goal completion and troubleshooting, and (4) implementing case termination strategies aimed specifically at shifting the major responsibilities of the change agent to the youth and his or her family in order to carry out further positive changes once the intervention has ended. Students are trained in several techniques used to foster trust and confidence with the youth. These techniques include empathy training, conflict resolution, crisis management, emotional expression (i.e., anger management, constructive verbal communication through feelings), cultural competency, confidentiality, positive reinforcement, and creative thinking.

During the student training, MSUAP also provides students with experiences that will help them prepare for graduate school. During the first semester, students are required to research and present information about a specific adolescent problem (e.g., teenage depression, drugs, sexual assault). For each presentation, the student provides a slideshow presentation, a guest speaker, and a brochure offering information on the presentation topic. The homework assignments during the training period require students to reflect on course reading material and to become familiar with American Psychological Association (APA) writing requirements by writing a short thought paper after each class session. By the end of the first semester students are also required to complete an additional ten hours of community service in a youth-serving organization.

Toward the end of the formal training segment of the course sequence, students are assigned a specific youth case. The class sessions switch from training sessions to small-group discussions. Groups meet weekly for two to three hours, during which time students report on their intervention activities over the past week, receive feedback from their classmates and supervisors, and establish goals for the upcoming week's

intervention activities. These supervised groups provide a forum for students to share and to learn from each other's experiences. In addition, this format allows staff to maintain continuous, detailed information about each student's intervention activities. Past research has indicated that this intensive small-group supervision format is an essential factor in the success of the MSUAP *(Davidson et al., 1990)*.

Once assigned to a particular youth, the student is required to spend six to eight hours a week, for 18 weeks, working directly with, or on behalf of, his or her youth. Students are instructed to apply the material and skills learned during training to their specific case. The student's role becomes that of change agent and advocate for his or her youth. The student works closely with the youth and the youth's family in identifying goal areas for intervention and assists in accomplishing those goals. The intervention plan for each case is individually tailored. The student's primary objective is not to solve specific problems for the youth, but rather to teach the youth and his or her family effective skills that they can use on their own once their involvement with the MSUAP has ended.

In order for meaningful and significant changes to occur and be maintained, it is essential that the student become deeply involved with the youth's natural environment. The programmatic result is that all intervention activities are carried out entirely in the youth's natural environment. Each student spends a great deal of time with the youth in his or her neighborhood. Often, the student meets and engages in recreational activities with the youth's friends as well. Further, the student may involve school counselors or teachers, prospective employers, or anyone else who would help fulfill the specific needs of the youth and accomplish intervention goals.

Each student is required to turn in a weekly progress report of their case. They also keep a log of the intervention, and they write and turn in a midintervention report and a termination report. Intervention liaisons check each case three times throughout the intervention, unknown to the student change agent. For these visits, liaisons go directly to the youth's home to get his or her view and account of the intervention.

Michigan State University Adolescent Project: Evaluation

The next sections describe how the impact of the MSUAP has been assessed over time.

Methodology

Formal evaluation of the MSUAP focused on four research agendas

1. Examination of the processes and efficacy of the intervention model compared to other dispositional options within the justice system,
2. Examination of the impact of the educational experience on the MSU students involved,
3. Examination of the impact of the new alternative to the justice system on that system itself, and
4. Examination of the impact of the engaged scholarship by MSU faculty members on the university.

For each of the studies described here, Institutional Review Board (IRB) approval was sought and granted. A brief description of methodology is provided here. Much more detail is provided in Davidson et al. *(1990)* and Davidson and Sturza *(2006)*. In order to examine the processes and efficacy of the intervention model on the adolescents, a series of longitudinal experiments was conducted. Youth were randomly assigned to the program, to usual court processing, or were simply released and followed for two-and-a-half-years. Before, after, and follow-up measures were used to assess delinquency, school performance, family involvement, and community involvement.

In order to examine the impact of the educational experience on the MSU students, after screening, they were randomly admitted to the course. Those not admitted constituted the control group. Both groups were measured using interview, self-report, and staff report measures before, during, and after program involvement. In order to examine the systemic impact of the project, juvenile justice system decision-making was statistically modeled before and after the program's inception. Models developed prior to project initiation were then statistically compared to models used afterward. Finally, self-report case study methodology was used to examine the impact on MSU faculty members.

Findings

Congruent with the three-pronged mission of MSU, the MSUAP generated scientifically credible information about intervention efficacy, provided unique and expanded educational experiences for graduate and undergraduate students, and expanded

MSU's outreach and engagement to an underserved area (juvenile justice).

Impact on the community: reduced recidivism rates.

There have been two significant impacts on the community partners. The first impact is a safer community. During the first phase of the MSUAP, four sequential longitudinal experimental examinations of the project were conducted. The first study examined how MSUAP performed in comparison to no further intervention. In this study, 73 youth were randomly assigned to either the MSUAP or a treatment-as-usual control group (outright release with no further intervention). The youth were followed for 30 months subsequent to random assignment. Table 1 shows the 30-month recidivism rate of both groups. Results indicate that the MSUAP had a statistically significant effect on subsequent crime.

Table 1. Study 1: Comparing MSUAP to No Intervention

Disposition	Recideivists (One or More Arrests)	Nonrecidivists (No Further Arrests)
MSUAP (N = 49)	44%	56%
Outright Release (N = 24)	96%	4%

(Responses based on a 30-Month Follow-up)

The second study examined how the MSUAP would perform when compared to normal court processing and nonspecific attention from a college student. In this study, 213 youth were randomly assigned to MSUAP, assigned to an attention only group, or referred back to court for placement on probation. The attention only group involved three hours of general orientation for MSU students (as compared to the systematic training provided to the MSUAP students) and monthly (rather than weekly) supervision. Process results indicated that the youth-student pairs spent equal amounts of time together in both the MSUAP and the attention only groups. Table 2 shows the 30-month recidivism rates for the three groups. The results indicate that MSUAP was superior to both the usual court process and the attention only group in reducing subsequent crime.

Table 2. Study 2: Comparing MSUAP to Attention and Court Processing

Disposition	Recideivists (One or More Arrests)	Nonrecidivists (No Further Arrests)
MSUAP (N = 124)	39%	61%
Attention Only (N = 29)	52%	48%
Court Probation (N = 60)	62%	38%

(Responses based on a 30-Month Follow-up)

The third study examined the transferability of the model to a community college setting. In this study, 124 youth were randomly assigned to four groups: (1) the MSUAP group using university students, (2) the MSUAP group using community college students, (3) the MSUAP group using community volunteers, or (4) the normal court referral group. Both the community college students and community volunteers were recruited, trained, and supervised using the same regimen that was used for the MSUAP MSU student group. Table 3 shows the 30-month recidivism rates for youths participating in each of the four groups. The results indicate that the three groups using the MSUAP model produced results superior to normal court processing in reducing subsequent crime.

Table 3. Study 3: Varying MSUAP Change Agents

Disposition	Recideivists (One or More Arrests)	Nonrecidivists (No Further Arrests)
MSUAP - Large University (N = 47)	36%	64%
MSUAP - Community College (N = 35)	26%	74%
MSUAP - Community Volunteers (N = 17)	24%	76%
Court Probation (N = 25)	68%	32%

(Responses based on a 30-Month Follow-up)

The fourth study compared the MSUAP model to outright release and usual court processing. In this study, 395 youth were randomly assigned to three groups: (1) the MSUAP group, (2) the outright release with no further intervention group, or (3) the usual court processing group. The results are presented in Table 4. Again, the MSUAP program demonstrated superiority to both outright release and court probation.

Table 4. Study 4: Comparing MSUAP to Outright Release and Court Probation

Disposition	Recideivists (One or More Arrests)	Nonrecidivists (No Further Arrests)
Outright Release (N = 135)	31%	69%
MSUAP (N = 136)	21%	79%
Court Probation (N = 124)	34%	66%

(Responses based on a 30-Month Follow-up)

Overall, these four studies demonstrated that youth who participated in MSUAP had recidivism rates significantly lower than those of control groups assigned to usual treatment or outright release. Further, the MSUAP yielded results superior to those of an attention only program.

Impact on community: Cost savings for Ingham County.

The fiscal impact of the MSUAP was also examined. For each youth referred to the MSUAP, there were direct savings (in 2009 dollars) of approximately $5,000, representing the cost of placing a youth on probation in the local county less the cost of the youth's participation in MSUAP. Since its founding in 1976, MSUAP has saved the local community over $20,000,000.

Impact on community: Improvements in the justice system.

It was also important to examine the impact of this new dispositional alternative on the justice system itself. In order to examine this impact, a random sample of cases, stratified by month, was drawn for the years before and after the inception of MSUAP. Demographic, criminal history, school performance, and extant crime variables were coded for each case, and statistical decision models were developed for each time period. This research produced two key findings. First, the vast majority of youth referred to MSUAP were from the group who would have been predicted to receive probation based on the pre-MSUAP decision model. Recognizing this likelihood was important to check that the alternative disposition was, in fact, an alternative to court processing. This was one of the intended systemic effects of the new model. However, a minority of cases would have been predicted to come from the released group. This indicated that in a small number of cases, court decision-makers

"expanded the net" to include youth they would have otherwise released.

Second, the result of extracting "probation cases" from the court's caseload meant that the court's resources could be more efficiently focused. Again, one of the goals of the MSUAP was to relieve the pressure on the juvenile court through the use of an alternative model that was less expensive and more effective than the status quo. This research demonstrated that the introduction of the MSUAP allowed more efficient targeting of court resources. In short, the preliminary examination of the systemic effects indicated that inserting the MSUAP model into an ongoing community court had the intended systemic impact.

Impact on MSU students.

Pedagogically, MSUAP provides a two-semester engaged-learning experience for undergraduate students. This course supports knowledge of the individual and social causes of delinquency, the importance of community resources, and the importance of specific skill development; it also provides the opportunity to apply formal educational knowledge. The structure of the MSUAP provides intense small-group training in community intervention and advocacy.

Several studies, both qualitative and quantitative, have been conducted within the MSUAP model. The first of these compared a group of students who participated in MSUAP with randomly assigned control groups. Kantrowitz, Mitchell, and Davidson *(1982)* found that immediately following the MSUAP experience, MSUAP students had more positive attitudes toward youth and families, and more negative attitudes toward the school, court, and educational systems compared to the control groups. Further, their grades in courses other than MSUAP were significantly higher.

Second, McVeigh, Davidson, and Redner *(1984)* conducted a follow-up study two years after undergraduate degree completion. Student attitudes, future educational attainment, and future career accomplishments were compared to those of control students. The results indicated that students maintained their favorable attitudes toward youth and families, and were more likely to have a job in a human service field. In a later study using the same design, Angelique, Reischl, and Davidson *(2002)* found that MSUAP students felt more empowered in terms of their social change capacity, their career goals, and their chances for further education.

More recently, a qualitative study of students who completed the MSUAP program was conducted. Students were interviewed about how their educational and personal development was affected by their experiences in the MSUAP. All of the MSU students confirmed that the project was a positive and beneficial experience. Students were also asked to discuss which of the learning modes was most helpful to them. Students reported learning most effectively through hands-on community involvement and small-group-discussion classes.

