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The Editor's Page . . .

This issue, Volume 15(1), marks the first fully on-line, open access issue of the *Journal of Higher Education Outreach and Engagement*. You should notice few changes in the layout of each article. You may access a PDF version of the entire issue, or you may access PDFs of each individual article (with the abstract now included with the article rather than only on the Table of Contents page).

In this issue you will find a companion article to the Doberneck, Glass, and Schweitzer article published in 14(4), *From Rhetoric to Reality: A Typology of Publically Engaged Scholarship*. In the 14(4) article the authors, members of Michigan State University, reported on a typology of publically engaged scholarship, which they developed after analyzing MSU faculty member promotion and tenure materials. In the 15(1) article (with Glass as the senior author), the team reports on their analysis of the profile of faculty members who do publically engaged scholarship. Specifically, they have found differences in publically engaged scholarship by faculty member age, faculty rank, nature of faculty appointment, number of years at the institution, and college grouping.

Two articles in this issue report on university partnerships with K-12 education. The first presents best practices for preparing teachers for careers in urban school settings. The second article examines math and science education support for elementary and middle school teachers, and math and science enrichment activities for high school students. Both articles move beyond mere program description to steps taken to measure impact.

As the literature grows regarding university-community partnerships, I hope that more engaged scholars will build into their outreach and engagement endeavors – from day one – studies of impact using a variety of methodological techniques from quantitative to qualitative, and including narrative inquiry methodology. Going beyond “we feel we are doing good work with communities,” to actually measuring impact (whether it is impact on the community, impact on university students or faculty members participating in the endeavor, or impact on the university as a whole) is what puts the “scholarship” in “engagement” – to *really* achieve the scholarship of engagement.

Three book reviews round out this first issue for 2011:

- Sam Cordes, [associate vice provost for engagement](#) at [Purdue](#), examines Christopher Newfield's latest book, *Unmaking the Public University: The Forty Year Assault on the Middle Class*, (Harvard University Press, 2008). [Newfield](#) a professor of English at the University of California, Santa Barbara, focuses his scholarship on American culture after 1830. *Unmaking the Public University*, follows his 2003 book *Ivy and Industry: Business and the Making of the American University*, 1880-1980 (Durham, NC: Duke University Press).
- Josh Krawczyk, a doctoral candidate in [higher education administration](#) at [Oklahoma State University](#), reviews *Engaging Young People in Civic Life* (Vanderbilt University Press, 2009), edited by James Youniss and Peter Levine. [Youniss](#) is a research professor of human development in the department of Psychology at the Catholic University of America in Washington D.C. He studies the connection between "direct civic action," and political awareness, and a sense of social responsibility. [Levine](#) is director of the Center for Information and Research on Civic Learning and Engagement as well as research director of Tufts University's Jonathan Tisch College of Citizenship and Public Service.
- Timothy Shaffer, a doctoral candidate of [adult and extension education](#) at [Cornell](#), reflects on Sharon Krause's 2008 book *Civil Passions: Moral Sentiment and Democratic Deliberation* (Princeton University Press). [Krause](#), is professor of political science at Brown University. *Civil Passions* won the [2010 Spitz Prize](#) (for the best book in liberal and/or democratic theory published two years earlier), and the [2009 Alexander George Book Award](#) (for the best book published in the field of political psychology during the previous calendar year).

My thanks to the many dedicated individuals who go above and beyond the call of duty to assist in the publication of the *Journal* including the associate editors, editorial board members (We thank those members rotating off the board in 2010: [Carol Colbeck](#), [Irwin Feller](#), and [Christopher Morphew](#); and extend a heartfelt welcome to new members [Jorge Atilas](#), [Jeri Childers](#), [James Frabutt](#), [Philip Greasley](#), and [Valerie Paton](#)), guest peer-reviewers (the names of all guest reviewers for Volume 15 will be listed on the inside back cover of 15(4)); managing editor Julia Mills; graduate assistant

Drew Pearl; copy editor Cathy Krusberg; and administrative assistant Katie Fite.

Looking ahead, we have several special issues in progress. One will feature papers connected to the [Community-Campus Partnerships for Health's](#) (CCPH) work to advance community-engaged scholarship in higher educational institutions in the U.S. and Canada. The guest editor for this issue is CCPH's Executive Director [Sarena Seifer](#). The issue will include papers from *Faculty for the Engaged Campus*, a CCPH initiative in partnership with the University of Minnesota and the University of North Carolina at Chapel Hill; and peer-reviewed papers from presentations at the November 2010 conference, *Community-Engaged Scholarship: Critical Junctures in Research, Practice and Policy* co-sponsored by CCPH and the [University of Guelph](#) with funding from the [Social Sciences and Humanities Research Council of Canada](#).

A second special issue will be dedicated to the title and themes of the [2010 National Outreach Scholarship, Sustaining Authentic Engagement](#), which was hosted by [North Carolina State University](#) in Raleigh, North Carolina on October 4-6, 2010. The goal of the [National Outreach Scholarship Conference](#) is "to work collaboratively to build strong university-community partnerships anchored in the rigor of scholarship, and designed to help build community capacity." [Dale Safrit](#), professor and extension specialist at [North Carolina State University](#), is the guest editor for this issue.

A third special issue will be dedicated to [TRUCEN](#) (The Research University Civic Engagement Network), research universities working together to advance civic engagement and engaged scholarship. The issue will present and expand on the three goals of the organization's mission. Guest editors for this issue include Maureen Curley, president of [Campus Compact](#); Ira Harkavy, associate vice president and founding director of the [Barbara and Edward Netter Center for Community Partnerships](#), [University of Pennsylvania](#), Kathy O'Byrne, executive director at the [Center for Experiential Education and Service-Learning](#), [University of California, Los Angeles](#); and Tim Stanton, director of the [Public Service Medical Scholars Program](#), [Stanford University](#).

We hope that you find this issue of the *Journal of Higher Education Outreach and Engagement* helpful in shaping your perspectives and work related to university public service, outreach, and engagement. If you have suggestions, please e-mail me at jheoe@uga.edu.

With warmest regards,

Trish Kalivoda

Editor

RESEARCH ARTICLES

Unpacking Faculty Engagement: The Types of Activities Faculty Members Report as Publicly Engaged Scholarship During Promotion and Tenure

Chris R. Glass, Diane M. Doberneck,
and John H. Schweitzer

Abstract

While a growing body of scholarship has focused on the personal, professional, and organizational factors that influence faculty members' involvement in publicly engaged scholarship, the nature and scope of faculty publicly engaged scholarship itself has remained largely unexplored. What types of activities are faculty members involved in as publicly engaged scholarship? How does their involvement vary by demographic, type of faculty appointment, or college grouping? To explore these questions, researchers conducted a quantitative content analysis of 173 promotion and tenure documents from a research-intensive, land-grant, Carnegie Classified Community Engagement university and found statistically significant differences for the variables age, number of years at the institution, faculty rank, Extension appointment, joint appointment, and college grouping. Recommendations for future research are discussed as well as implications for institutional leadership, faculty development programming, and the structuring of academic appointments.

Introduction

Since the Carnegie Foundation published Boyer's *Scholarship Reconsidered: Priorities of the Professoriate* in 1990, the question of what should be considered the scholarly activity of college and university faculty members has met with few easily agreed-upon answers in the academy (Glassick, Huber, & Maeroff, 1997). Boyer (1990, 1996) argued that scholarship should be conceptualized more broadly to include the scholarship of discovery, teaching, application (or engagement), and integration. Throughout the 1990s, the American Association for Higher Education (AAHE) convened its annual Forum on Faculty Roles and Rewards to examine the expanding definitions of faculty work, and to consider how the academy might accommodate broadened definitions of scholarship in the faculty roles and rewards system. Published by AAHE, *The Disciplines Speak* and

The Disciplines Speak II (Diamond & Adam, 1995, 2000) documented similar conversations taking place in disciplinary organizations and professional societies. The authors concluded that efforts to broaden the meaning of scholarship would not succeed without clear, rigorous standards for evaluating and rewarding the different definitions of scholarly work (Diamond & Adam, 1995, 2000; Glassick et al., 1997).

Concomitant with Boyer's and the AAHE's work, the scholarly contributions that faculty members make to the greater good of society were being called into question, particularly at research-intensive, land-grant institutions, which, by mandate, are obligated to serve the public good (Checkoway, 2001; Kellogg Commission, 1999). Discussions focused on defining the characteristics of faculty engagement and clarifying the differences among service, outreach, and engagement (Sandmann, 2008). The relationship of the scholarship of engagement to research and creative activities, instruction, and service, was a major point of contention, as some argued for integration (Colbeck, 2002) and others for connectedness (Fear, Rosaen, Foster-Fishman, & Bawden, 2001). Today, as Giles (2008) notes, the central questions from two decades ago remain unanswered. Is engagement "a noun or a verb or should [it] be used in its adjectival form, engaged? Where does scholarship fit in? Is it the key activity, and *public* or *engaged* can modify this noun interchangeably? Or is engagement the overall phenomenon?" (p. 102).

At the same time as institutional leaders were working through the definitional dilemmas related to publicly engaged scholarship and clarifying distinctions associated with how faculty members

"An important question . . . remains: What types of scholarly activities are faculty members involved in as publicly engaged scholarship?"

relate to their community partners, another group of institutional leaders was addressing the need for institutional benchmarking based on detailed accounts from faculty about their publicly engaged scholarship (Church, Zimmerman, Bargerstock, & Kenney, 2002/2003; Lunsford, Church, & Zimmerman, 2006). These institutional leaders developed initial lists of the scholarly activities that faculty members and community

partners collaborate on and, through national associations, ultimately developed institutional tools for measuring outreach and engagement (Michigan State University, 2009).

An important question, however, remains: What types of scholarly activities are faculty members involved in as publicly engaged scholarship? To answer this question, this study examined faculty engagement by differentiating types of activities faculty members report as publicly engaged scholarship, and by analyzing the relationships between personal characteristics (e.g., age, gender, ethnicity) and professional characteristics (e.g., rank, appointment, and college grouping).