Although all students that participate in MSUAP are undergraduates and close in age, they are at different life stages, and come from different racial or ethnic backgrounds. These differing backgrounds and perspectives are reflected in the students' responses to what they feel they learned about themselves. In the qualitative study interviews, a common comment was that "[this experience] changed me." Many students described how they gained a greater awareness of the world in which they live through learning firsthand that there are multiple, diverse perspectives that must be considered; by becoming increasingly conscious of the problems within the social system; and through gaining a more realistic view of potential career paths. This in-depth awareness required students to think more critically about their roles as change agents. Many students described becoming more conscious of the problems with social systems. Students are trained in MSUAP to think from a systems perspective. They are also taught how to develop strategies for working within various systems in which the juveniles may become involved (e.g., schools, courts, community mental health) in order to meet the needs of the juveniles. It is not completely unexpected, therefore, that students would become more aware of service systems and how they function as well as become dissatisfied with how U.S. social service systems operate.

Many students also reported developing a more realistic view of their potential career paths. By coming into contact with the various service systems they had to work with as change agents, they were exposed to a number of people who helped them to see what various careers might be like.

Impact on Michigan State University.

There were four areas of impact on the university: curricular enhancements, faculty scholarship, institutional recognition, and institutionalization of university outreach and engagement. First, the educational experiences of students were

expanded. Through the project, a new series of courses (Psychology 371 and 372, Community Projects) was developed and made a part of the curriculum. Further, this course sequence has been used by two other faculty members to address related topics: children in mental health treatment and violence against women. When students who participated in MSUAP were compared to a randomly assigned group of students in a two-year follow-up, the experience was found to have had a favorable impact on student educational achievement, professional development, and attitudes. Additionally, 117 graduate students have received research/intervention training. The project initiated and routinized outreach and engagement experiences as part of MSU's undergraduate and graduate curriculum.

"When students who participated in MSUAP were compared to a randomly assigned group of students in a two-year follow-up, the experience was found to have had a favorable impact on student educational achievement, professional development, and attitudes."

Second, there were substantial scholarly outputs: a book devoted solely to MSUAP development, 41 articles in refereed scientific publications, and 27 presentations at professional meetings. Third, the project has brought national attention to MSU. The project has received awards from the Department of Justice (Law Enforcement Assistance Administration Exemplary Project Status), the American Psychological Association (APA), the Child Welfare Information Exchange of the Department of Health and Human Services, APA's Task Force on Prevention, the National Association of County Governments, the Carnegie Foundation, and the United Nations Directory of Effective Parenting and Family Skills Programs.

Fourth, the project helped institutionalize the university's role in outreach and engagement by providing a model of community collaboration for a key social issue, which engaged the educational and scientific missions of the university. The project has demonstrated the university's unique capacity to accomplish its three-pronged mission.

Sustaining the Michigan State University–Ingham County Partnership

An agreement between MSU and Ingham County was initiated at the time of the original federal research grant support in the mid-1970s. This agreement specified the terms under which MSUAP would continue once the federal grant funds expired. If the MSUAP demonstrated a recidivism rate significantly lower than that associated with traditional court processing, and was done at less cost, the agreement specified that the university and the county would collaborate (in operations and funding) into the future to ensure that the program was sustained. The agreement commenced once programmatic federal funds ended. Today, MSU provides a faculty supervisor during the academic year and one graduate student devoted to year-round undergraduate student supervision and training. MSU also provides year-round space and clerical and technical support. Ingham County provides the university funds for a full-time project director, and for three additional graduate students to supervise and train the undergraduates. Additionally, partial support for faculty supervision during the summer months is provided for by county funds. In short, the county pays the excess costs of training and supervising undergraduate students in a class of eight students during the 12-month project operation. The county also agrees to devote both intake worker and supervisor time to the project's operation. The agreement ensures that each partner benefits from the continued collaboration through the sharing of resources, staff, scientific knowledge, educational experiences, and effective intervention models.

Conclusion: Lessons Learned and Best Practices

At the level of the partnership, all parties had to learn new roles. The university faculty members and students had to expand their roles to include actual involvement and presence in the community—participating in a peer-to-peer relationship rather than an "expert-client" relationship. The community partners had to engage in new role behaviors, including making decisions based on scientifically sound best practice rather than experiential judgment, sharing resources with a previously "untrusted" academic institution, and allowing students to share in professional roles.

At the program level, the research outcomes clearly demonstrate the principles of best practice for intervention with juvenile offenders, including the use of intense, time-limited, one-on-one, specific interventions that significantly reduce recidivism. The

training and supervision of the university students is critical, and the interventions that target important life domains of youth (i.e., family, school, peers, and employment) are important.

At the level of sustainability several lessons have been learned. First, it is vital to include methods that will produce scientifically sound information about program outcomes and cost. In today's fiscally constrained world, unequivocal data is a major asset in the struggle for continued funding. Second, it is important to plan sustainability and dissemination as part of the project from the outset. Had this been lacking in the initial plan, continuation after the end of the federal funding would have been much more difficult. Finally, it is critical to involve key stakeholders in the program from its inception. Because the project engaged key community stakeholders (judiciary, staff, community members, county commissioners) from the beginning, commitment to sustainability was facilitated.

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The Archway Partnership: A Higher Education Outreach Platform for Community Engagement

Mel Garber, Brian Creech, W. Dennis Epps, Matt Bishop, and Sue Chapman

This article provides an overview of the Archway Partnership, an outreach platform for community engagement at the University of Georgia. The project was recognized with the 2009 Outreach Scholarship W. K. Kellogg Foundation Engagement Award for the Southern Region.

Background: The Role of Partnerships within Outreach

Charting a trend among land-grant universities losing touch with their outreach goals, the Kellogg Commission *(1999)* noticed a growing gulf between universities and their communities, observing that, "To the non-academic, the university is a near-inscrutable entity governed by its own mysterious sense of itself . . . we are so inflexibly driven by disciplinary needs and concepts of excellence grounded in peer-reviews, that we have lost sight of our institutional mission to address the contemporary multidisciplinary problems of the real world" *(p. 20)*. To engage the community more effectively, the Kellogg Commission proposed a different paradigm, one that intentionally engages the community in the outreach process. By making the community a partner in the outreach process, the institution makes its resources more accessible to the community, and reaffirms the university's value to the state through a process that is sustainable and ensures the long-term success of both the community and the institution. As the Kellogg Commission states, "Embedded in the engagement ideal is a commitment to sharing and reciprocation" *(p. 9)*. For the Kellogg Commission, this process should filter through the institution, changing the way that outreach is conducted and further enhancing the relationship between the university and its partners.

In 2002, the U.S. Department of Housing and Urban Development (HUD) Community Outreach Partnership Center Program looked at how universities partnered with communities, tracing best practices and noting the need for changing the "top-down" paradigm that had dominated much of university outreach for the last several decades. Partnerships between universities and

their communities provide the best model for outreach, with communities and the university committing their own resources and talent to the task of solving issues in the community.

Partnerships, however, provide their own challenges. The report notes that "successful partnerships have to serve the interests of all parties, and herein lies a central program challenge. Effective university-community partnerships cannot be forged easily; they require mobilization of resources from diverse parties with overlapping, and sometimes conflicting, interests" *(Vidal, Nye, Walker, Manjarrez, & Romanik, 2002, p. 1-4)*. Successfully navigating these relationships can be an arduous task, with each party having to confront and challenge existing notions about their partners. Faculty and staff members can no longer consider the community to be just a site for data collection, and leaders in the community should be encouraged to welcome the advice of the university, to see it as a resource that can positively affect economic and community development. Partners must "strike a balance between their respective interests, needs, and strengths, [so that] joint efforts to change communities for the better [can be] sustained" *(Vidal et al., 2002, p. 1-4)*. Wilson *(2004)* observes the problem of engagement from the community perspective, noting that "Residents of communities are no longer receptive to academicians as lone rangers who come into communities and prescribe solutions to social, economic and educational needs and conditions without involving the communities in the solutions" *(p. 22)*. To ease the reticence of community members and encourage success, he suggests that "Institutions of higher education wishing to engage in meaningful, significant, and relevant community outreach have no choice but to form strategic alliances and partnerships," because, in acting as a partner and convener of community interests, university faculty can use their expertise to stimulate productive discussion and action in communities *(p. 23)*.

"[E]ffective partnerships between universities and communities break down social and cultural barriers, identify factors that motivate engagement, and ultimately build the organizational capacity for the university and the community partner."

Weerts *(2005)* observes that effective partnerships between universities and communities break down social and cultural barriers, identify factors that motivate engagement, and ultimately build the organizational capacity for the university and the community partner. The impacts of these relationships are often hard to quantify. It is generally felt, however, that they promote success as (a) communities become aware of what universities have to offer and become more adept at navigating confusing academic bureaucracies; and (b) universities become aware of what can be learned from the communities with which they partner. A mutual understanding of each other's strengths and weaknesses is necessary because success also depends "on the organizational capacity of the partners, i.e., their ability actually to deliver capably on the commitments they make to one another" *(Vidal et al., 2002, p. v)*.

Still, there are few guideposts structuring the ideal community-university partnership. As Franklin *(2008)* points out:

> Oftentimes, needy communities approach universities for help, but fail to look for or find university needs that they can meet through a partnering arrangement. Universities may partner halfheartedly out of a sense of obligation, and fail to identify ways in which the partnership can meet their own needs. Such imbalance flies in the face of literature about the basis of sound partnerships, which indicates that each party expects to contribute as well as benefit from the relationship *(Vidal et al., 2002)*. If universities are going to be involved externally with communities, through research, public service, and student service-learning, there is an opportunity to align the goals of the university faculty and staff capable of delivering these programs and services with the needs of a region rather than just pursuing a scattershot approach. *(p. 271)*

In order to make the partnership work, the university should be aware of the benefits that intentional community engagement offers, such as improving the university's stature among legislators; improving the university's profile in areas of the state with traditionally lower admissions rates to the institution; and increasing the school's research capacity *(Franklin, 2008)*. To further ensure that engagement at the university level remains intentional, the university must dedicate the financial and human resources necessary to

direct and nurture the partnership. As the Kellogg Commission *(1999)* states,

> Making engagement real on our campuses will require broad strategies to identify community needs, catalogue community resources, highlight academic strengths and capacities, and coordinate the work of many individuals and groups, frequently over long periods of time. There are no quick fixes or painless solutions for many of the challenges our states and communities face. *(p. 39)*

The University of Georgia's Archway Partnership Is Formed

Seeking to make the university's engagement more intentional, the Archway Partnership was created to meet the changing and emerging needs of Georgia. In 2005, administrators recognized that a rapidly changing 21st-century Georgia needed a contemporary higher education outreach platform. The two largest University of Georgia (UGA) outreach units (Public Service and Outreach and Cooperative Extension) recognized the need for a new model but also the need to maintain their historic missions. These two university units partnered to provide continuing support for a new entity, the Archway Partnership. The new structure allows maximum flexibility to innovate and shape the developing model. The University of Georgia Archway Partnership was initiated as a pilot to provide the Moultrie/Colquitt County community with greater and easier access to higher education resources, and to make it easier for faculty members and students to become involved in high-priority community needs. Since 2007, the Archway Partnership has expanded beyond the pilot community to seven more counties across Georgia, representing a variety of geographic areas, including urban, rural, coastal, and college towns. The Archway Partnership model of engagement ensures that the institution's capacity is utilized by the communities. It allows the university to remain a public good, by directing policy and financial mechanisms toward economically distressed parts of the state *(Franklin, 2008)*.

How the Archway Partnership Works

The Archway Partnership is a process, not a project, with community members integrated from the beginning through meetings with University of Georgia outreach faculty members as well as

through a community-wide listening session that involves citizens from nearly every aspect of the community. In this capacity, the University provides a neutral third-party platform uniquely positioned to facilitate community discussions around difficult issues. As a platform and a process not based on specific disciplines, projects, or institutions within the University System of Georgia, it can be easily replicated (it has grown from one community to eight communities over the course of two-and-a-half years). This cross-institutional access allows the Archway Partnership to deal with a variety of issues, including health care, education, economic development, leadership development, access to services, housing, environmental design, marketing, and land-use planning. An article published in *The Chronicle of Higher Education* noted,

> At a time when land-grant and research institutions across the country are seeking deeper engagement with their states and regions, the University of Georgia has repurposed the traditional agricultural-extension model for community and economic outreach. Its Archway Partnership takes the university into the community, where full-time staff members stationed in each participating county work with civic leaders to identify local needs and connect towns with expertise across the university and the state-university system. *(Fischer, 2009, p. A14)*

Steps in the Archway Partnership Process

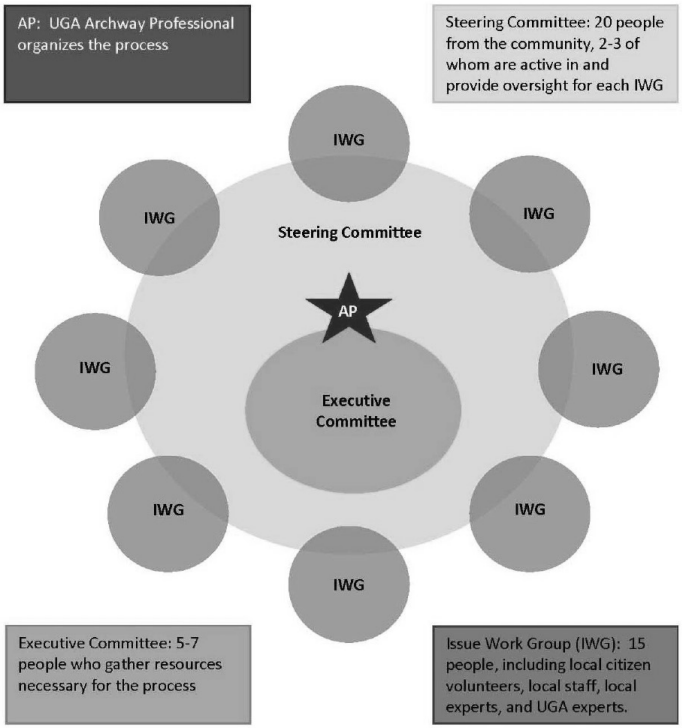
The process begins with a community-wide listening session, where UGA faculty members facilitate small-group discussions with community members. They ask questions about the strengths and weaknesses of the community as well as gather feedback about what the community members determine to be the most pressing issues in their community. They also identify the community's assets that can be applied to these issues. The Archway Partnership team members collect and synthesize the information gathered in these small-group discussions. The results are summarized in a report, which provides the foundation for the engagement between the community and the university.

The success of the partnership centers on the creation of a local executive committee, made up of leaders from a variety of community sectors, including school boards, chambers of commerce, development authorities, hospitals, boards of health, city and county governments, and business leaders. The executive

committee meets on a monthly basis to prioritize already identified needs and to discuss emerging needs. These meetings also provide a networking opportunity to ensure smooth interactions between the university and the community. The executive committee is the grassroots mechanism of the partnership, with members of various community sectors sitting around the same table, in many cases for the first time, to collectively determine how to best address the needs of the community. Generally, each institution represented on the executive committee has made a financial commitment to support the Archway Partnership.

In most cases, the executive committee seeks community-wide input through a larger steering committee. The steering committee increases the partnership's presence across various interests in the community, and encourages feedback and engagement from more groups. The steering committee helps select specific projects to tackle. It facilitates formation of issue work groups, smaller committees made up of leaders and interested citizens whose work focuses primarily on a single community issue (e.g., tourism, leadership, or technological development). Figure 1 illustrates the relationships supported by the Archway Partnership.

Figure 1: Archway Partnership model



An Archway professional, a full-time UGA faculty member, lives in the community to facilitate local discussions, and provides the crucial connection between the community and the university. This faculty member brings the issue areas and action plans back to the university, and identifies faculty members and students who have a research or educational interest that can benefit the issue areas. The Archway professional's success depends upon her or his ability to build relationships in the community, to connect disparate and various groups in the community, and to remain academically neutral.

"By fostering relationships in the community and navigating resources within the university, the Archway Partnership efficiently matches faculty members and student research interests with the community's identified issues and needs. "

By fostering relationships in the community and navigating resources within the university, the Archway Partnership efficiently matches faculty members and student research interests with the community's identified issues and needs. It also brings new, real-world educational opportunities to students in the form of service-learning, community service, and research projects.

Archway Partnership Outcomes

The idea underlying the partnership model dictates that both the community and the university derive tangible benefits from working together. By actively facilitating the process, the Archway Partnership helps ensure that projects meet the goals of community partners while also contributing to the research, teaching, and outreach imperatives of the university.

Community Benefits

Community leaders laud the opportunity to be equal partners in the outreach process, and assert that their equal footing encourages the spread of trust between the community and the university. This sense of trust engenders empowerment within the community, giving groups and leaders the space and resources to develop and implement their own solutions. The Archway Partnership model

is flexible enough to address nearly any issue a community may encounter, as in the following examples.

Improving an existing wastewater treatment facility.

When the City of Moultrie learned that it needed to develop a new and expensive wastewater treatment facility, Archway Partnership staff members worked with city officials and provided them data collected and analyzed by UGA Engineering Outreach Services and the Carl Vinson Institute of Government faculty members. By including the new data, the City of Moultrie was able to compile an alternate plan that was approved by the Georgia Environmental Protection Division. It is estimated that up to $25 million could be saved by solving this important issue in a timely manner.

Creating a community plan.

Anticipating a 49% increase in population over the next two decades, Glynn County must proactively address the impacts that growth will have on infrastructure, housing, and community facilities and institutions. Recognizing that this anticipated population growth should be addressed proactively, Glynn County Archway Partnership participants have made "Planning for Quality Growth" a top priority. A Glynn County Growth Task Force (GTF) was created to work on the community's growth and development. Prior to the creation of GTF, there was no comprehensive planning entity that brought the community's multiple planning agencies together around one table to discuss future growth of the community. Glynn County Archway's GTF is represented by 14 local planning agencies, including the Brunswick–Glynn County Development Authority, Brunswick–Glynn County Joint Water and Sewer Commission, City of Brunswick, College of Coastal Georgia, Coastal Regional Commission (CRC), Georgia Ports Authority, Georgia Power, Glynn County Board of Commissioners, Glynn County Board of Education, Georgia Department of Natural Resources (DNR), Georgia Department of Transportation (GDOT), Jekyll Island Authority, Southeast Georgia Health System, and Saint Simons Land Trust. Since its inception, GTF has met regularly to deliberate future growth issues. Corridor and entryway improvements, streetscape and landscape design, and redevelopment/revitalization opportunities are among the topics that have been discussed by GTF.

Finding accurate demographic data to help with growth.

To plan for growth and attract new businesses, Clayton County needed accurate demographic information. An Archway Partnership public administration intern worked closely with the economic development office to gather this information, making it easier for local leaders to share information with interested businesses and to make decisions directly affecting expected growth.

Creating a new design for an industrial park.

The Hart County Industrial Building Authority (IBA), seeking to diversify its local economic base, is developing an industrial park that can serve a variety of high-tech and competitive businesses. To make the park more appealing, the IBA turned to the Archway Partnership, which connected it with students from UGA's College of Environment and Design. These students looked to other areas and to current design trends for progressive ideas on how to design an industrial park that appeals to the higher-end and high-skills businesses that the IBA seeks to bring to Hart County. The design has an environmental focus, reflecting the community's push for environmentally conscious development.

Facilitating relationships between schools and education experts.

Through a shared memorandum of understanding (MOU), the Archway Partnership and UGA's College of Education funded an education coordinator in Hart County who specializes in connecting the College of Education to the Hart County School System. This part-time faculty member with expertise in K-12 education consults with Hart County school officials to uncover the needs determined by teachers and administrators. She then approaches the College of Education to identify faculty members and students who have the expertise and skills to help address the needs identified by the school system.

Statewide Benefits

Because of its geographically dispersed platform, the Archway Partnership is situated to deal with issues like health care and public health on a statewide basis. For example, one Archway Partnership faculty member from the UGA College of Public Health has been designated as the point person for public health resources. This faculty member has helped community

members gain technical assistance with writing grants, start public information campaigns, and plan health interventions.

University Benefits

To help ensure productive faculty engagement, the Archway Partnership tailors projects to help meet participating faculty members' teaching and research goals by encouraging service-learning opportunities. The partnership also helps to improve the university's profile in underserved and underrepresented communities and by providing research and public service grant opportunities (an avenue for the real-life application of classroom lessons).

Institutional level.

The partnership is driven by the capacity of the university's faculty members, students, and staff to deliver resources to communities. The university in turn benefits from increased visibility across the state. Working with UGA's 16 schools and colleges and many University System of Georgia institutions (there are 35 colleges and universities in the state's higher education system), the Archway Partnership is a mechanism that allows each part of the institution to extend its expertise into the "real world."

Faculty level.

For faculty members with an imperative interest in augmenting their research and teaching within a community but without the time, community engagement know-how, or connections to a community, the Archway Partnership fills the gap. Linking the right faculty member to the right community partner yields work that is optimally beneficial to both the community partner and the faculty member. The results improve life within the community while furthering the teaching and research mission of the university.

Student level.

Wilson *(2004)* notes that university-community partnerships enhance student experience by connecting theory and practice. Service-learning and other outreach activities give students firsthand opportunities to apply what they are learning in their disciplinary studies outside the academic setting, thus promoting leadership, character development, cultural and community understanding, and self-discovery.

Community partners provide both graduate and undergraduate students with service-learning projects as well as a variety of

internships in areas such as education, the arts, local government, economic development, public health, and landscape architecture. Over 200 students have engaged in community-based projects through the Archway Partnership in 2009–2010. The partnership also funds graduate assistantships, making individual departments more competitive in recruiting graduate students. Thanks to the university's close relationship with its community partners and the presence of an Archway professional facilitating the process on a daily basis, these students gain experience that is relevant to their education. They are treated as an extension of the university and as equals throughout the process. Students are motivated to engage due in part to the promise of having a tangible work product and experience to share with prospective employers.

Assessing Impact

By maintaining a close relationship with community members throughout the process, Archway professionals and administrative staff receive direct feedback from county commissioners, city managers, school superintendents, and other business and community leaders on the impact of Archway-facilitated projects. The Archway Partnership executive committee members work closely with Archway Partnership staff to define project deliverables and determine when project goals have been met. Archway staff collect tangible final products, portfolios, reports, and other project data. This information is compiled in a central database, which is used for determining common community needs, utilization of specific higher education resources, and cost savings or value.

In addition, Archway Partnership faculty members and administrators from across the state meet together quarterly to discuss the impact of community-based projects. During these meetings, they share best practices, develop relationships with faculty members from across the university system, and exchange ideas for maintaining relationships with existing community partners while developing new ones. Since partners in various communities encounter similar issues across the state, Archway Partnership faculty members use these opportunities to evaluate how well various methods and approaches have addressed a community's priorities.