Three questions framed this study:

1. What types of scholarly activities are faculty members involved in as publicly engaged scholarship?
2. How do the types of publicly engaged scholarship vary by demographic and appointment variables?
3. How do the types of publicly engaged scholarship vary by college grouping?

Because this was an exploratory study, the researchers selected a single site for the study based on purposive criteria that corresponded to the research questions (Creswell, 2009). Michigan State University (MSU) was selected because it is a major research university with high expectations for faculty achievement in research and creative activities, instruction, and service. As a land-grant university and Carnegie Classified Community Engagement institution, MSU has both a historical mandate to serve the public good and a contemporary affirmation of excellence in curricular engagement and outreach and partnerships. In addition, researchers had access to MSU's institutional documents for the study. Researchers framed this study using the definition of publicly engaged scholarship that guided faculty work at Michigan State University during the study period, which states that outreach scholarship is "a scholarly endeavor that cuts across instruction, research and creative activities, and service, fulfills unit and university missions, and focuses on collaboration with and benefits to communities external to the university" (*Provost's Committee on University Outreach, 1993, p. 1*).

Factors That Influence Faculty Involvement in Publicly Engaged Scholarship

In their faculty engagement model, Wade and Demb (2009) proposed a systemic conceptualization of the factors that influence faculty involvement in publicly engaged scholarship. They examined the personal, professional, institutional, and publicly engaged

scholarship dimensions of faculty life and noted that little is known about the activities that comprise publicly engaged scholarship. Studies to better understand faculty publicly engaged scholarship have examined the institutional, professional, and personal influences on faculty publicly engaged scholarship, as well as the types of faculty engagement. For example, from the institutional perspective, scholars have studied institutional mission, leadership, policies, funding, engagement structures, and institutional types and cultures. This line of research has focused on understanding the nature of institutional support and commitment to faculty publicly engaged scholarship (Holland, 1997), the characteristics that define an engaged campus (Kellogg Commission, 1999), the level of faculty engagement across institutional types (Antonio, Astin, & Cress, 2000), and the organizational norms that shape faculty publicly engaged scholarship (Colbeck & Wharton-Michael, 2006).

From the professional perspective, researchers have sought to understand the influence of academic discipline, tenure status, faculty rank, socialization, length of time in academe, departmental support, appointment type, and assignment (Abes, Jackson, & Jones, 2002; Antonio et al., 2000; Jaeger & Thornton, 2006; O'Meara, 2002; Ward, 2003) on faculty publicly engaged scholarship. This line of research has focused on understanding not only these institutional influences, but also the disciplinary influences on faculty involvement in publicly engaged scholarship.

From the personal perspective, research has focused on demographic and sociocultural influences on faculty involvement in publicly engaged scholarship, including gender, race, ethnicity, age, values/beliefs, motivation, prior experience, and epistemology (Abes et al., 2002; Antonio et al., 2000; Baez, 2000; Colbeck & Weaver, 2008; Gonzalez & Padilla, 2008; Hammond, 1994; O'Meara, 2002, 2008).

From the type of faculty engagement perspective, few scholars have examined the nature, scope, and characteristics of publicly engaged scholarship. Those that have done so have focused on levels of engagement (Colbeck & Wharton-Michael, 2006), motivations for public engagement (Colbeck & Weaver, 2008; O'Meara, 2008), types of engaged activities (Schomberg & Farmer, 1994), and the integration of engagement with faculty work roles (Colbeck, 2002).

At the conclusion of their article, Wade and Demb (2009) cited the lack of research about publicly engaged scholarship and called for new research to explore this area:

Before inquiring further about the factors that affect faculty involvement in outreach and engagement, we need

to develop a set of precise terms to describe and capture the community-oriented activities of faculty that are closely associated with the core research, teaching, and service roles of the professoriate (p. 14).

The study reported in the present article was a response to Wade and Demb's call for a precise set of terms that describe and capture faculty publicly engaged scholarship. Through this study, the researchers sought to understand faculty publicly engaged scholarship broadly, rather than from a perspective limited to one type of publicly engaged scholarship (e.g., service-learning, campus-community partnerships, community-based research), or informed by one particular epistemological stance (e.g., social justice, democratic engagement; O'Meara, 2008).

Methodology

In this study, the researchers conducted a quantitative content analysis to systematically code and analyze promotion and tenure documents to identify the types of publicly engaged scholarship that faculty members reported during promotion and tenure review. Quantitative content analysis provided an empirically grounded means of examining large quantities of unstructured text to identify meanings in their context (Krippendorff, 2004). Quantitative content analysis methodology facilitated the discovery of broad, generalizable patterns in the text (Neuendorf, 2002, p. 15). With no standard language to describe publicly engaged scholarship, the researchers had to consider the context in which the types of publicly engaged scholarship were reported on the promotion and tenure documents. Consequently, the researchers coded the data by hand, making sure instances of publicly engaged scholarship met the study's selected definition of publicly engaged scholarship as well as the definitions of specific types of publicly engaged scholarship. The researchers used a publicly engaged scholarship typology they had developed earlier (Doberneck, Glass, & Schweitzer, 2009; see Table 1). Once the coding was completed, the researchers conducted statistical analyses (e.g., frequency distributions, means, and chi-square tests) to determine the significance in frequency of the reported types of publicly engaged scholarship (Neuendorf, 2002).

Table 1. Types and Definitions of Publicly Engaged Scholarship: A Typology Developed by Doberneck, Glass, and Schweitzer (2009)

Publicly Engaged Research and Creative Activities
<i>Type 1. Research—business, industry, commodity group funded.</i> Sponsored research or inquiry supported through grants or contracts from businesses, industries, trade associations, or commodity groups (e.g., agricultural or natural resources groups) that generates new knowledge to address practical problems experienced by public or practitioner audiences.
<i>Type 2. Research—nonprofit, foundation, government funded.</i> Sponsored research or inquiry supported through grants or contracts from community-based organizations, nonprofit organizations, foundations, or government agencies that generates new knowledge to address practical problems experienced by public or practitioner audiences.
<i>Type 3. Research—unfunded or intramurally funded applied research.</i> Community-responsive or community-based research or inquiry that is not funded by a community partner but instead is pursued by faculty through intramural support or as financially unsupported research or inquiry.
<i>Type 4. Creative activities.</i> Original creations of literary, fine, performing, or applied arts and other expressions or activities of creative disciplines or fields that are made available to or generated in collaboration with a public (nonuniversity) audience.
Publicly Engaged Instruction
<i>Type 5. Instruction—for credit—nontraditional audiences.</i> Classes and instructional programs that offer student academic credit hours and are designed and marketed specifically to serve those who are neither traditional campus degree seekers nor campus staff.
<i>Type 6. Instruction—for credit—curricular, community-engaged learning.</i> Classes and curricular programs where students learn with, through, and from community partners, in a community context, under the guidance and supervision of faculty members.
<i>Type 7. Instruction—noncredit—classes and programs.</i> Classes and instructional programs marketed specifically to those who are neither degree seekers nor campus staff.
<i>Type 8. Instruction—noncredit—managed learning environments.</i> Scholarly resources designed for general public audiences that are often learner-initiated and learner-paced (e.g., museums, galleries, libraries, gardens, exhibits, expositions).
<i>Type 9. Instruction—noncredit—public understanding, events, and media.</i> Scholarly resources designed for the general public that are accessible through print, radio, television, or web media. General examples include self-paced educational materials and products (e.g., bulletins, pamphlets, encyclopedia entries, educational broadcasting, CD-ROMs, software, textbooks for lay audiences); dissemination of scholarship through media (e.g., speakers' bureaus, TV appearances, newspaper interviews, radio broadcasts, web pages, and podcasts, if scholarly and readily available to the public); and popular writing in newsletters, popular press, or practitioner-oriented publications.
Publicly Engaged Service
<i>Type 10. Service—technical assistance, expert testimony, and legal advice.</i> Provision of university-based knowledge or other scholarly advice through direct interaction with nonuniversity clients who have requested assistance to address an issue or solve a problem.
<i>Type 11. Service—cocurricular service-learning.</i> Service-learning experiences that are not offered in conjunction with a credit-bearing course or academic program and do not include reflection on community practice or connections between content and the experience.
<i>Type 12. Service—patient, clinical, and diagnostic services.</i> Services offered to human and animal clients, with care provided by university faculty members or professional or graduate students, through hospitals, laboratories, and clinics.
<i>Type 13. Service—advisory boards and other discipline-related service.</i> Contributions of scholarly expertise made by faculty, staff, and students at the request of nonuniversity audiences on an ad hoc or ongoing basis.
Publicly Engaged Commercialized Activities
<i>Type 14. Commercialized activities.</i> Translation of new knowledge generated by the university to the public through the commercialization of discoveries (e.g., technology transfer, licenses, copyrights, and some forms of economic development).

Data Sources

The researchers selected promotion and tenure documents from a single institution as the primary data source for this study. The term *promotion and tenure documents* refers to Michigan State University's *Recommendation for Reappointment, Promotion, or Tenure Action* (Form D) as well as the personal narratives and curricula vitae provided by faculty members as part of their dossiers. Data from the promotion and tenure documents included faculty appointment and assignment information, and narratives about instruction, research, service to academic communities, service to broader communities, and integrated scholarship (Glass, Doberneck, & Schweitzer, 2009; Michigan State University Human Resources, 2001). Additional data from a MSU administrator's database was used in the analysis of demographic information such as gender, race/ethnicity, and age at time of review.

Promotion and tenure documents were selected as credible and trustworthy sources of data for a number of reasons. First, promotion and tenure documents reflected the lived experience of faculty members at the intersection between their unique "courses of life" and the particular organizational structures and processes they must navigate in academe. The completed promotion and tenure forms offered important perspectives into how faculty members have balanced competing responsibilities, generated scholarly products, and achieved excellence and recognition for their contributions (Moore & Ward, 2008). The personal narratives and curricula vitae revealed rich insights about faculty pursuit of meaningful, scholarly work, including publicly engaged scholarship.