Conclusion

To ensure a partnership that benefits both communities and the university, the University of Georgia Archway Partnership acts

as a linking facilitator, empowering community members to drive the process and dictate what issues and needs are to be addressed by university resources. The partnership catalyzes long-term growth in a community through continuous engagement that addresses the community's changing needs.

"[T]he University of Georgia Archway Partnership acts as a linking facilitator, empowering community members to drive the process and dictate what issues and needs are to be addressed by university resources."

The strength of the Archway Partnership does not lie in the university expertise that it brings to the communities, but in how the Archway Partnership delivers this expertise. By first establishing a strong foundation in an equal relationship between the university and an Archway community, the Archway Partnership sets the stage for a sustained, long-term engagement. The Archway Partnership acts as a neutral third party to provide a process for community dialogue to identify key issues. Faculty members and students are engaged to bring their knowledge and expertise into Archway communities to develop creative, efficient, and cutting-edge solutions to the communities' expressed priority issues. This paradigm for outreach allows university faculty members, students, and community partners to focus on what they do best. The Archway Partnership places the right tools in the right hands.

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The Northern Appalachia Cancer Network: Changing Cancer Research, Changing People's Lives

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This article provides an overview of the Northern Appalachia Cancer Network at The Pennsylvania State University. The project was recognized with the 2009 Outreach Scholarship W. K. Kellogg Foundation Engagement Award for the Northeastern Region.

Setting the Context: The Pennsylvania State University (Penn State)

Founded in 1855, Penn State is a public research university with 87,000 students at 24 campuses throughout Pennsylvania. The largest of Penn State's campuses, University Park, is located in State College, a site chosen to be near the geographic center of the state. Located in south central Pennsylvania and ten miles east of Harrisburg, the capital of the Commonwealth of Pennsylvania, the Hershey campus is home to the Penn State College of Medicine, Penn State Hershey Cancer Institute, and the Penn State Milton S. Hershey Medical Center. As Pennsylvania's land-grant university, Penn State engages in collaborative activities with industrial, educational, and agricultural partners to generate, disseminate, integrate, and apply knowledge that is valuable to society.

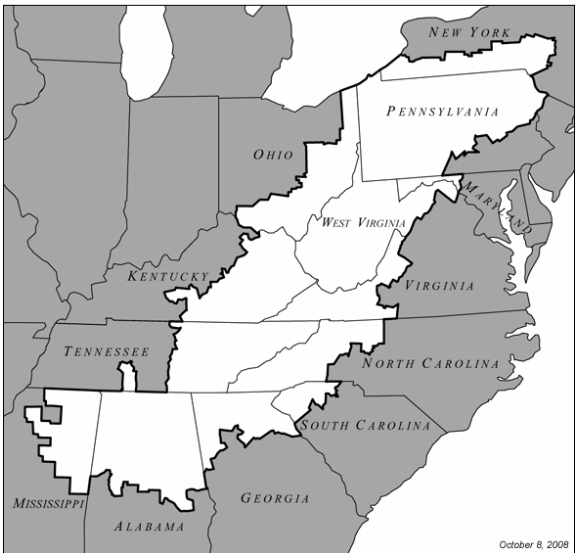
Appalachia

Appalachia is a geographically and culturally diverse region of 420 counties in 13 states from Mississippi in the south to New York in the north, coinciding with the Appalachian Mountains; 52 of Pennsylvania's 67 counties lie within Appalachia (Figure 1).

Appalachia has long been characterized as a rural region of the United States with high rates of poverty, isolation, and unemployment. This view of Appalachia has existed for decades; indeed, Appalachia was the setting where the War on Poverty in the 1960s was launched *(Appalachian Regional Commission, 2009)*. Appalachia also is characterized by low health insurance coverage, poor health status, reduced access to primary and specialty health care, and

increased prevalence of behavioral risk factors *(Halverson, Ma, & Harner, 2004)*. In terms of cancer, Appalachia has elevated incidence and mortality from cancers of the lung, colon, rectum, and cervix, as well as a high percentage of cancers diagnosed at a late stage when the prognosis is poor *(ACCN, 2009; Huang, Wyatt, Tucker, Bottorff, Lengerich, & Hall, 2002; Lengerich, Tucker, Powell, Colsher, Lehman, Ward, Siedlecki, & Wyatt, 2005)*.

Figure 1: Map of Appalachia



How Penn State and Appalachia Decided to Partner

In September 1992, Penn State was one of four academic institutions funded by the National Cancer Institute to form the Appalachia Leadership Initiative on Cancer (ALIC) *(Couto, Simpson, & Harris, 1994)*. Of the four ALIC institutions, Penn State was the northernmost, and it became known as the Northern Appalachia Leadership Initiative on Cancer (NALIC). This initiative aimed to raise cancer awareness in rural communities in Appalachian Pennsylvania and New York through cancer-related outreach and education. The NALIC helped establish county-based cancer coalitions of lay and professional leaders from health, education, business, and civic and human service organizations, as well as cancer survivors and interested volunteers. With leadership at Penn State coming from the College of Agricultural Sciences, Cooperative Extension agents and the NALIC field staff provided technical guidance to the developing cancer coalitions.

The Northern Appalachia Cancer Network (NACN)

Beginning in 2000, the NALIC shifted its focus from establishing new community cancer coalitions that raise awareness about cancer to enabling the existing coalitions to adapt and deliver evidence-based interventions. Evidence-based interventions are theory-based and have been found to change people's cancer-related behaviors and reduce cancer risk. Coincident with this shift in focus, the NALIC became known as the Northern Appalachia Cancer Network (NACN). In 2004, leadership for the NACN shifted from the Penn State College of Agricultural Sciences on the University Park campus to the Penn State College of Medicine and the Penn State Hershey Cancer Institute on the Hershey campus. The shift allowed the NACN to more fully benefit from cancer care and research of Penn State while maintaining its association with the College of Agricultural Sciences and Cooperative Extension.

In recent years, the NACN has further developed as a community-academic partnership to conduct community-based participatory research (CBPR). This transition has emphasized data-based assessment of cancer burden in coalition counties; measurement of the outcomes from evidence-based interventions; development and testing of new interventions; and active dissemination of intervention results. Consistent with the participatory approach of a community-academic partnership, the NACN is guided by a 27-member advisory committee. Each community cancer coalition has a primary representative to the advisory committee, often the chair of the coalition. Representatives of the coalitions hold local positions such as cancer administrator of regional hospital, Cooperative Extension agent, nurse, nurse practitioner, or director of a local nonprofit organization. The advisory committee also has representation from Penn State, health insurance companies, the American Cancer Society in New York and Pennsylvania, the Departments of Health in New York and Pennsylvania, and Comprehensive Cancer Control in New York and Pennsylvania *(Lengerich, Wyatt, Rubio, Beaulieu, Coyne, Fleisher, Ward, & Brown, 2004; Lengerich, Rubio, Brown, Knight, & Wyatt, 2006)*.

Impact of the Northern Appalachia Cancer Network

The long-term goal of the NACN is to measurably reduce cancer risk and improve cancer survivorship in rural, medically underserved areas of Appalachian Pennsylvania and New York. Using the CBPR approach, the NACN develops, implements, and

evaluates evidence-based interventions in rural communities and clinics. This approach allows community members and their organizations as well as clinical and academic partners to collaboratively work toward objectives that are important for the local community. The NACN seeks to make residents and communities healthier and more informed, with norms and policies that reduce cancer risk. Clinicians in the partnership seek to improve delivery of patient-centered and evidence-based medicine. Academicians want to contribute to scientific knowledge, manifested by funded research grants, scientific papers, national presentations, and training of students, who seek to hone their new skills and apply their new knowledge. While each partner may have a different objective, they share the goal of effectively reducing the cancer burden in Appalachian communities of Pennsylvania and New York.

The NACN's Community-Based Research

The NACN research is prevention-oriented and relevant to the individual rural communities. The community identifies important health-related issues and helps develop research questions. Penn State brings expertise in study design, clinical medicine, protocol development, and data analysis. The research has been guided by health behavior theories, including the health belief model, theory of planned behavior, transtheoretical model of behavior change, social network theory, community coalition action theory, and the cognitive-social health information processing model. To help achieve local relevance, research sites have included schools, churches, senior centers, career centers, food pantries, primary care clinics, and rural hospitals. Literacy- and culturally-sensitive research materials are tailored to the unique needs of the community.

Examples of NACN programming and research projects are listed below.

- Developed and disseminated plans to enhance colorectal cancer survivorship in 18 Pennsylvania and New York counties *(Lengerich Kluhsman, Bencivenga, Allen, Miele, & Farace, 2007)*.
- Documented over 1,300 community development, education, and cancer screening initiatives among NACN coalitions in 2000–2004, in which 1,951 of 3,981 individuals (49%) who were offered cancer screening completed the screening *(Kluhsman, Bencivenga, Ward, Lehman, & Lengerich, 2006)*.

- Conducted focus groups to assess tobacco use and related social determinants in Northumberland County, Pennsylvania *(Branstetter, n.d.)*.
- Conducted a population-based assessment of primary care providers' attitudes, beliefs, and patient recommendations related to the Gardasil vaccine for human papillomavirus (HPV) in Columbia, Snyder, Union, Northumberland, and Montour Counties (Pennsylvania) *(Huey, Clark, Kluhsman, Lengerich, & ACTION Health Cancer Task Force, 2009)*.
- Assessed availability of the Gardasil HPV vaccine in public health departments and determined substantial variability in access, price, and utilization *(Katz, Reiter, Kluhsman, Kennedy, Dwyer, Schoenberg, Johnshon, Ely, Roberto, Lengerich, Brown, Paskett, & Dignan, 2009)*.
- Conducted eight qualitative focus groups stratified by geography and sex among average-risk adult Latinos to identify barriers to colorectal cancer screening and to assess acceptability of available CRC screening options *(Garcia-Dominic, n.d.)*.

Examples of the impact of community-based participatory research are listed below.

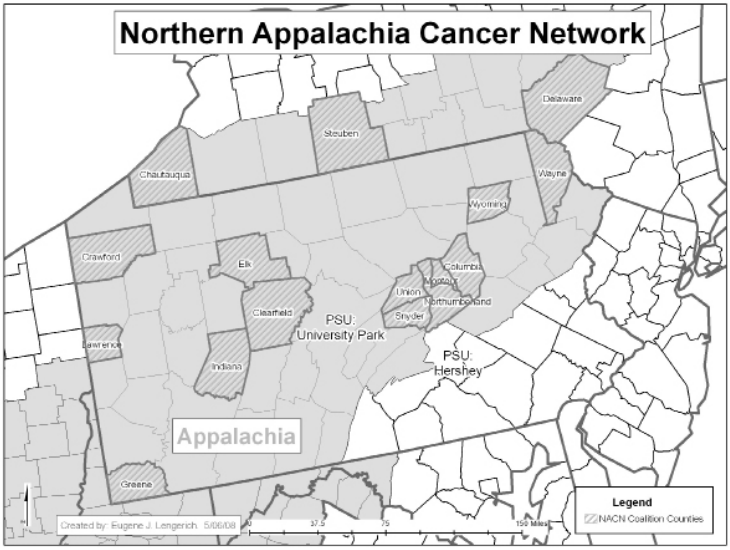
- Demonstrated through a randomized study that NACN coalitions can effectively disseminate messages and materials to increase the uptake of colorectal cancer screening *(Ward, Kluhsman, Lengerich, & Piccinin, 2006)*.
- Increased mammography screening rates in Indiana County, Pennsylvania, among rarely or never-screened, low-income women who were recruited through food pantries *(Bencivenga, DeRubis, Leach, Lotito, Shoemaker, & Lengerich, 2008)*.
- Increased HPV-related knowledge and HPV vaccination intent among women aged 18–26 in a five-county area *(Clark, n.d.)*.
- Reduced the use of smokeless tobacco among male users through adaptation of an evidence- and community-based intervention *(Cushman, n.d.)*.
- Demonstrated the feasibility and acceptability of a fecal immunochemical test with follow-up telephone barriers counseling intervention for increasing colorectal cancer screening in three rural, primary care clinics *(Kluhsman et al., n.d.)*.

More about the impact of NACN's work on the communities it serves, as well as on the university students and faculty members in the network, is outlined in the sections below.

NACN's Impact on the Community

Twelve community cancer coalitions are active in the NACN, including the ACTION Health Cancer Task Force, Central Susquehanna Colorectal Cancer Task Force, Crawford County Cancer Coalition, Coalition for People Against Cancer, Elk County Family Resource Network Cancer and Tobacco Education Coalition, Greene County Cancer Coalition, Indiana County Cancer Coalition, Lawrence County Cancer Coalition, Wayne County Cancer Coalitions, and Wyoming County Cancer/Tobacco Partnership in Pennsylvania; as well as the Chautauqua County Cancer Services Program Partnership, Delaware County Cancer Coalition, and Steuben County Cancer Services Program Coalition in New York. The 13 coalitions have more than 260 active members, including cancer survivors; community volunteers; and representatives of cancer control, health care, civic and community service organizations, and businesses.

Figure 2: Northern Appalachia Cancer Network Map



Through NACN training programs, coalition and community members have advanced their skills in the adaptation, delivery, and evaluation of evidence-based cancer initiatives. For example, a three-part 2009 webinar series provided guidance on health communication. *Working with the Media* taught development of public

health messages to which the media would respond and methods for effectively responding to reporters' questions. *Evaluating Health Promotion Efforts* addressed initiative evaluation, including reasons to evaluate, timing of evaluation, planning for evaluation, and collecting evaluation data. *Health Literacy* provided participants a better understanding of methods to develop clear, effective messages in understandable language. The three sessions were recorded and posted for replay. As evidence of the training and development, six NACN coalitions have written successful applications for external funding for community-based interventions in cancer prevention and control.

"Through NACN training programs, coalition and community members have advanced their skills in the adaptation, delivery, and evaluation of evidence-based cancer initiatives."

NACN's Impact on Penn State Students and Faculty Members

For undergraduate, graduate, and medical students, the NACN is a community-based laboratory in cancer prevention and control research. Several examples illustrate that the Northern Appalachia Cancer Network provides opportunities for student learning and research in a variety of disciplines.

In 2007, a Ph.D. candidate in Penn State Communication Arts and Sciences examined factors affecting rural women's intention to enter a clinical trial measuring electrodermal and electrocardiography changes. She found that the rural self-identity of the physician was associated with greater inclination of women to participate in a clinical trial ($P < 0.05$) *(Krieger, Parrott, & Nussbaum, 2010)*. In 2008, a medical student adapted the Indiana County Cancer Coalition's food pantry and mammography recruitment intervention study for delivery in four additional NACN coalitions. Also in 2008, two undergraduate students from Health Policy and Administration conducted a telephone- and Internet-based assessment of local sites for colorectal and breast cancer screening in central Pennsylvania.

Additionally in 2008, a staff member conducted her doctoral dissertation with NACN community coalition members, staff of National Cancer Institute (NCI)-designated Comprehensive Cancer Centers,

and NCI-funded Community Cancer Networks to determine best practices for increasing cancer screening in Appalachia *(Kluhsman, 2009)*. In 2009, an NCI-funded postdoctoral trainee used her focus group findings on barriers to colorectal cancer screening among Latinos as preliminary data for a NCI-K01 training grant application of a randomized study to test the effect of social support on the uptake of colorectal cancer screening among Latinos. Additionally, working with students, the NACN has published estimates of the cancer incidence and mortality in Appalachian Pennsylvania and New York; conducted three public forums on cancer in Appalachian Pennsylvania and New York; and conducted two workshops on community-based cancer research in Appalachian Pennsylvania and New York. Consistent with the participatory nature of CBPR, community members and students presented findings from their research at the two workshops. At the 2009 workshop, 97 people (mean age 44.9 years) attended, with 45.3% from rural counties.

"For undergraduate, graduate, and medical students, the NACN is a community-based laboratory in cancer prevention and control research."

Currently, the NACN includes faculty members from four Penn State colleges and an academic health center. Penn State faculty members on the NACN advisory committee have expertise in health communication, rural health, health services research, nursing, continuing education, epidemiology, population science, primary care, cancer treatment, and cooperative extension. This diverse professional background of NACN faculty has generated new interdisciplinary research related to cancer prevention and control through nutrition and physical activity, cancer screening and early detection, cancer survivorship, and uptake of cancer-related vaccines. The research of the NACN has helped position the Penn State Hershey Cancer Institute (PSHCI) as a leader in cancer prevention and control research in Appalachia, which is a major component of the PSHCI's 2010 application to the National Cancer Institute to be a designated cancer center.

No longer confined to the inflexible laboratory bench or the sterile hospital clinic, Penn State investigators, along with students, work with the NACN to test strategies that bring effective cancer prevention and control strategies to people in rural communities where they live and work and receive health care.

Lessons Learned and Best Practices

Rural communities in Appalachia exhibit reduced access to health care and increased cancer burden. The NACN, a community-academic partnership, has used culturally relevant methods in a community-based approach to address the increased cancer burden in Appalachian communities in Pennsylvania and New York. This approach has reduced the risk of cancer for residents of rural communities. A community-based approach may be one of the few strategies to effectively address the cancer-related health disparities in Appalachia because of the limited access to medical centers and clinics in this area.

The NACN developed from an outreach effort focused on cancer awareness and education to an academic-community partnership focused upon cancer prevention and control research. The transition in focus took over 15 years. Funding agencies, community partners, and academic institutions must be prepared to invest in community-academic partnerships for an extended period of time to achieve similar results. University faculty should be prepared to invest the time necessary to establish a community-academic partnership before positive results will be realized, especially when their scholarly performance will be reviewed regularly for promotion and tenure.

Throughout its 18-year history, the NACN has learned that trust between the community and an academic health center must be engendered, and the profit-motivated model of health care delivery must not be permitted to enter discussions with community members. The NACN uses transparent and frequent communication in the context of its advisory committee, annual meetings, and frequent visits to coalitions. The NACN emphasizes shared values and goals.

In addition, the NACN has learned to nurture the network of community cancer coalitions despite their being spread across Pennsylvania and southern New York, a distance of over 400 miles. The NACN provides technical assistance to the coalitions through three field staff who are based in relative proximity to coalition counties. The NACN enhances communication through annual in-person workshops and periodic web-based training sessions.

NACN: Next Steps

Future plans for the NACN are focused on enhancement and transferability. First, Penn State will expand the NACN's research

with externally funded, controlled studies intended to develop, implement, and evaluate evidence-based interventions. At present, there is a dearth of reports of studies showing a measurable reduction of cancer disparities among medically underserved populations. Most studies in health disparities have been limited to describing and quantifying cancer health disparities, rather than developing and testing methods to reduce the disparity. Studies by the NACN can make an important contribution to the scientific literature on community engagement and evidence-based interventions for cancer prevention research.

Second, Penn State intends to transfer the NACN experience to the catchment area of the Penn State Hershey Cancer Institute (PSHCI). The populations of the PSHCI catchment area are culturally diverse, including Caucasian, African American, Hispanic, Asian-related, and Native American individuals. Unlike NCI-designated cancer centers located in urban areas, the PSHCI serves a catchment area that includes communities widely dispersed along the urban-rural continuum, ranging from small towns and cities and their environs to the most isolated rural communities. Many communities have a high percentage of individuals who have limited access to health care services and have cancer-related health disparities.

Conclusion

Despite multiple funding cycles and leadership changes, the NACN has developed into a community-academic partnership that includes one of the longest-running and most successful networks of community cancer coalitions in the United States *(Kluhsman et al., 2006; Wells, Ford, Holt, McClure, & Ward, 2004; Wells, Ford, McClure, Holt, & Ward, 2007)*. The NACN has changed the approach to cancer research and training at Penn State. It promotes collaborative, community-based cancer research, especially research that is prevention-oriented and tailored to the specific needs of rural Appalachian communities in Pennsylvania and New York. The research questions and methods that emerge are generated by, and therefore highly relevant to, community members. The NACN has shifted the usual process of cancer studies away from solely understanding the genetic and cellular pathways in the development of cancer to a comprehensive understanding of the people and their interconnected biological, psychological, and sociocultural environments. Having positively affected the lives of people in rural, medically underserved communities and having brought a paradigm-shifting approach to cancer research and training, the NACN

is a seminal example of engaged scholarship at Penn State, where the mission includes improving "the well being and health of individuals and communities through integrated programs of teaching, research, and service" *(The Pennsylvania State University, 2006)*.

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Measuring Success in Outreach and Engagement: Arizona State University and the American Dream Academy

Alejandro Perilla

This article describes the 2009 C. Peter Magrath University/Community Engagement Award winning project, The American Dream Academy, which has had a significant impact on Phoenix, Arizona's K-12 educational community.

Introduction

Leaders in territorial Arizona envisioned the future of the region as full of promise. They foresaw the desert transformed into fertile soil irrigated by water carried through canals originally dug by an ancient indigenous people, the Ho Ho Kam or "the people who have gone." In February 1885, an act to establish a normal school was introduced in the 13th Legislature Assembly of Arizona Territory. The following February, 33 students met in a single room on 20 acres of donated cow pasture south of the Salt River, in what is now Tempe, Arizona.

The institution that became Arizona State University (ASU) was charged with the broad obligation to provide "instruction of persons . . . in the art of teaching and in all the various branches that pertain to good common school education; also, to give instruction in the mechanical arts and in husbandry and agricultural chemistry, the fundamental law of the United States, and in what regards the rights and duties of citizens" *(More ASU History, n.d.)*.

In the succeeding years, the school grew from a teacher's college to a Research Extensive institution (formerly Research I) engaged in providing educational excellence and access to a diverse student population. Today, ASU has more than 67,000 students at its four campuses, and *U.S. News & World Report* ranked it in the top tier of national universities in 2008, 2009, and 2010.

On July 1, 2002, Michael M. Crow joined the university as its 16th president, and ASU entered a new era. President Crow's vision of the New American University became a blueprint for reinventing higher education by identifying eight design aspirations unlike those found at most other universities *(A New American University, 2009)*.