"The completed promotion and tenure forms offered important perspectives into how faculty members have balanced competing responsibilities, generated scholarly products, and achieved excellence and recognition for their contributions."

Second, promotion and tenure review is a time when a faculty member's scholarship, including publicly engaged scholarship, is scrutinized by peers, including department- and college-level reviewers, external reviewers, and central administrators. Documents that have undergone such review are likely to "tell the truth about the particular

events or matter” at hand (Whitt, 2001). Third, because promotion and tenure documents, and the corresponding decisions based on them, reflect an assessment of the quality and impact of faculty work, they are suitable data for the analysis of types of faculty scholarship (Fairweather, 2002a). Finally, promotion and tenure documents are safeguarded by the Office of Academic Human Resources and are, therefore, guaranteed to be original, not edited after the fact to convey facts in a particular light.

The data were from faculty members who underwent promotion and tenure review at Michigan State University between 2002 and 2006. In the 2002–2006 study period, 376 faculty members met the eligibility criteria. In this Institutional Review Board–approved study, 46% of the eligible faculty members gave informed consent to have their promotion and tenure documents included in the study. The 173 consenting faculty members were 32% female ($n = 55$), 68% male ($n = 118$), 80% White ($n = 139$), 20% non-White ($n = 34$), with the non-White comprising 5% African American ($n = 8$), 10% Asian ($n = 17$), 2% Hispanic ($n = 4$), and 3% Native American ($n = 5$). Of the 173, 58% were promoted to associate professors ($n = 101$) and 42% were promoted to full professors ($n = 72$).

Data Coding

With a focus on types of publicly engaged scholarship, the researchers selected unique “scholarly outreach and engagement activity” as the unit of analysis. The researchers assigned a presence code (noted by a “1”) when any of the 14 types of publicly engaged scholarship were reported by faculty members in the promotion and tenure documents. For example, when a curriculum vita listed policy analysis conducted at the request of a state government agency, researchers assigned a “1” for the type “Research—nonprofit, foundation, government funded” (Type 2). When a faculty member’s personal narrative described using academic service-learning pedagogy in a class, researchers assigned a “1” for “Instruction—for credit—curricular, community-engaged learning” (Type 6). Researchers assigned an absence code (noted by a “0”) for the 14 types of publicly engaged scholarship that were *not* mentioned by faculty members anywhere in the promotion and tenure dossier, personal narrative, and curriculum vita. These presence/absence codes, along with demographic information from the MSU administrators’ database and appointment information from the promotion and tenure cover sheets, were the basis for statistical analysis.

To ensure consistency in coding, researchers followed best practices for team-based document analysis, including holding regular meetings to review codebook definitions and rules, making codes explicit, and establishing intercoder agreement early in the coding process (MacQueen, McLellan, & Milstein, 1998; Mayring, 2000). For each code, the codebook included the full definition, the inclusion and exclusion criteria, and examples of the types of publicly engaged scholarship (Boyatzis, 1998). To establish intercoder agreement at the beginning of the study, the researchers independently coded text from three preselected promotion and tenure documents, then met to discuss the assigned codes and resolve coding discrepancies. The researchers continued this process until all members of the coding team thoroughly understood how to assign the presence and absence codes. Throughout the coding process, the researchers discussed coding questions at biweekly meetings of the research team. When clarifications were agreed upon by the entire research team, the codebook was updated. At the end of the coding process, the researchers entered the quantitative codes into the Statistical Package for Social Sciences 17.0 for data analysis.

The Findings

The researchers used descriptive statistics to understand the types of publicly engaged scholarship that faculty members reported on their promotion and tenure forms. In addition, researchers conducted chi-square analysis to understand how types of activities varied by demographic, appointment type, and college grouping. In this section, we describe the findings from this quantitative content analysis.

What Types of Activities Are Faculty Members Involved in as Publicly Engaged Scholarship?

To answer the research question, the researchers used descriptive statistics, including frequencies, to analyze the types of publicly engaged scholarship. Overall, 94% of the faculty members reported at least one type of publicly engaged scholarship during promotion and tenure.

Publicly engaged research and creative activities.

About three-fourths (72%) of the faculty members reported at least one type of publicly engaged research and creative activity. Analysis of engaged research and creative activities indicated the

following frequencies: nonprofit, foundation, and government funded research (50%); unfunded or intramurally funded applied research (40%); business, industry, or commodity group funded research (30%); and creative activities (6%).

Publicly engaged instruction.

Most (88%) of the faculty members reported at least one type of publicly engaged instruction. Analysis of publicly engaged instruction indicated the following frequencies: noncredit courses and programs (73%); public understanding, events, and media (62%); curricular, community-engaged learning (10%); managed learning environments (6%); and for-credit courses for nontraditional audiences (6%).

Publicly engaged service.

More than two-thirds (71%) of the faculty members reported at least one type of publicly engaged service. Analysis of publicly engaged service indicated the following frequencies: technical assistance, expert testimony, and legal advice (56%); advisory boards and other discipline-related service (38%); and patient, clinical, and diagnostic services (9%). No faculty members reported cocurricular service-learning on their promotion and tenure documents.

Publicly engaged commercialized activities.

A few (15%) of the faculty members reported at least one type of commercialized activity, including patents, copyrights, licenses, and/or technology transfer.

How Do the Types of Publicly Engaged Scholarship Vary by Demographic and Appointment Variables?

To address this research question, researchers conducted chi-square analysis comparing faculty members by demographic (age, years at institution, gender, ethnicity) and appointment (rank, Extension appointment, joint appointment) variables. Statistically significant findings (at $p \leq .05$) are summarized in columns two and three of Table 2.

Table 2. Attending teachers' performance on pre- and post-content assessment

Type	Demographic and Appointment Characteristics		College Groupings	
	Less Likely	More Likely	Less Likely	More Likely
Publicly Engaged Research and Creative Activities				
Business, industry, or commodity group sponsored research	None	Extension	Social & behavioral sciences; Arts & humanities; Education	Agriculture & natural resources
Nonprofit, government, or foundation sponsored research	30s 0-5 years	50s and 60s 6-10 years Extension appointments; joint appointments	Arts & humanities; Physical & biological sciences	Agricultural & natural resources
Unfunded or intramurally funded applied research	None	60s	Physical & biological sciences	Social & behavioral sciences; Agriculture & natural resources
Creative activities; including performances of original	None	None	None	None
Publicly Engaged Instruction				
For credit—nontraditional audiences	None	None	None	None
For credit—curricular service learning and community engagement	None	None	None	Social & behavioral sciences
Noncredit—classes and programs	None	Extension appointments	Social & behavioral sciences	Agriculture & natural resources
Noncredit—managed learning environments	None	None	None	None
Publicly Engaged Service				
Patient and clinical care services	None	None	Agricultural & natural resources	Health & medical professions
Technical assistance, expert testimony, and legal advice	None	Extension appointments	Arts & humanities; Physical & biological sciences	Agricultural & natural resources; Health & medical professions
Community service, including civic engagement activities not associated with academic credit	None	None	None	None
Advisory boards and other discipline-related service	30s 6-10 years Associate professor	40s, 50s, and 60s 11-15 years; 16+ years Full professor	None	Health & medical professions
Publicly Engaged Commercial Activities				
Patents, copyrights, technology transfer, economic development	Associate professor	Full professor	Agriculture & natural resources	

All results reported in this table are at a $p \leq .05$ level of significance.

Age.

Faculty members were grouped into four categories according to age (30s, 40s, 50s, and 60s) for statistical analysis. Faculty members in their 30s were less likely than faculty members in the other age groups to report advisory boards and other discipline-related service ($p = .005$). Faculty members in their 30s were less likely to report nonprofit, government, or foundation sponsored research, while faculty members in their 50s or 60s were more likely to report it ($p = .017$). Faculty members in their 60s were more likely to report unfunded or intramurally funded applied research than faculty members in their 30s, 40s, or 50s ($p = .027$).

Years at institution.

Faculty members were grouped into four categories according to the number of years they had served at the institution (5 years or less, 6–10 years, 11–15 years, and 16 or more years). Faculty members who had been employed at the institution for 5 years or less were less likely than faculty members in the other year categories to report nonprofit, government, and foundation sponsored research ($p = .016$). Faculty members who had been employed at the institution for 6–10 years were less likely to report advisory boards and other discipline-related service ($p = .025$); however, they were more likely to report nonprofit, government, or foundation sponsored research ($p = .016$). Faculty members in the categories employed at the institution for 11–15 years and for 16 and more years were more likely to report advisory boards and other discipline-related service ($p = .025$).

Rank.

Faculty members were promoted either to associate professor or to full professor. Associate professors were less likely than full professors to report advisory boards and other discipline-related service ($p = .015$) and commercialized activities ($p = .000$). Full professors were more likely than associate professors to report advisory boards and other discipline-related service ($p = .015$) and commercialized activities ($p = .000$).

Extension appointment.

Faculty members either had Extension appointments or they did not have them. Faculty members with Extension appointments were more likely than their non-Extension colleagues to report business, industry, or community group sponsored research

($p = .000$); nonprofit, government, or foundation sponsored research ($p = .000$); teaching noncredit courses and programs ($p = .000$); public understanding, events, and media ($p = .033$); and technical assistance, expert testimony, and legal advice ($p = .010$).

Joint appointments.

Faculty members either had a joint departmental appointment or a single departmental appointment. Faculty members with joint appointments were more likely than their single-department colleagues to report nonprofit, government, or foundation sponsored research ($p = .027$).

Gender.

Comparisons of male and female faculty members with type of publicly engaged scholarship were not found to be statistically significant.

Ethnicity.

To ensure a large enough number of faculty members to run tests of statistical significance, faculty of color were grouped into one category (non-White) and Caucasian faculty into another category (White). Although this comparison of White and non-White is consistent with other analyses of ethnicity and engagement (*Abes et al., 2002; Antonio, 2002; Antonio et al., 2000*), the researchers do not believe that all non-White faculty (or all White faculty) members approach their involvement in publicly engaged scholarship in the same ways. Comparisons of ethnicity with the types of publicly engaged scholarship revealed differences, but none were found to be statistically significant.

How Do the Types of Publicly Engaged Scholarship Vary by College Grouping?

To address this research question, a chi-square analysis was conducted comparing faculty members within the college group to all faculty members not in the college group being analyzed. The researchers decided to use college groupings (instead of the institution's actual colleges) so that the analysis and findings would be more relevant and comparable to those from other institutions (and less reflective of MSU's particular institutional history and culture). The use of college groupings is a common practice in this kind of analysis (*Abes et al., 2002; Antonio et al., 2000; Fairweather, 2002b*). Statistically significant findings (at $p \leq .05$) by college grouping

are reported below and summarized in columns four and five of Table 2.

Agriculture and natural resources.

Agriculture and natural resources faculty members were more likely than their colleagues to report business, industry, or commodity funded research ($p = .000$); nonprofit, government, or foundation funded research ($p = .000$); unfunded or intramurally funded applied research ($p = .043$); teaching noncredit courses or programs ($p = .020$); public understanding, events, and media ($p = .033$); and technical assistance and expert testimony ($p = .008$). However, agriculture and natural resources faculty members were less likely than faculty members in other colleges to report patient and clinical services ($p = .009$) or commercialized activities ($p = .026$).

Arts and humanities (including music).

Arts and humanities faculty members were less likely than the faculty members in other colleges to report business, industry, or commodity funded research ($p = .000$); nonprofit, government, or foundation funded research ($p = .000$); or technical assistance, expert testimony, or legal advice ($p = .013$).

Business.

Business faculty members were neither more nor less likely than faculty members in other colleges to report different types of publicly engaged scholarship.

Education.

Education faculty members were no more likely to report different types of publicly engaged scholarship than faculty members in other colleges. However, education faculty members were less likely than their colleagues to report business, industry, or commodity funded research ($p = .036$).

Engineering.

Engineering faculty members were neither more nor less likely than faculty members in other colleges to report different types of publicly engaged scholarship.

Health and medical professions (including veterinary medicine).

Faculty members in the health and medical professions were more likely than faculty members in other colleges to report patient and clinical services ($p = .000$); technical assistance or expert testimony ($p = .041$); and advisory boards or other forms of discipline-related service ($p = .018$).

Physical and biological sciences. Physical and biological sciences faculty members were more likely than faculty members from other colleges to report commercialized activities ($p = .000$). However, physical and biological sciences faculty were less likely than their colleagues to report nonprofit or government funded research ($p = .001$); unfunded or intramurally funded applied research ($p = .000$); and technical assistance or expert testimony ($p = .000$).

Social and behavioral sciences.

Faculty members in the social and behavioral sciences were more likely than faculty members in other colleges to report unfunded or intramurally funded applied research ($p = .014$) and for-credit community engaged learning ($p = .025$). However, social science faculty members were less likely than their colleagues to report business, industry, or commodity group funded research ($p = .017$) and teaching noncredit courses and programs ($p = .004$).

Overall, the findings suggest that faculty report some types of public engaged scholarship (e.g., public understanding, events, and media) more frequently than others (e.g., curricular, community-engaged learning). Results also suggest that, according to the analytical framework used in this study, the types of publicly engaged scholarship that faculty members were involved in varied in statistically significant ways by age, number of years at the institution, faculty rank, Extension appointment, joint appointment, and college grouping. The following section explores the implications of these findings for policy and practice.

Implications for Policy and Practice

This study's findings suggest policy and practice improvements for institutional leaders who wish to support faculty involvement in publicly engaged scholarship more effectively. The researchers conclude that their findings may inform faculty development, including support for early-career faculty, the structuring of faculty

appointments, and the allocation of resources to support publicly engaged scholarship.

Faculty Development

The findings may be used by faculty development staff as the basis for more effective professional development for community engagement. The different types of publicly engaged scholarship suggest the need for a multitrack approach to building faculty

“[I]nstitutional leaders committed to strengthening faculty engagement would do well to recognize the unique rigors of different types of publicly engaged scholarship and what kinds of professional development would support early-career faculty engaged in them.”

capacity for engagement. Instead of the typical “one size fits all” approach, faculty development staff may tailor their activities to reach faculty members who are involved in different types of publicly engaged scholarship. For example, faculty members interested in publicly engaged instruction would benefit from different professional development activities than faculty members interested in commercialized activities. At larger institutions, these faculty development activities may, in fact, be led by different units such as centers for teaching and learning, service-learning and civic engagement centers, offices of faculty development, and offices focused on intellectual property

or technology transfer. The tenure system is central to how early-career faculty organize their work. Studies of early-career faculty have highlighted the importance of formal support from structured programs at both the campus and national levels in preparing faculty for the rigors of the tenure process (Austin & Rice, 1998; Sorcinelli, 2000). Therefore, institutional leaders committed to strengthening faculty engagement would do well to recognize the unique rigors of different types of publicly engaged scholarship and what kinds of professional development would support early-career faculty engaged in them.

The findings about age and years at the institution suggested effective ways of supporting early-career faculty. Faculty members who are in their 30s and who have been at the institution less than

5 years are less likely to be engaged in nonprofit, government, or foundation supported engaged research. These early-career faculty members, who are often new to the area and/or the state, would benefit from introductions, networking, and mentoring about funding opportunities for this type of publicly engaged scholarship. Early-career faculty members are also less likely to be involved in commercialized activities (possibly related to maturity of their research). As junior faculty members begin their careers, understanding the opportunities and procedures involved in patents, copyrights, licenses, and other commercialized activities may allow them to craft their programs of research to accommodate this specific type of publicly engaged scholarship from the start.

Faculty Appointment Structure

The findings revealed important differences in how faculty members' appointments are structured. Faculty members who have Extension appointments and joint departmental appointments are more likely to report publicly engaged scholarship during promotion and tenure. As department chairs, faculty search committees, and deans structure appointments for faculty members, they would do well to remember that those with joint or Extension appointments are more likely to report publicly engaged scholarship.

Resource Allocation

Similar to published research about service-learning (*Abes et al., 2002; Antonio et al., 2000; Hammond, 1994*), this study shows significant differences in faculty involvement in publicly engaged scholarship by college grouping. Faculty members in some college groupings (e.g., agriculture and natural resources, the health and medical professions) are more likely to report various types of publicly engaged scholarship. At the same time, faculty members in other college groupings (e.g., arts and humanities, business) are less likely to report publicly engaged scholarship during promotion and tenure. Institutional leaders should consider these differences as they allocate increasingly scarce institutional resources to encouraging and supporting different types of publicly engaged scholarship. Institutional leaders should consider the degree to which they invest resources into colleges that already demonstrate high levels of publicly engaged scholarship relative to their investments in colleges that are less likely to report publicly engaged scholarship.

Limitations of the Study and Suggestions for Future Research

This study's results are limited by the lack of detailed description of the qualities and characteristics of publicly engaged activities in promotion and tenure documents, the selection of a single site for this study, a focus on tenure-line faculty, and insufficient data to determine the extent to which committee members valued the reported publicly engaged scholarship. Consequently, future researchers may wish to expand this line of research in four ways: (a) to gain greater insight into distinctions associated with publicly engaged scholarship, (b) to explore types of publicly engaged scholarship at other (similar or dissimilar) institutions, (c) to understand types of publicly engaged scholarship from the perspective of other kinds of faculty members, and (d) to explore the relationship between faculty members' reports of publicly engaged scholarship and their success in achieving promotion or tenure.

First, although quantitative content analysis of institutional documents allowed the researchers to discover broad patterns of the *types* of scholarly activities submitted by faculty members in promotion and tenure, the source of data limited other kinds of questions that could legitimately be answered. For example, it was not possible for the researchers to make significant determinations about the qualities and characteristics of the faculty members' publicly engaged scholarship. Most faculty members did not describe the processes they used in their publicly engaged scholarship in enough detail on their promotion and tenure forms for the research team to distinguish between publicly engaged outreach and partnerships (*Carnegie Foundation, 2009*), between publicly engaged scholarship conducted *in* the community and publicly engaged scholarship conducted *with* the community, or between scholarship that is located in the community and scholarship that *builds community capacity* (*Saltmarsh, Hartley, & Clayton, 2009*). To address these limitations, future research based on different source data is needed to provide more detailed accounts of the process and products of publicly engaged scholarship.

A second line of future research pertains to understanding types of publicly engaged scholarship at dissimilar and similar institutions. This study was conducted at a research-intensive, land-grant, Carnegie Classified Community Engagement university. Consequently, the findings may have been influenced by characteristics particular to this kind of institution. Future researchers may wish to examine the types of publicly engaged scholarship reported by faculty members at other kinds of institutions of

higher education. Similarly, future researchers may also use these findings as a starting point for a broader examination of types of publicly engaged scholarship at other research-intensive, land-grant, Carnegie Classified Community Engagement universities. Organizations such as the Committee on Institutional Cooperation (CIC), the Association of Public and Land-Grant Universities, or the Carnegie Foundation for the Advancement of Teaching may view this research as an empirically grounded way to revise existing or construct new cross-institutional benchmarking activities.

A third line of future research pertains to understanding types of publicly engaged scholarship from different faculty members' perspectives. With the distinct shift from a tenure system to an alternative appointment system, the majority of faculty members are no longer employed in full-time, tenured positions (*Gappa, Austin, & Trice, 2007*). Very little is known about the types of publicly engaged scholarship that individuals who hold alternative appointments are involved in. Future studies that focus on non-tenure-line faculty would likely enhance understanding of different types of publicly engaged scholarship and highlight different patterns between tenure-line and non-tenure-line faculty. Future studies may seek to understand similarities, differences, and patterns in reporting types of publicly engaged scholarship by faculty of color. Future research using research designs sensitive enough to study differences between racial and ethnic groups is vital, because the pool of future faculty is expected to become increasingly diverse (*Gappa et al., 2007*), and limited research on the subject reveals differences in motivation and involvement (*Antonio, 2002*).