Figure 1. ASU's Eight Design Aspirations

1. Leverage Our Place	ASU embraces its cultural, socioeconomic, and physical setting.
2. Transform Society	ASU catalyzes societal change by transcending its physical location.
3. Value Entrepreneurship	ASU uses its knowledge to encourage innovation and economic development across the region.
4. Conduct Use-Inspired Research	ASU research has purpose and impact, enhancing the quality of life for society as a whole.
5. Enable Student Success	ASU is committed to the success of each student, and seeks greater diversity in the student body.
6. Fuse Intellectual Disciplines	ASU creates solution-focused knowledge relevant to real-world problems by transcending academic disciplines.
7. Be Socially Embedded	ASU is connected with communities in mutually beneficial partnerships that strengthen their capacity and resources.
8. Engage Globally	ASU engages with people and issues locally, nationally, and internationally.

In 2004, Raul Yzaguirre stepped down after 30 years as president and CEO of the National Council of La Raza (NCLR). President Crow offered him an opportunity to continue his work in Arizona. The Center for Community Development and Civil Rights (CDCR) in the College of Public Programs is the result of the collaboration between these two visionary leaders. They, along with other university leaders, believe that in addition to teaching and conducting research, a great university has the resources and responsibility to solve problems in communities, both local and global. President Crow and Professor Yzaguirre understand that the community has the capacity to solve problems for itself when supported by "bridges" between the university and the community. Partnerships designed to strengthen low-income, marginalized populations enable communities to become knowledgeable about education, finance,

"[I]n addition to teaching and conducting research, a great university has the resources and responsibility to solve problems in communities, both local and global."

health care, and the basics of housing, transportation, and local ordinances. These connections are the foundation of social embeddedness: the kind of transformation that the American Dream Academy, a parent education program, was designed to engender. "Our challenge," according to Professor Yzaguirre, "and the challenge of our children's children, is to make American ideals more real in each lifetime" *(A New American University, 2009)*.

Arizona's Educational Challenges

Education for America's underserved populations was a focus of Professor Yzaguirre's work at the National Council of La Raza and became a priority initiative at the Center for Community Development and Civil Rights. Faculty in ASU's Morrison Institute for Public Policy wrote a report titled *How Arizona Compares: Real Numbers and Hot Topics (2005)* that clearly outlined the challenges of educating Arizonans:

- Arizona's state superintendent of public instruction reported that, in 2003, 51% of the state's K-12 public school students qualified for free or reduced-price lunches—a standard indicator of disadvantage.
- Approximately half of the state's K-12 students (49%) come from minority groups, which suffer disproportionately from low incomes and poor preparation for school.
- Sixteen percent of elementary and secondary students were "English language learners" in 2003. Spanish is the most prevalent native language other than English, but as many as 43 languages are spoken by K-12 Arizona students.
- According to a 2002 U.S. Department of Education survey, Arizona ranks second only to California in the percentage of teachers who reported working with students who had little or no proficiency in English.
- To meet student needs, Arizona has emphasized before- and after-school programs and is ranked 8th in the nation for the number of elementary schools providing such support, according to National Center for Education Statistics (NCES) data for 1999–2000.
- Arizona ranked 47th in per-pupil spending in 2001–2002. This expenditure represents half the amount of state funds

spent by either New Jersey or New York as reported by NCES in 2004.

- The Arizona Department of Education reports that Arizona's four-year high school graduation rate has hovered around 71% in recent years, and reported it at 72.7% for the class of 2002—although this number did not include 10.9% of students classified as "status unknown." NCES reported that Arizona had a completion rate of 68.3% for the school year 2000–2001, second lowest after Louisiana, although not all states were included in that count.

These statistics characterize the student population of the Phoenix metropolitan area. This student population is at an elevated risk of dropping out prior to completing high school, a trend that has been called the "invisible crisis" by the Urban Institute *(Orfield, Losen, Wald, & Swanson, 2004)* and a "silent epidemic" in a report for the Gates Foundation *(Bridgeland, DiIulio, and Morison, 2006)*. It is most serious for African American, Hispanic, and Native American males, with nearly half failing to graduate from public high school, even though many had less than 2 years remaining to complete their education. Despite having been documented and studied, this exit from the education pipeline continues.

The American Dream Academy

Attitudes toward education (including the recognition that both graduation from high school and a college education are important) begins early in a child's life. Parent involvement in a child's education is critical. An intervention-type course that focuses on adult life skills can empower parents as effective advocates who act as partners in their child's education. The observable effect is that when parents instill the value of education in themselves, they also instill it in their children. In poor communities, where children have limited access to role models who have a formal education, skill-building programs are especially important *(Epstein, 1987)*. In such programs, parents commit to the educational success of their children, and learn that they already possess the ability to transform their children's lives. The success

"[W]hen parents instill the value of education in themselves, they also instill it in their children."

of such programs centers on the realization by parents that they can make a difference *(Hoover-Dempsey & Sandler Model of Parental Involvement, 2005)*.

Parent skill-building programs inform parents about the difference a college education makes in their child's life. For example, data clearly show that a university education leads to significant income gains over time. CollegeBoard *(2007)* reports that "over a working life, the typical full-time year-round worker with a four-year college degree earns more than 60 percent more than a worker with only a high school diploma."

Arizona State University recognized the importance of parents in helping children graduate from high school, prepared for a successful university education. To address the challenges faced by Arizona's students and parents, ASU established a parent education program called the American Dream Academy (ADA). To instill an understanding of the value of attaining a high school and college education, the program focuses on retention, graduation, and academic success.

In 2006, the program was piloted in two Maricopa County public schools, an elementary school in Phoenix, and a junior high school in Mesa. The Center for Community Development and Civil Rights staff tailored the California-based curriculum provided by the Parent Institute for Quality Education (PIQE) to Arizona academic standards. Although initially skeptical, teachers and administrators were won over by the transformation of a parent-student population that had previously been difficult to reach. From a modest beginning of 251 parent-graduates in the fall of 2006, the total number of graduates in the fall of 2009 was 1,710, and 3,814 graduated from the program in the spring of 2010.

Program Content

Through a 10-week program, parents of K-12 students enrolled in underserved or underperforming schools gain the knowledge and skills necessary to improve the educational and personal development of their children. The program is available to all parents whose children are enrolled in participating Phoenix metropolitan area public and charter schools. It connects parents, schools, ASU, and the community as partners in the educational and personal development of elementary, middle, and high school students. Participants learn that taking a proactive role can improve parent-child relationships, keep more children in school, reduce dropout

rates, improve classroom performance, and put children on track to attend a college or university and earn a diploma.

The program is offered at no cost to participants. ASU has invested nearly $1 million in the American Dream Academy through annual underwriting support at the $250,000 level, and by subsidizing significant indirect costs. Grants and funds from private organizations include a multiyear grant from the Helios Education Foundation totaling $3 million. Partnering schools also pay an average fee of $110 per parent graduate.

The American Dream Academy program offers sessions in the morning and evening to accommodate parents' schedules, and cur-

Figure 2. Sample of the Program's Weekly Schedule

Week 1		Letter from Principal goes out to parents and ADA Call Center Campaign begins
Week 2		Introductory Session
Week 3	Lesson 1	You Make the Difference
Week 4	Lesson 2	Being a Partner with Your School
Week 5	Lesson 3	Academic Standards and Performance
Week 6	Lesson 4	Communication and Discipline
Week 7	Lesson 5	Self-Esteem and Motivation
Week 8	Lesson 6	Reading, Together Time, and Motivation
Week 9		Academic Success Planning
Week 10		Principal's Forum
Week 11		Graduation

rently conducts classes in both English and Spanish. Parents learn how to navigate the school system, collaborate with teachers and administrators, and plan for academic success. Ultimately parents are their children's first and most important advocates. During the program, parent participants learn how to become active partners with their child's school. Activities like a "Principal's Forum" enable parents to communicate their needs and concerns to school administration and teachers, and encourage feedback on how the school can better support students.

For many parents, American Dream Academy "graduation" ceremonies mark the first time they have graduated from any program. As a tangible reminder that a college education is within the grasp of students from all backgrounds, graduates of the program receive a symbolic "Certificate of Admission" to ASU signed by President Crow along with specially crafted "Future ASU Student" ID cards.

Program Staffing

The American Dream Academy program is staffed by the ADA Volunteer Corps (see Figure 3). Volunteers come from all walks of life and professions, including ASU students, faculty, and staff members. ASU's Doran Community Scholars, from the Phoenix Union High School District, produce curricula to train parents and volunteers while developing their leadership skills through community projects.

ASU faculty members collect, analyze, and publish data on the program. Taken together, the program's volunteers represent more than a dozen nationalities, with most being native speakers of Spanish. All have a singular commitment to education and contribute their time as facilitators who lead weekly workshop discussions, coordinators who manage on-site logistics, or Contact Center agents who talk with parents by telephone each week.

Figure 3. American Dream Academy Team Members

Center Director	ASU staff responsible for day-to-day operations, staff supervision, funding sources, program development, policies, goals, objectives, liaison to university and exterior constituents, and training
Program Director	ASU staff responsible for working directly with school administrators, coordinating with internal team members on training, implementation of program, documentation, recruitment, and evaluation
Field Program Manager	ASU staff responsible for delivery of program and oversight to assigned schools, coordinating with facilitators, school personnel, and parents, problem solving, technical advice
PRISMMS Program Manager	ASU staff responsible for support of Field Program Manager in delivery of program and oversight to assigned schools, data entry and documentation, logistics of curricula, and related instructional materials
Logistics/ Production Manager	ASU staff responsible for technical support of PC-related hardware and software issues, coordination and training of Contact Center agents, assisting in production of various program print materials
Facilitators	Certified community volunteers trained to deliver curricula off-site for 10-week duration, weekly in-service training, modest stipend in compensation
Coordinators	Trained community volunteers to assist on-site coordination between ADA team, school administration, teachers, parents and students (i.e., classroom availability, child care space), modest stipend in compensation
Contact Center Agents	Trained community volunteers place outgoing calls from center to recruit parents to planning meeting at their student's school, reminder calls for weekly classes, modest stipend in compensation

ADA facilitators are recruited from the community through social and professional networks. They have Bachelor's degrees

or equivalent education, and many have teaching or other professional credentials. After an interview process and training, they are matched with a school, language, day, and time as the primary instructor for the duration of that 10-week program. They are supported and evaluated on site to ensure uniform and quality program delivery.

Program facilitators are modestly compensated for their roles as instructors; however, these women and men often speak of the intangible rewards they receive from engagement with diverse participants. For example, Terri J. passionately articulated for continuation of a local high school program after the school principal decided not to continue it due to the expense of holding class for 15 people. A major portion of the class was made up of immigrants from Iraq, Somalia, and three families from Thailand who all carpooled in one vehicle.

> My most favorite place to facilitate has become Alhambra High School. What a place of diversity, and what wonderful stories! Stories of oppression, escape from wars and persecution from refugees who have acquired asylum will send chills up your spine. Their stories are of fear and of great triumph. We are family, so how do you look your family in the eye, in front of their children, a total of 15 people, and tell them that the principal has decided to eliminate their class because of low participation? In my opinion, a grave injustice has occurred and I would do anything to right this wrong. *(T. Jennings, personal communication, February 19, 2010)*

Upon receipt of the facilitator's plea, classes were continued with the costs borne by the program. The transformations engendered by the American Dream Academy occur on both sides of the bridge connecting the university and community.

Program Delivery

The American Dream Academy program employs innovative technologies to facilitate operations, including a call center, a data management system, and social networking.

Call center.