A final line of future research pertains to the relationship between types of publicly engaged scholarship reported by faculty members and their success in promotion and tenure review. Because faculty promotion and tenure documents at Michigan State University do not include notes about the deliberations made by promotion and tenure committee members, it was not possible for the researchers to determine the extent to which committee members valued the reported publicly engaged scholarship in making their promotion and tenure determinations. Nor was it possible to draw conclusions about the proportions of reported publicly engaged scholarship in relation to other reported scholarship and success during promotion and tenure review. Future research based on different sources of data, such as surveys or interviews of promotion and tenure faculty members or an experimental design using sample promotion and tenure forms, would reveal the relationships between faculty members' reports of publicly engaged

scholarship and promotion and tenure decisions in ways that were not possible given this study's design and data sources.

Conclusion

This study found that at one large, public, land-grant university, the types of activities faculty members reported as publicly engaged scholarship include a wide range of community-oriented, scholarly activities. At Michigan State University from 2002 to 2006, over 70% of the faculty members reported scholarly activities on their promotion and tenure forms in each of three areas: publicly engaged research and creative activities, publicly engaged instruction, and publicly engaged service. Exactly which types of publicly engaged scholarship faculty members were involved in varied in statistically significant ways by personal characteristics (e.g., age, gender, ethnicity) and professional characteristics (e.g., rank, appointment, and college grouping). This study contributes to theory development by examining publicly engaged scholarship by type of activity reported in promotion and tenure documents. Specifically, this study's results confirm that the types of publicly engaged scholarship vary significantly by personal and professional characteristics. This study also contributes to practice by suggesting that institutions striving to support community engagement should not simply take a "one size fits all" approach to faculty development and should consider appropriate resource allocations to support different types of publicly engaged scholarship.

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References

- Abes, E. S., Jackson, G., & Jones, S. R. (2002). Factors that motivate and deter faculty use of service-learning. *Michigan Journal of Community Service Learning*, 9(1), 5–17.
- Antonio, A. L. (2002). Faculty of color reconsidered: Reassessing contributions to scholarship. *The Journal of Higher Education*, 73(5), 582–602.
- Antonio, A. L., Astin, H. S., & Cress, C. M. (2000). Community service in higher education: A look at the nation's faculty. *Review of Higher Education*, 23(4), 373–398.
- Austin, A. E., & Rice, R. E. (1998). Making tenure viable: Listening to early career faculty. *American Behavioral Scientist*, 41(5), 736–754.
- Baez, B. (2000). Race-related service and faculty of color: Conceptualizing critical agency in academe. *Higher Education*, 39(3), 363–391.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage Publications.
- Boyer, E. L. (1990). *Scholarship reconsidered*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.
- Boyer, E. L. (1996). The scholarship of engagement. *Journal of Public Service & Outreach*, 1(1), 11–20.
- Carnegie Foundation for the Advancement of Teaching. (2009). *Community engagement definitions*. Retrieved from http://classifications.carnegiefoundation.org/descriptions/community_engagement.php
- Checkoway, B. (2001). Renewing the civic mission of the American research university. *The Journal of Higher Education* 72(2), 125–147.
- Church, R. L., Zimmerman, D. L., Bargerstock, B. A., & Kenney, P. A. (2002/2003). Measuring scholarly outreach at Michigan State University: Definition, challenges, tools. *Journal of Higher Education Outreach and Engagement* 8(1), 141–152.
- Colbeck, C. L. (2002). Integration: Evaluating faculty work as a whole. In C. L. Colbeck (Ed.), *New Directions for Institutional Research*, No. 114 (pp. 43–52). San Francisco, CA: Jossey-Bass.
- Colbeck, C. L., & Weaver, L. D. (2008). Faculty engagement in public scholarship: A motivation systems theory perspective. *Journal of Higher Education Outreach and Engagement* 12(2), 7–32.
- Colbeck, C. L., & Wharton-Michael, P. (2006). Individual and organizational influences on faculty members' engagement in public scholarship. In R. A. Eberly & J. Cohen (Eds.), *New Directions for Teaching and Learning*, No. 105 (pp. 17–26). San Francisco, CA: Jossey-Bass.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles, CA: Sage.
- Diamond, R. M., & Adam, B. E. (1995). *The disciplines speak: Rewarding the scholarly, professional, and creative work of faculty*. Washington, DC: American Association for Higher Education.
- Diamond, R. M., & Adam, B. E. (2000). *The disciplines speak II: More statements on rewarding the scholarly, professional, and creative work of faculty*. Washington, DC: American Association for Higher Education.
- Doberneck, D. M., Glass, C. R., & Schweitzer, J. H. (2009, September). *Scholarly outreach and engagement reported by successfully tenured*

- faculty at Michigan State University, 2002–2006: A typology of publicly engaged scholarship. East Lansing: Michigan State University, National Collaborative for the Study of University Engagement. Retrieved from <http://ncsue.msu.edu/publications/reappointment.aspx>
- Fairweather, J. S. (2002a). The ultimate faculty evaluation: Promotion and tenure decisions. *New Directions for Institutional Research*, 2002 (114), 97–108.
- Fairweather, J. S. (2002b). The mythologies of faculty productivity: Implications for institutional policy and decision making. *The Journal of Higher Education*, 73(1), 26–48.
- Fear, F. A., Rosaen, C. L., Foster-Fishman, P., & Bawden, R. J. (2001). Outreach as scholarly expression: A faculty perspective. *Journal of Higher Education Outreach and Engagement*, 6(2), 21–34.
- Gappa, J. M., Austin, A. E., & Trice, A. G. (2007). *Rethinking faculty work: Higher education's strategic imperative*. San Francisco, CA: Jossey-Bass.
- Giles, D. E., Jr. (2008). Understanding an emerging field of scholarship: Toward a research agenda for engaged, public scholarship. *Journal of Higher Education Outreach and Engagement*, 12(2), 97–106.
- Glass, C. R., Doberneck, D. M., & Schweitzer, J. (2009, November). Summary of the 2001 revisions to the Reappointment, Promotion, and Tenure form at Michigan State University: Expanding the definition of scholarship to include engagement. *The Engagement Exchange*, No. 1. East Lansing: Michigan State University, National Collaborative for the Study of University Engagement. Retrieved from http://ncsue.msu.edu/files/EngagementExchange_No.1_Jan2010.pdf
- Glassick, C. E., Huber, M. T., & Maeroff, G. I. (1997). *Scholarship assessed: Evaluation of the professoriate*. San Francisco, CA: Jossey-Bass.
- Gonzalez, K. P., & Padilla, R. V. (Eds.). (2008). *Doing the public good: Latino/a scholars engage civic participation*. Sterling, VA: Stylus Publishing.
- Hammond, C. (1994). Integrating service and academic study: Faculty motivation and satisfaction in Michigan higher education. *Michigan Journal of Community Service Learning*, 1(1), 21–28.
- Holland, B. A. (1997). Analyzing institutional commitment to service. *Michigan Journal of Community Service Learning*, 4(1), 30–41.
- Jaeger, A. J., & Thornton, C. H. (2006). Neither honor nor compensation: Faculty and public service. *Educational Policy*, 20(2), 345.
- Kellogg Commission on the Future of State and Land-Grant Universities. (1999). *Returning to our roots: The engaged institution*. Washington, DC: National Association of State Universities and Land-Grant Colleges.
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology*. Thousand Oaks, CA: Sage Publications.
- Lunsford, C. G., Church, R. L., & Zimmerman, D. L. (2006, Fall). Assessing Michigan State University's efforts to embed engagement across the institution: Findings and challenges. *Journal of Higher Education Outreach and Engagement*, 11(1), 89–104.
- MacQueen, K. M., McLellan, E., & Milstein, B. (1998). Codebook development for team-based qualitative analysis. *Cultural Anthropology Methods*, 10(2), 31–36.

- Mayring, P. (2000). Qualitative content analysis. *Forum: Qualitative Social Research* 1(2). Retrieved from <http://www.qualitative-research.net/index.php/fqs/article/view/1089/2386>
- Michigan State University. (2009). *Outreach and Engagement Measurement Instrument (OEMI): Engagement activities from January 1, 2008, through December 31, 2008* [Survey form]. Retrieved from <https://oemi.msu.edu/>
- Michigan State University Human Resources. (2001, March). *Recommendation for Reappointment, Promotion, or Tenure Action* [Form D]. East Lansing: Michigan State University. Retrieved from http://www.hr.msu.edu/forms/faculty_forms/FormInfoRRPTPages.htm
- Moore, T. L., & Ward, K. (2008). Documenting engagement: Faculty perspectives on self-representation in promotion and tenure. *Journal of Higher Education Outreach and Engagement*, 12(4), 5–27.
- Neuendorf, K. A. (2002). *The content analysis guidebook*. Thousand Oaks, CA: Sage Publications.
- O'Meara, K. A. (2002). *Scholarship unbound: Assessing service as scholarship for promotion and tenure*. New York, NY: Routledge.
- O'Meara, K. A. (2008). Motivation for faculty community engagement: Learning from exemplars. *Journal of Higher Education Outreach and Engagement*, 12(1), 7–29.
- Provost's Committee on University Outreach. (1993). *University outreach at Michigan State University: Extending knowledge to serve society*. East Lansing: Michigan State University. Retrieved from <http://outreach.msu.edu/documents.asp>
- Rice, R. E., Pathways, A. N., et al. (1996). *Making a place for the new American scholar*. Washington, DC: American Association for Higher Education.
- Saltmarsh, J., Hartley, M., & Clayton, P. H. (2009). *Democratic engagement white paper*. Boston, MA: New England Resource Center for Higher Education.
- Sandmann, L. R. (2008). Conceptualization of the scholarship of engagement in higher education: A strategic review, 1996–2006. *Journal of Higher Education Outreach and Engagement*, 12(1), 91–104.
- Schomberg, S. F., & Farmer, J. A., Jr. (1994). The evolving concept of public service and implications for rewarding faculty. *Continuing Higher Education Review*, 58(3), 122–140.
- Sorcinelli, M. D. (2000). *Principles of good practice: Supporting early-career faculty—guidance for deans, department chairs, and other academic leaders*. Washington, DC: American Association for Higher Education & Accreditation.
- Wade, A., & Demb, A. (2009). A conceptual model to explore faculty community engagement. *Michigan Journal of Community Service Learning*, 15(2), 5–16.
- Ward, K. (2003). *Faculty service roles and the scholarship of engagement* (ASHE-ERIC Higher Education Report, Vol. 29, No. 5). San Francisco, CA: Jossey-Bass.
- Whitt, E. J. (2001). Document analysis. In C. F. Conrad, J. G. Haworth, & L. R. Lattuca (Eds.), *Qualitative research in higher education: Expanding perspectives* (2nd ed., pp. 447–454). Boston, MA: Pearson Custom Publishing.

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Striving for Authentic Community Engagement: A Process Model from Urban Teacher Education

Jana Noel

Abstract

This article presents an urban teacher education center as a process model of how a university can cultivate authentic community engagement. Three essential steps of the process model are identified: (1) being physically located at the school or community site in order to build trust and become integrated into the life of the school or community, (2) conducting community studies in order to learn about and understand the lives of community members, and (3) becoming involved in community engagement activities.

Introduction to Urban Community Engagement

A goal of urban universities in recent years has been to make stronger connections to the urban communities in which they are located (e.g., Coalition of Urban and Metropolitan Universities, Great City Universities, Urban Education Service Corps). One approach to developing connections has been through community engagement (a term used here to denote service-learning, civic engagement, and community-oriented field experiences), which has been repeatedly shown to generate positive outcomes for university students as well as communities (*Astin, Vogelgesang, Ikeda, & Yee, 2000; Driscoll, Holland, Gelmon, & Kerrigan, 1996; Eyler & Giles, 1999; Kerrigan, Gelmon, & Spring, 2003; Kirlin, 2003; Moely, McFarland, Miron, Mercer, & Ilustre, 2002*).

Similarly, educators within the field of urban teacher education have proposed that involvement with communities should be an important part of teacher education. Howey (2001), for instance, lays out 10 general attributes of a good urban teacher education program, including “involvement of prospective teachers in a host of urban community and community agency activities” (p. 13). CREDE (the Center for Research on Education, Diversity & Excellence) identifies a key theme of teacher education as “Schools, Family, and Community,” which entails “methods and principles for local contextualization of instruction through school interrelationships with families and community agencies” (2004). And Haberman (2000) proposes that urban teachers must learn through

their teacher preparation program to “expand their knowledge of students’ culture groups through direct personal contacts with students, parents, caregivers, and community” (p. 4).

A number of socially transformative implications of connecting teacher education with urban schools and communities have been documented, including building trust and commitment with local communities (Murrell, 2001; Reed, 2004); participating in community organizing (Oakes, Rogers, & Lipton, 2006); creating a sense of civic engagement through a commitment to service-learning (Boyle-Baise & Sleeter, 2000); preparing culturally responsive future teachers (Ladson-Billings, 2006); increasing the number of preservice teachers who choose to teach in urban or diverse settings (Noel, 2006); and transforming the educational system (Giroux & McLaren, 1996; Haberman, 2000; Solomon, Manoukian, & Clarke 2005; Zeichner & Melnick, 1996).

Despite the successes of community engagement in general, and in urban teacher education in particular, these efforts have also been criticized for having a university-led focus. There is often an inequality of roles, with university programs and faculty members setting the tone for interactions. A number of these approaches to school and community involvement center on universities bringing in programs for urban schools and communities to implement. Even when there are multilevel groups that involve a university, schools, community members, and community groups and agencies in the discussions, it is often the university that provides the impetus and expertise to initiate change, not the community’s own authentic efforts at change (Kahne & Westheimer, 1996; Murrell, 1998; Reed, 2004; Weiner, 2000). Persons residing in urban neighborhoods know when outside institutions and agencies come in with new ideas intended to “help” them; furthermore, they know that those outsiders, the ones with the power to propose the change, can also leave the community just as easily as they entered. As Reed (2004) describes,

Low-income neighborhoods are jaded by the comings and goings of organizations that have no grassroots base in the community. . . . Local residents are weary of seeing new initiatives come and go. They are tired of the disruptions caused by those who live outside the neighborhood who try to offer solutions that, no matter how well intentioned, are not grounded in the realities of the street (p. 81).

Recognizing this concern within communities, Harkavy and Hartley (2009) urge institutions of higher education to “go beyond a rhetoric of collaboration and conscientiously work with communities, rejecting the unidirectional, top-down approaches that all too often have characterized university-community interaction” (p. 12).

The purpose of this article is to examine how universities can strive for greater authenticity within the communities and schools where their faculty members and students work. It focuses on how universities can move toward what Harkavy and Hartley (2009) describe as “the establishment of deep, lasting, democratic, collaborative partnerships aimed at addressing pressing real-world problems” (p. 9). It draws on theories of community engagement, trust, and socially transformative education, and describes one process model of an award-winning¹ urban teacher education center’s efforts to become a more authentic part of its community. It presents the results of an evaluation of the Urban Teacher Education Center after its fifth year of operation, including results from Likert scale surveys, questionnaires, interviews, reflective journals, and a focus group.

The focus of this article is on how to ensure that a community develops trust in the university through employing three strategies. First, the university program should be physically located at the school or community site in order to build trust and become integrated into the life of the school community. Second, university faculty members and students should engage in community studies to learn more about the lives of the community’s members. And third, after becoming an integrated part of community life, and after learning about the community, the program should undertake authentic community engagement activities.

The Sacramento Urban Teacher Education Center

In 2004 the California State University, Sacramento Urban Teacher Education Center (UTEC) was created. UTEC is a teacher preparation program designed to prepare future teachers to work in low-income, culturally and linguistically diverse urban schools and communities. The Urban Teacher Education Center moved teacher preparation off the university campus and into Broadway Circle Elementary School, a low-income, diverse elementary school in a large city in Northern California. Broadway Circle Elementary School serves children from two public housing projects, with demographics of 94% free-and-reduced lunch (a federal measure

of poverty), 94% children of color, and 60% African American students. Nearly all of the university's teacher preparation courses are taught in the elementary school, with opportunities for daily engagement with the school and community. University students spend three semesters taking courses on site at the elementary school as they earn their teaching credentials.

"[M]oving teacher education into urban schools and communities will enable both university faculty members and students—future teachers—to better understand the realities of urban education, including the social, political, and economic conditions. . ."

A key to this center's methodology is the recognition that moving teacher education into urban schools and communities will enable both university faculty members and students—future teachers—to better understand the realities of urban education, including the social, political, and economic conditions that affect the lives and education of urban children and their families (Noel, 2006). In such teacher education programs, there is acknowl-

edgment that in order to effectively educate children in urban settings, teachers must learn about and engage in the communities of their students, becoming part of the daily fabric of the urban community. As Reid (2007) writes, "teacher education embedded within the context of inner-city education" (p. 228) can lead to transformation of teacher education, schools, and communities.

Three Steps of Authentic Community Engagement

The Sacramento Urban Teacher Education Center uses a three-step process model to ensure that community engagement with the Broadway Circle Elementary School community is authentic. These steps were intentionally built into the Urban Teacher Education Center from the start, and helped drive the development of community interactions. In this process model, the three steps must be sequential. For example, first, the California State University (CSU) Teacher Education Center integrated itself into the school community by "being there" at the school. Second, faculty members and administrators conducted community studies. Finally, after Steps 1 and 2 were completed, UTEC faculty members and students took

part in community engagement activities. If the Urban Teacher Education Center had started at Step 3, “Become involved in community engagement activities,” without (1) physically becoming a part of, and (2) learning about the community, it would have risked promoting and perpetuating the community’s feeling of disconnect from the university. Elaboration on this three-part process model follows.

Step 1. Become Integrated into the Community: “Being There,” Developing Trust

Collaboration is easier and more effective when trust has been developed between a university and a school community. Step 1 of the process model draws from Murrell’s (2001) concept of teacher education programs “being there” in schools and communities. As Murrell (2001) and Reed (2004) both describe, communities ask that teacher education programs be physically present in schools in order to learn, to show commitment, and to build trust with community members. As Reed (2004) explains, “From a neighborhood perspective, presence is especially important” (p. 81). Murrell (2001) describes these efforts as “building community through our actual physical presence in schools. . . . The measure of our success as agents for change is not the expertise we bring as university people, but rather our capacity to learn in the company of others” (p. 33). Rosenberg’s (1997) sense of “dwelling” is another way to describe the meaning of “being there.” As Rosenberg discusses, “We need to think about what it means for us to ‘dwell’ in the institution. To ask our students and ourselves to ‘dwell’ is to ask ourselves to exist in a given place, to fasten our attention, to tarry, to look again. We take root, day after day” (p. 88).

Developing trust.

Hoy and Tschannen-Moran (1999) have identified five facets of trust involved in establishing trust between people and organizations: benevolence, honesty, openness, reliability, and competence. A key thread weaving through these facets of trust is the confidence that one person or organization has in the partner’s intentions toward the people and project. As Tschannen-Moran (2004) writes, “Perhaps the most essential ingredient and commonly recognized facet of trust is a sense of caring or benevolence; the confidence that one’s well-being or something one cares about will be protected and not harmed by the trusted party” (p. 19).

Collaborative relationships, however, do not begin with all five facets of trust already in place. Rather, trust builds over time. "Trust is a dynamic phenomenon that takes on a different character at different stages of a relationship. As a relationship develops, trust 'thickens' (Gambetta, 1988)" (Tschannen-Moran & Hoy, 2000, p. 570). A number of authors (Bottery, 2003; Gambetta, 1988; Hands, 2005; Hoy & Tschannen-Moran, 1999; Stefkovich & Shapiro, 2002; Tschannen-Moran & Hoy, 2000) describe three stages in developing trust between two institutional partners. At the first stage, when partners do not have a professional or personal relationship, they will make a calculation about the worthiness of a potential collaborative partner based on factors such as the amount of risk connected with the collaboration, or whether the activities and partners can be monitored (Gambetta, 1988). This calculation of possible trust may be based in part on an already implied trust between organizations. Since there often are both regulatory and ethical characteristics attached to institutions such as schools and universities, these characteristics may be used as part of the determination of trust between the organizations at this initial level (Bottery, 2003).