Located in the Center for Community Development and Civil Rights on the ASU Downtown Phoenix campus, the Contact Center is a virtual voice over IP (VOIP) "software as a service" (SAAS) that

automates all of the calling functions into one package. By using SAAS call center technology, which itself uses the Internet to carry all of its voice and data traffic, ADA is freed from the capital and technical requirements of traditional call center infrastructures. Furthermore, the predictive dialing capabilities of this technology allow ADA to fully maximize the availability of agents for calls. Finally, such a system permits ADA agents to read from tens of thousands of customized scripts that are pushed to each agent desktop on a call-by-call basis regardless of geographic location, so that parents appropriately feel that the invitation is specifically for them.

Research from Vanderbilt University found that a fundamental difference in parental engagement results from an invitation from the school to participate *(Hoover-Dempsey & Sandler, 2005)*. This is what the ADA call center is doing at scale. In its first 3 years of operation, the Contact Center has reached approximately 20% of all households with school-aged children in Maricopa County.

Data management system.

Leaders of the American Dream Academy program are measuring the medium- and long-term outcomes of the program using Program for Information Systems Management and Measurements (PRISMMS). PRISMMS is a custom enterprise management system, designed to manage all aspects of the program while capturing data about the performance of all key aspects of the program. PRISMMS provides a process to convert data into useful and usable management information to accomplish four specific objectives:

1. to determine the effectiveness of the ADA's programs;
2. to grow, diversify, and expand the ADA programs;
3. to make the ADA programs scalable in response to changing community needs; and
4. to attract interest from future funders.

PRISMMS specifically helps ADA decision makers organize their work in a stream that flows from beginning to end. While it is not a perfect answer to all aspects of performance measurement, it is a helpful tool in the pursuit of a more meaningful system for managing a public program. Some particularly effective functions include evaluation, control, budgeting, and learning.

Evaluation. PRISMMS is the central repository of data both for workflow and content. ADA administrators can evaluate the effectiveness of staff by measuring how much work an individual employee is able to accomplish in a reasonable period of time. By standardizing tasks they can measure the work output of each individual and compare it to that of his or her peers in a fair and consistent manner. PRISMMS also enables evaluation of the program's effectiveness with parents and children. For example, the system is the central repository of parent attendance data, and of the school performance of every child associated with the program, as reported by parents. Using this data, administrators can study the effect of the program on children by looking at their parents' marginal utilization of program services.

Control. With the programming of processes into the PRISMMS system, the ADA program directors can ensure that processes are repeated consistently from day to day. For example, the system's algorithms help staff forecast how many parents are expected to attend any given session, based on a variety of variable inputs. Because the system helps staff allocate resources efficiently and predictably, the program is able to serve more individuals per staff member than would ever be possible without such a system.

Budgeting. The ADA directors take seriously their obligation to be responsible stewards of the philanthropic investments the program receives. Thus, they are constantly in search of data that can be used to inform their decisions on programming so that a maximum return can be made for each dollar the program receives.

Learning. PRISMMS is especially helpful in learning what works and what does not work. For example, measurements of the week-by-week retention rate of parents in a class for any given facilitator are evaluated. An example would be a facilitator whose attendance retention falls from one week to the next. A drop in attendance from 90% to, say, 50% is not the end of a program, but left unattended it might mean that of 100 parents enrolled, only 50 ultimately finish. With PRISMMS, program managers know within 36 hours if the retention rate of a particular program or facilitator falls below a certain threshold, and a series of additional resources can be deployed to improve attendance. That is one of the reasons for the program's 85% graduation rate.

The ADA program's mission is about social change. "Back office" operations, however, are a necessary part of what the program directors do. Thus, measurement tools that help them focus more completely on their mission, rather than on internal processes, are employed. Analysis of measurement data results in more economical achievement of program goals. For nearly four years, ADA has focused on understanding this process through the hundreds of thousands of data points generated by PRISMMS. These analyses have allowed a relatively small staff to serve ever increasing numbers of participant families.

Social networking.

In an effort to learn more about staff performance and deploy staff training resources and supervision, ADA uses the popular social networking system Twitter. Using Twitter's open application programming interface, event triggers were placed on key process screens throughout PRISMMS. Thus, when a team member executes a key system task, such as completing attendance for a specific class, the system passively triggers a Twitter notification that communicates the event's occurrence to the rest of the team.

For some this may seem intrusive. Can this methodology be considered spying on employees? No. All program staff know that Twitter is used and why. Moreover, everyone has access to the Twitter feed and receives the information simultaneously. By analyzing trends in the feed, a supervisor is able to know immediately, not just that the work is being done, but more importantly that the pattern of work is consistent with good practices. Already, employees have benefited from this system because better practices in workflow lead to better results.

The American Dream Academy Impact and Outcomes

The impact of the American Dream Academy has been captured anecdotally and in statistical analysis of the program. Postparticipation data indicate that parents greatly increased their knowledge of the school system and how to help their children succeed academically. Nearly all parent graduates said that following the program, they felt informed about how to help their children attend the university, beginning at the elementary school level (97%), and more prepared to understand the school system and help their children (96%) *(American Dream Academy, 2009).* At graduation, each class chooses a parent to speak for them to the

assembled family, friends, and school staff. The parents' speeches are sincere, articulate expressions of gratitude and filled with enthusiasm for their children's academic success. Postparticipation data are collected from the school principals in addition to letters of support for the program. Teachers, counselors, and school administrators report increased parental involvement in the classroom and improved communication between the school and family in a community previously difficult to reach.

"Teachers, counselors, and school adminstrators report increased parental involvement in the classroom and improved communication between the school and family in a community previously difficult to reach."

The future of the program is promising. To be sure, financing is a significant hurdle. However, schools themselves have demonstrated great interest in engaging ADA's help in serving their families, and in paying for that service. There are numerous other possible program "additions" that will help families achieve the American dream through education. Already, ADA has taken financial literacy programs to elementary school children.

ADA has also worked with middle and high school students on the Novelas Educativas program, a curriculum based on short film vignettes. Latino families from educationally disadvantaged backgrounds do not possess the necessary "college knowledge" that enables many middle- and upper-middle-class parents to prepare their children for college. The film series uses culturally appropriate situations and conversations to inform viewers about the academic requirements that students must meet in middle school and high school in order to go on to college, as well as the process for applying to college and receiving financial aid.

As ADA revises its curricula, there will be additional opportunities for service expansion, both around the core educational curriculum and around additional topics of importance to the communities served by ADA, including health and wellness, civic engagement, and others.

In addition to Hispanics from this hemisphere, the Phoenix metropolitan area and Maricopa County are becoming home to a

variety of refugee groups. These include Bhutan exiles that live in Arizona as part of a U.S. resettlement program, as well as refugees from war-torn Africa and Iraq. New migrants face overwhelming challenges adjusting to life in the United States. Currently the CDCR is exploring opportunities for additional collaboration with these newcomers to Arizona.

The American Dream Academy: Lessons Learned and Best Practices

The creation of the American Dream Academy posed a fundamental challenge: attempting to integrate a nonprofit model into a large bureaucratic institution. Program creators resolved this issue by placing it in an entrepreneurial unit—the Center for Community Development and Civil Rights. ASU recognized a need to invest in the early stages of the program, and the university's firm commitment to the program's stabilization allowed time for the American Dream Academy to grow and establish roots within the community.

The challenge of scaling the American Dream Academy without proportional increases in staffing and capital investment has been met by innovative use of technology, by eliminating friction in processes, and by designing systems that free key staff to work on the mission and not the process. A daily focus on identifying inefficiency has led to thousands of additional hours available to staff to concentrate on mission-related activities. A careful approach to analyzing process allows ADA to zero in on program refinement instead of organizational workflow. By paying such careful attention to detail and process, the organization can streamline and scale its procedures, and thus reach greater numbers of families more effectively, with greater impact, and for less cost per parent graduate. A key lesson in the growth of the organization is that solutions to 21st-century challenges are met with 21st-century processes, and with 21st-century technology.

Conclusion

At Arizona State University, access and exellence are core values that have drawn new groups of students to higher education. First-generation college students are enrolling at ASU from all over the region, and the university has built structures and programs to support them.

ASU and the American Dream Academy look forward to continued success in engaging the community in the education of all

children. The success of the program demonstrates ADA's effectiveness in helping to prepare students for the future and ensure their place in the American dream. It is one of the significant challenges ASU has chosen to meet through innovation and implementation of the new design aspirations that the Center for Community Development and Civil Rights and Arizona State University embrace as a New American University.

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About the Author

Alejandro Perilla is director of the Center for Community Development and Civil Rights at Arizona State University, Downtown Phoenix Campus. He is responsible for the day-to-day management and development of the center. He joined ASU in 2005 to continue his long association with Raul Yzaguirre after a 20-year career at the National Council of La Raza. Perilla's

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Book Reviews

Theodore R. Alter, Associate Editor
The Pennsylvania State University

Randy Stoecker and Elizabeth A. Tryon, with Amy Hilgendorf, eds. *The Unheard Voices: Community Organizations and Service Learning*. Philadelphia, PA: Temple University Press, 2009.

Review by Nicole Webster

In *The Unheard Voices: Community Organizations and Service Learning*, Stoecker and Tryon have started a much-needed discussion about the relationships between service-learning participants and community organizations. Instead of focusing on what many researchers and practitioners want to hear, they dive into an area that many scholars have excluded from their conversations: exposing the effectiveness of service-learning. The text provides dialogue about the impact of service-learning on community organizations from a critical scholarly perspective.

Stoecker and Tryon challenge higher education scholars to think about how community members are affected by service-learning engagement. By exploring these issues, they encourage those in higher education who are facilitating these engagement projects to think about their roles as faculty members, educators, and keepers of knowledge. Questions posed include: Are service-learning activities reciprocal in nature? Does the service-learner help advance the mission and objectives of the organization, or are students just an added responsibility for a community organization staff member? Through conversations with 67 community organization staff members, the editors investigate issues that occur when students are released from the safety nets of classrooms into the world of community work and nonprofit organizations. The colorful and insightful comments of community organization staff paint a picture of how community organizations define, perceive, and evaluate service-learning.

The primary value of this book is its ability to inform scholars and practitioners about the tensions and barriers that can exist between the students participating in service-learning projects and community members, as well as the factors that influence students before they enter the community. The refreshing voices from community members clearly recommend that faculty members step up to the challenge of truly preparing students for transformative learning and engagement. Professors must help students understand epistemological differences between themselves and their community partners, and how such differences impact the ability of students to address real social problems. Without this understanding, problems and tensions will continue to arise in service-learning programs. Students will be sent to organizations without

a contextual understanding of the needs of organizations, which could lead to unexpected outcomes and inappropriate expectations for both the students and the community partners.

The book begins by asking a basic yet critical question: Who is served by service-learning? Service-learning researchers have been attempting to answer this question for years, and are still struggling with it today. According to Stoecker and Tryon, the answer is all too often influenced by the faculty member's institution's academic promotion and tenure system, or by the faculty member's focus on satisfying the needs of the student. These influences invariably shift the focus and outcomes of community engagement away from the community and toward the university students and faculty members.

University administrators are positioned to expand students' civic capacity before a service-learning endeavor. However, the vivid comments by the staff members of community organizations indicate that students were academically prepared, but lacked the civic capacity to efficiently meet the needs of their organizations. Community organizers recognized the need for faculty and universities to prepare students to become social change agents within their communities. Conversations among community organization staff members revealed that students can contribute as a short-term cadre of volunteers, but they must come to the table ready to engage and work *with,* rather than *for* the organization. For example, many students enter a community organization thinking that they are coming in to save the organization, rather than seeing themselves as individuals who are working with organization staff to address the organization's needs and issues. The emphasis of the service-learning experience should be reciprocity, and not a one-sided favoring of student academic needs.