The second stage occurs when the collaboration begins and activities commence, during which time partners can gauge the level of commitment of their partners based on repeated activities. At this stage, trust moves beyond a speculative calculation, and reaches a new level based on knowledge of practice in a common realm (Bottery, 2003; Tschannen-Moran & Hoy, 2000). This signifies a developing knowledge of individuals' work, commitment, and trustworthiness.

The third stage occurs when partners spend time working together, and repeated collaborative activities have been effective. Partners come to recognize (1) that they have developed relationships based on shared goals, procedures, and beliefs (Stefkovich & Shapiro, 2002); and (2) that they can act on behalf of each other, comfortable and confident in the decisions, activities, and outcomes of the partnership.

Once these stages of partnership development have been reached, a nearly authentic partnership can be realized. Flexibility is a hallmark of a mature partnership that has gone through this three-step process of trust development (Hands, 2005). An effective partnership, built on trust, deals with challenges with flexibility—enacting change and incorporating new community needs and institutional demands when needed.

Diversity.

Trust is considered to be more difficult when there is diversity within and across organizations. “Trust is more difficult,” Tschannen-Moran and Hoy (2000) write, “because people are uncertain about the cultural norms of others” (p. 560). In what is termed social identity theory (*Tajfel & Turner, 1979*), “individuals gain their sense of self-worth in part from the groups that they are part of or identify with” (*Noel, 2008, p. 47*). Tschannen-Moran and Hoy (2000) continue by pointing out that “People have a tendency to extend trust more readily to people they perceive as similar to themselves” (p. 560). The end result is that people are uncertain about what to expect from other individuals, other organizations, and from collaboration when working in a diverse organization. The key is to recognize that uncertainty may exist in a partnership, but that diversity does not need to be a deterrent to collaboration. People can work well within difference in order to make decisions that draw from multiple perspectives, and that will affect multiple constituencies in transformative ways.

The Urban Teacher Education Center example.

Differences among members of partnership organizations are especially evident within the Urban Teacher Education Center and Broadway Circle Elementary School. As a group of largely White, middle-class university faculty members and students located within a school and community characterized by a 94% poverty rate, and in which 94% of the residents are people of color, UTEC faculty members and students must consciously and continually consider how people in the neighborhoods may take a racially, economically, and educationally marked view of UTEC within their community. The Urban Teacher Education Center must continually consider the impacts that privilege, race, class, and school-community dynamics have on building trust within the community. Essays on White privilege (*Giroux, 1997b; McIntosh, 1988; Rodriguez, 2000; Sleeter, 2001*) remind us of the taken-for-granted privileges and positions of power held by Whites. Daniel’s (2007) definition of community lays out this relationship.

The community to which I refer is a group of persons wherein the members remain aware of the intersections of oppressions, the multiple relational dynamics inherent in that space, and are continually working at

making the community a comprehensive learning space for all of its members (p. 32).

This is the ultimate sense of trust that can develop from “being there.”

Today, the Urban Teacher Education Center–Broadway Circle Elementary School collaboration exemplifies a mature partnership. UTEC spent 2 years building trust by “dwelling” and “being there” in the Broadway Circle Elementary School and the neighboring community. UTEC took the time needed to build trust within the community. Over the 2 years, the UTEC coordinator and her students have attended community barbecues and back-to-school events, sometimes volunteering, and sometimes just enjoying the events. The UTEC coordinator also met the matriarch of the neighborhood housing projects. In 2006, the coordinator took a sabbatical semester from the university to serve as “community liaison” between the school, the university, and the community. Presuming to serve as a liaison between these three disparate groups would have been unthinkable prior to spending time daily at the school, slowly gaining the trust of community members, and finally becoming somewhat integrated into the life of the school and community.

Through seeing UTEC faculty members and students at the school every weekday during the university school year, the school’s principal and teachers began to trust the program’s purposes. Teachers demonstrated trust in the program by inviting the university students to take part in more and more schoolwide activities. Over time, the K-6 students began to tell their parents and guardians about the “university people” at their school. Parents no longer saw UTEC faculty members and students as strangers; rather, they began to trust the intentions of these “university people.”

Evaluation of trust in the Urban Teacher Education Center.

Results from a fifth-year evaluation of UTEC illustrate the level of trust developed over time (see Table 1). Based on the research demonstrating the importance of developing trust in community partnerships, as well as the research discussing issues of “outsider” status in urban settings, all participants in the evaluation were asked to respond to questions about “level of trust.” They were also asked to provide their perceptions of the university program as an “outsider” in their school and community. In the Likert scale survey of

schoolteachers, support staff (including the reading coach, library aide, office staff, custodial staff, and playground staff), and administrators, 100% of the survey respondents either agreed or strongly agreed that “I feel that I can trust UTEC faculty and students.” In another measure of trust, 91% of the respondents either agreed or agreed strongly that “I feel comfortable expressing my thoughts and opinions about UTEC to UTEC faculty.” When asked if they had any concerns about “outsiders” coming into the school or community, two respondents indicated that they originally had concerns, but that currently those concerns had disappeared, and thus no respondents expressed concerns about UTEC as “outsiders.”

Table 1. The Evaluation Process

Instrument	Participants	N	% of total in group	Time of data gathering
Likert scale survey (LS)	Teachers	5	38	Second-to-last week of 2008-2009 school year
	Support staff (reading coach, library aide, office staff, custodial staff, playground staff)	5	38	
	Administrator	1	50	
Interviews (I)	Teachers	2	15	Second-to-last week of 2008-2009 school year
	Support Staff	2	15	
	Administrators	2	100	
Focus group (FG)	Community leaders	3	N/A	Two weeks after 2008-2009 school year ended
Open-ended survey	Parents	17	30% of parents attending Open House 10% of school's total population of parents	2009 Spring Open House: a 15-minute time period just before event began Raffled two \$25 Target gift cards

The responses of the community leaders in the focus group give narrative meaning to the development of trust with “outsiders.” Participating community leaders included members of the community’s neighborhood association who had each created at least one community-wide program designed to transform the lives of children and families. The community leaders expressed two concerns held at the outset of the partnership, but now alleviated, related to “outsiders.” One, they had been concerned that the program might bring in a set of stereotypical judgments about

the lives of the people in the housing projects (*à la Foucault, 1977*). Two, they had felt certain that UTEC would not “stick around” (*à la Reed, 2004*). In the focus groups, the community leaders reported that they were “amazed that UTEC is still around and is so active after five years.”

Another key aspect of trust is a perceived level of equality in the partnership (*Kahne & Westheimer, 1996; Murrell 1998; Reed 2004; Weiner, 2000*). When asked in the Likert scale survey whether they felt they “have a say” in what activities UTEC undertakes at the school and in the community, 63% of the teachers, support staff, and administrators either agreed or strongly agreed. Interestingly, more teachers perceived a lack of voice in the selection of these activities (50%) than did support staff (20%). This is consistent with the interviews, in which one administrator described not having much say in the program, while the community leaders in the focus group felt empowered to make decisions regarding the particular UTEC-community collaborative activities that they co-coordinate.

And finally, in order for trust to develop, there needs to be a perceived level of honesty and openness (*Hoy & Tschannen-Moran, 1999*). To evaluate participants’ perceptions, the survey, interviews, and focus group protocol included questions about perceptions of honesty and openness in communications regarding UTEC. All interviewees (teachers, support staff, and administrators) and focus group members (community leaders) stated that they feel comfortable and confident in communications with UTEC, and that information flows both ways (from university to school, and from community to school) smoothly and frequently. Responses to the Likert scale survey of teachers, support staff, and one administrator indicated that 73% agreed or strongly agreed that “an appropriate level of effort has been made to gather input from school and community members about UTEC structure and activities.” Parents also need to be part of this communication feedback loop. One question on the open-ended parent survey asked, “Has your child ever told you about the university students at Broadway Circle School?” Of the parents who took part in the survey, 23% said yes, and 77% said no. The three parents who answered the open-ended question regarding suggestions (each with children in grades K–1) expressed the desire to have more UTEC-led activities available for primary-aged children (since the focus of most UTEC activities is grades 2–6).

Step 2. Learn About the Community: Community Studies

Murrell (2001) introduces the term “humility of practice,” which serves as a caution for university faculty members “to avoid the fatal assumption that they know all they need to know about the culture, values, traditions, and heritages of the people they purportedly serve” (p. 31). When going into a school or community, university faculty members and students must come to recognize that they will be working with organizations, groups, and individuals whose lives are different from their own. The university faculty members and students may be “cultural outsiders” within the community. Giroux’s (1997a) concept of “the discourse of lived cultures” helps explain this point. Giroux begins by pointing out that people from different backgrounds have different lives, and are likely to see the world in disparate perspectives. They have different “lived cultures.” In learning about the lives of people in a community, “the discourse of lived cultures” leads toward “an understanding of how [community members] give meaning to their lives through complex historical, cultural, and political forms that they both embody and produce” (p. 140).

Murrell (2001), and Moll, Amanti, Neff, and González (1992) describe practices that allow universities to learn about and gain a greater understanding of the lives of people in the communities where universities do their community engagement. Murrell (2001) promotes the concept of a “community teacher.”

Community teachers are developed through a system of practice-oriented, community-dedicated, and urban-focused instruction and assistance based in rich field experiences. The key to the system of practice that prepares community teachers is the immersion of candidates in rich contexts of collaborative activity and inquiry (p. 6).

Once they have been through this process of collaboration, community teachers can then “draw on a richly contextualized knowledge of culture, community, and identity in their professional work with children and families in diverse urban communities” (p. 4).

In advocating for a similar approach of learning about the communities and lives of the communities they serve, Moll et al. (1992) have advocated for teachers to become engaged with the families of their students by conducting home visits with an ethnographic eye. Teachers who learn the community’s and families’ “funds of

knowledge” will be better able to connect to the daily lives of, and values held by, the children in their classrooms.