The analysis of issues such as student investment and time spent at the students' community site revealed the struggles community organizations face when accepting service-learners. At the root of these issues was a lack of preparation for the experience and differing epistemological values, and skills, between the university participants and community organization members. Faculty members and students come to a community organization with beliefs about engagement that may differ from those of community organization members. Participants must meet on common ground to avoid jeopardizing both the work to be done, and the experiences of the students, faculty members, and community members.

Frustration with higher education community engagement stems from a number of factors. *Unheard Voices* suggests that the paucity of quality service-learning and engagement research underlies much of the tension between service-learning students and community organizations. Stoecker and Tryon eloquently point out that relationships between the service-learner and the community organization are often shaped by power relationships; organizational structures, policies, and funding; and cultural differences (university versus community). The profile of the American university faculty member as able to engage in democratic modes of meaningful work that address both local and global issues has not been realized in service-learning pedagogy. An ongoing struggle has emerged about how to create a university culture that values community organizations, while at the same time providing valuable experiences for students. Stoecker and Tryon demonstrate through their conversations that service-learning often places the needs and wants of the faculty members and students first, with the community organization merely serving as the backdrop for learning, resulting in no real engagement.

In short, this book begins to change the conversation about who is served by service-learning. It explores how university administrators and faculty members can make engagement experiences (i.e., service-learning projects) more effective for students, as well as for the community members served. *Unheard Voices* recognizes the need for universities to "respond" to the needs of society through the use of scholarship in ways that add value to society, but in a manner that supports community organizations. Faculty and staff members participating in service-learning and community engagement must take into account the role the community organization plays in the cocreation of knowledge. As Ernest Boyer *(1991)* pointed out, the scholarships of discovery, integration, teaching, and application form a unified puzzle that deepens how scholars do work that meets the real needs of communities. The scholarships of discovery and of application do not happen independently of one another.

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About the Reviewer

Nicole Webster is an Associate Professor at The Pennsylvania State University. She has experience in the design of civic engagement/public scholarship programs and evaluations for communities, universities, and youth development organizations domestically and internationally. She is an academician with hands-on experience in community-based research who implements research programs and projects to revitalize organizational performance and human capacity. Her research focuses on how higher education community engagement affects the social and personal development of youth in marginalized communities.

Marissa L. Diener and Hank Liese, eds. *Finding Meaning in Civically Engaged Scholarship: Personal Journeys, Professional Experiences*. Charlotte, NC: Information Age Publishing, Inc., 2009.

Review by Loretta Singletary

This collection of essays describes the rewards and challenges of civically engaged scholarship as perceived by nine faculty members representing eight different disciplines at the University of Utah. These faculty members came together as the Civically Engaged Scholarly Cohort (CESC) to explore and practice civic engagement through service-learning and community-based research. Early in their collaboration, they recognized their need to pursue civic engagement through teaching and research as they discovered they were unable to separate their professional from their personal sense of self. They discovered that they shared similar motives to inspire their students to become civically engaged, including moral, spiritual, and political factors that composed who they were not only as academic faculty members, but as human beings.

The essays reflect upon the role of service-learning in addressing complex civic issues, applying academic theory to solve real-world problems, and facilitating student exploration of self and personal identity. More interesting is the surprising candor with which the authors share how service-learning experiences influence their personal self-discovery. The authors provide readers with a hard look inside the struggle many faculty members experience in their quest to attain tenure while striving to find meaning in their work. At least for this group of academics, experiencing a connection to community is the key to finding meaning in their personal and professional lives. They report that service-learning, as a practical form of civically engaged scholarship, provides a medium through which to realize a sense of purpose, while satisfying the constraints of the academic institutional framework that is focused on achieving merit, resulting in tenure and promotion.

The book is divided into two parts. Part 1 features nine essays or chapters that depict the journey of individual faculty members discovering their passion for civic engagement. Part 2 provides specific examples of civic engagement in action; reports the impacts of civic engagement on students and communities; and discusses the challenges involved in implementing effective civically engaged scholarship.

Three themes emerge in Part 1. First, the majority of these nine scholars perceive that the university environment undervalues

teaching, particularly outreach teaching and service, as compared with research. These scholars indicate they felt that they risked their chances for promotion and tenure in their pursuit of outreach service and research. They lament that traditional academic expectations for gauging faculty success continue to focus on numbers of articles authored individually, thus encouraging and rewarding egocentric, rather than, collaborative behavior.

Second, an interdisciplinary approach is critical, even necessary, to effective civically-engaged scholarship. These scholars share their journey of self-discovery as they apply academic theory to address real-world problems and issues. In fact, they ask the reader to consider the role of the university in addressing problems that require multiple disciplines to work together to explore the development of theories that necessarily permeate boundaries between academic departments and colleges. These scholars additionally argue that civically engaged scholarship must involve nonacademic partners since it is motivated by real problems rather than academic theory. Partnerships forged between academics and nonacademics require the university to accept community knowledge as a critical resource even though it weakens the notion of the university academic as expert.

Third, civically-engaged scholarship provides a vehicle for exploring and discovering the personal self while maturing the professional self. These scholars describe coming to terms with their inability to divorce their personal, spiritual selves from their academic selves and cite primarily personal reasons for incorporating service-learning into their teaching and research. Through their search for meaningful learning experiences to connect students with community problems, the authors find their personal identity—a sense of self apart from their academic discipline, departmental politics, and business-as-usual in an ivory tower. They reflect upon their own learning experiences and increasing awareness as they strive to nurture student awareness about community issues. As these scholars build relationships with community partners and students to implement service-learning, they discover aspects of their personal character and morals. They confess, to their surprise and terror, their realization of their need for control and their subsequent efforts to relinquish control of their students and the learning process. Readers who are educators will likely find these accounts endearing if not enlightening.

The essays featured in Part 1 are well-written and provide refreshingly honest and inspirational views of the role that civically-engaged scholarship plays in the lives of these faculty

members. Most of the essays emphasize the disparity between university expectations for academic success and the personal drive to pursue civically-engaged scholarship, which may discourage some academics from exploring service-learning and community-based research. It should be noted, however, that the authors strive to balance this message by emphasizing the personal and professional growth they experience through their pursuit of civically-engaged scholarship—benefits that they unanimously agree exceed the risks posed by the tenure and promotion process. A few of these scholars report that they were able to satisfy the traditional expectations of the university simply by strategically coordinating their civic engagement activities with their scholarly activities. For one author, this translated to methodically explaining his journey in his tenure and promotion application, convincing his colleagues of the academic credibility of his civic engagement teaching and research activities.

Perhaps the most important information readers may glean from Part 2 is related to scholarly efforts to evaluate the impact of service-learning on students and communities. The essays present case studies that provide readers with a balanced review of impacts based on feedback from students and community partners in addition to the scholars' personal perceptions. Readers who are considering replicating these types of service-learning projects will find the lessons learned and shared in this collection of essays invaluable. Specific impacts on students reported are numerous and impressive.

The scholars report that through their service-learning experience, students learn how to work with diverse groups to address high-stakes, competing interests as well as to facilitate discussion about complex issues. Students also increase their collaborative problem-solving skills, knowledge about local issues, self-confidence, self-esteem, social and networking skills, relationship-building skills, appreciation of the role of relationships in problem solving, and appreciation of diverse views. Reported community impacts include perceived increases in trust between community and university, increases in social capital between university and community organizations, and improved perception of the value of universities for exploring and addressing the underlying causes of society's problems.

The scholars provide honest discussions concerning the numerous challenges posed by service-learning, one of which is the time demand that this pedagogical tool places on faculty members, students, and community partners alike. They also note that many

students are uncomfortable and unprepared when they encounter difficult and adversarial personalities in the course of their service-learning experience. Because many students work and have families, they often lack sufficient time to experience the full benefits of service-learning. The resentment toward service that can result may negatively influence relationships with community partners and may curb students' future civic engagement. Challenges also include the limited resources available to community partners when they are asked to supervise or otherwise invest time and energy in students.

The case studies are informative and helpful; however, readers might benefit from a more detailed description and discussion of the techniques and methods developed to measure the impacts of service-learning on students and communities. For the most part, the authors omit these details and favor a more general discussion of impacts as reported by students and perceived by the scholars themselves. Although this information is certainly interesting, and perhaps accurate, it leaves doubts about the reliability and validity of the impact measures. Still, the impacts reported here can help readers develop measures of service-learning impacts, and lead to development of reliable instrumentation and methodology for future impact evaluations.

About the Reviewer

Loretta Singletary, is a Professor and Extension Educator for the University of Nevada Cooperative Extension. She conducts extension research and education programs emphasizing citizen-based approaches to public issues. She is also interested in methods to evaluate the impacts of collaborative processes as well as venues for reporting impacts to the public. Singletary earned her B.A., M.S., and M.Ed. from the University of South Carolina, and her Ph.D. from Clemson University.

Mission

The mission of the *Journal of Higher Education Outreach and Engagement* (*JHEOE*) is to serve as the premier peer-reviewed, interdisciplinary journal to advance theory and practice related to the civic purpose of colleges and universities. The *JHEOE* seeks to address

- The need to advance knowledge (theory and practice) about the civic missions, practices, and contributions of colleges and universities, and their faculty, staff, and students; and
- The need to critically examine and highlight innovative endeavors, and emerging issues, trends, challenges, and opportunities in the areas of outreach, community-higher education engagement, engaged research, public scholarship, and service-learning.

To address these needs, the *JHEOE* invites manuscripts in four categories of exploration related to outreach, community-higher education engagement, engaged research, public scholarship, and service-learning.

- **Research Articles** on studies of the impact of such endeavors on participating community, faculty, students, or staff members;
- **Practice Stories from the Field** evaluating and analyzing practitioner experience;
- **Reflective Essays** on current and emerging trends, perspectives, issues, and challenges; and
- **Book Reviews**.

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Manuscript submissions are evaluated on the criteria outlined below.

- The appropriateness or fit for the mission of the *JHEOE*;
- The significance in contributing new knowledge (advancing a field of study; or providing best practices or lessons-learned);
- The rigor and appropriateness of the scholarship;
- The readability and flow of the information and ideas presented; and by
- Additional criteria are based on the manuscript types: as a research article; as a practice story from the field; as a reflective essay; or as a book review.

Guidelines for Contributors

Manuscripts should

- Represent original and unpublished work of the authors and must not be under consideration by other publications;
- Indicate that the Institutional Review Board (IRB) human subjects approval was secured if applicable (or explain why it was not required);
- Not be more than 10,000 words;
- Have a separate cover page that includes the names, institutional affiliations, addresses, phone numbers, and e-mail addresses of all authors, and mask all of this information throughout the manuscript to ensure anonymity in the reviewing process;
- Include a brief abstract (not to exceed 150 words);
- Be typed, double-spaced throughout, and include block quotes (when necessary) and appropriate references;
- Be formatted using American Psychological Association (APA) style, 6th edition;
- Have photos and graphics submitted as .jpg, .tif, or .eps files, not placed into the Word document. Tables may be placed in Word documents. Precise data for charts must be provided;
- Be formatted and saved in Microsoft Word 2003 or higher; and
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