While university programs such as UTEC, that embrace community engagement, are not likely to require faculty members or students to visit children’s or community members’ homes, there are many ways to gain a greater knowledge and understanding of the community served. The process model laid out in this article proposes “community studies” as part of university students’ community engagement or service-learning courses. In community studies, students (and faculty members) visit neighborhoods to learn about school and community demographics, meet with directors of organizations, and interview parents and community members. In accordance with the three trust-building steps proposed in this article, this second step of learning about community does, by necessity, occur before community engagement activities are initiated. This avoids the sense of disconnect sometimes felt by community members. Moreover, it avoids the feelings held by some community members that universities come and go, and do not have a strong base within the community itself.

The Urban Teacher Education Center example.

UTEC students participate in a “community study” as a requirement during the first semester of their school-based teacher preparation program. The first stage of a “community study” involves students keeping a reflective journal about their perceptions of the school. They write an answer to the question “What did you notice when you first arrived at Broadway Circle School?” As the semester continues, and they become more integrated into the school and community, the question prompts deepen, asking students to reflect upon and describe their perceptions of the school and community. The UTEC coordinator arranges six possible interviews and neighborhood visits for students to complete. Each student selects and completes one from this list.

1. Housing complex #1: Students can visit and conduct interviews about the Head Start program on site, and the socio-economic requirements for people to qualify to live in the complex.
2. Housing complex #2: Students can visit and conduct interviews about the county social services offered on site.

3. Nearby city park: Students can visit and conduct interviews about the programs offered at the park, and the level of participation by families from Broadway Circle School.
4. City-run job training center: Students can visit and conduct interviews about the programs offered for job training, and employment assistance as well as financial counseling.
5. Center for the health of expectant mothers: Students can visit and conduct interviews about the Center's health care services for expectant mothers without insurance.
6. School and community leaders: Throughout the semester, various school and community leaders join the UTEC students for course sessions, sometimes guest speaking in the course, sometimes attending course sessions with the students. UTEC students are encouraged to interview any of these school staff members or community leaders.

While these options are preestablished by the UTEC coordinator, based on the relationships developed over 5 years, students are also encouraged to discover additional community organizations, community events, or schoolwide programs that impact the children and families of the school and community. For their final assignment for the first semester, students provide a narrative and a visual presentation of their community study. Two examples of student reflective narratives follow.

[After completing several neighborhood visits.] Having grown up in a completely different environment, the overall impression that I got of the area that surrounds Broadway Circle Elementary was that of a run-down community, with a "project"-like or ghetto feel about it. . . . The fences more often than not were topped by some form of barbed or razor wire. . . . What I found when I looked past the fences and the external facades of faded buildings was a community that teemed with life. There were personalized touches everywhere I looked. I was amazed at the sheer number of secret gardens tucked away on the back sides of single-storied apartment buildings. . . . I watched a variety of early morning

rituals take place: from tai chi on a front lawn, to elderly women scouring apartment grounds for recyclables, to young mothers and fathers patiently, diligently, and most of all, lovingly, watching their young children play on the grass in front of them (*student teacher Mr. I.*).

Ms. P knows almost every child's name and their individual story and this, as Ms. P said in her interview, is what makes her job so special and unique. "Living here and working here go hand in hand, I am fortunate to be able to see where these kids come from everyday." Ms. P loves the community at Public Housing Complex #1 and when asked what her favorite part of the community was, she was quick to respond with "tons of activities for the kids." She loves the tutoring opportunities, sports activities and general love that the neighbors have for the kids that live in the neighborhood. Ms. P also likes the different individuals that people use as resources when they need something. In Public Housing Complex #1 there are barbers, hair braiders, babysitters and a lot of volunteers that are always willing to help a neighbor in need (*student teacher Ms. D.*).

These Step 2 neighborhood visits and interviews by UTEC students have been made possible through Step 1, "being there" at the school, and gaining trust of school and community members. The insights they have gained during these community studies are acquired before they begin engaging in community engagement activities. Through the community studies, the students learn much about the community and the lives of those who live in it. They are then able to participate in community engagement activities that directly relate to the lives of the children and community members with whom they work. The end result is a much deeper learning environment for all involved.

Step 3. Become Involved in Community Engagement Activities

The Urban Teacher Education Center exemplifies a mature partnership based on the groundwork done in Steps 1 and 2. What follows is a description of the community engagement activities (Step 3) undertaken collaboratively by UTEC, Broadway Circle School, and the neighborhood-run tutoring/mentoring center. These school and community-based activities range from

establishing programs (e.g., the Family Resource Center; the Mathematics, Engineering, Science Achievement [MESA] program; an after-school arts program at the school) to working directly with children (e.g., in the school library, as lunch buddies, in the neighborhood-run tutoring/mentoring center) to organizing and leading events (e.g., a university field trip for the school's sixth-graders, a Family Literacy Night for the whole school) and to the UTEC coordinator serving as a "community liaison" between the school, university, and community. These examples are described in more detail below.

Establish programs: The Family Resource Center.

UTEC students, the UTEC coordinator, and Broadway Circle School's assistant principal were responsible for opening the Family Resource Center in Broadway Circle School. In spring 2006, UTEC students served coffee to parents, assisted with computer access, and operated the children's book giveaway and the parent book exchange. In spring 2007, UTEC students opened the Family Resource Center to meet with parents, and to help facilitate the principal's "Coffee and Conversation." The center now serves as a classroom for parent education, including a parenting workshop offered by the local university and a G.E.D. course offered by the school district.

Establish programs: The Mathematics, Engineering, Science Achievement (MESA) program.

In spring 2007, UTEC students, with their professor and a second-grade teacher, initiated the MESA program at Broadway Circle Elementary School, which provides an opportunity for educationally disadvantaged students to explore careers in mathematics, engineering, and science, and to prepare for admission to college to study in these fields. Over 60 children participated in MESA, and UTEC student teachers taught the weekly activities. Three Broadway Circle School students won first place out of 500 students at the spring 2007 MESA competition. This competition drew K-6 students from throughout the Sacramento region, with a set of challenging mathematics, engineering, and science contests designed to measure students' knowledge, ability, and creativity. The MESA program continues today, with UTEC students helping regular classroom teachers to facilitate the weekly program.

Establish programs: After School Arts Program.

In 2008, UTEC students initiated the After School Arts Program, which involved 15 K–6 students in music, arts, and crafts. The result was the first After School Arts Showcase during Back-to-School Night. Although this program no longer exists due to turnover of teachers who served as the school sponsors for the program, UTEC students now serve as tutors and mentors for the neighborhood-run after school dance program.

Working with children: Broadway Circle School library.

Broadway Circle School did not have a librarian in 2005–2006, so the library could not be utilized by children. In spring 2006, UTEC students opened and operated the library during three lunch periods each week. Records indicate that 80 students took advantage of the opportunity to go to the library to read during their lunch period. Now that the school has a part-time librarian, UTEC students assist in the library, reshelving books and creating bulletin boards.

Working with children: Lunch buddies.

In spring and fall 2007, UTEC students served as lunch buddies, paired with children from Broadway Circle School. The lunch buddy pairs met during lunch one day per week. UTEC is no longer involved in this program today, but volunteers from local businesses and churches serve as lunch buddies for Broadway Circle students.

Working with children: Neighborhood-run tutoring/mentoring center.

This after-school tutoring/mentoring program within Public Housing Complex #1 was created and is operated by two men who grew up in the neighborhood, moved out to get their college degrees, and now give back to their former community by running the center. UTEC students assist as tutors/mentors for this program, which serves over 100 children per year.

Events: University field trip for sixth-graders.

Working with the UTEC coordinator, UTEC students partner with the Broadway Circle Elementary School's teachers to lead an annual field trip for the school's fifth- and sixth-graders.

The purpose of the field trip is to highlight the importance of attending college by touring the University of California, Sacramento campus.

Events: Family Literacy Night.

In 2007, UTEC students helped Broadway Circle School's reading coach and several classroom teachers plan, prepare, and facilitate a Family Literacy Night. Some 30 children and their families attended. A Family Literacy Night is held each semester, with UTEC students helping to plan and facilitate the event.

“Community liaison.”

In 2006, the UTEC coordinator took a sabbatical from the university to serve as an unofficial “community liaison” between the University of California, Sacramento and the Broadway Circle School and neighborhood community. She spent time building closer connections between Broadway Circle School and the neighboring Public Housing Complexes #1 and #2 as well as with the social service organizations serving these communities. She also initiated a Community Outreach Committee at the school to help further the community involvement efforts of the school and communities. Today, the UTEC coordinator continues as an unofficial liaison between the university, school, and neighborhood.

Summary.

By “being there” in a school and community, building trust over time, a university program can become an important part of the fabric of the school and community. The university can both initiate activities and participate in existing activities. These activities allow the schoolchildren, community members, and university students to learn from each other.

Measuring Impact

To date, the impact of the Urban Teacher Education Center's approach to community engagement on the elementary school, the school district, and the university has been measured by the fifth-year evaluation (described earlier), and through student surveys.

In the fifth-year evaluation, 95% of the respondents across all evaluation instrument types agreed that having UTEC at the school and community benefitted both the school's children and UTEC students. Further, 91% of the school personnel indicated that they themselves felt empowered through the UTEC program

by agreeing with the statement “I feel like I make a positive impact on how much UTEC students learned in their program.” One community leader in the focus group, who has now become a high school special education teacher, indicated that he “finally” felt he was able to have an impact on the children of the neighborhood through the full spectrum of their lives. He felt he could “give up” the tutoring/mentoring program he ran at the public housing site in order to run a similar program at the high school, because he knew his mother (the community’s matriarch) and collaborator UTEC could run the elementary school program on their own. Previously, he felt he had to work only with the elementary children, because his impact might end as the children entered middle school. Now he is confident that he, and his family, can have an impact with all ages of children.

The impact of UTEC’s community engagement on UTEC students has been measured through pre-post surveys of attitude and beliefs about future involvement in urban schools (Noel, 2006). UTEC student responses, when compared to those in traditional teacher-preparation programs, indicate a greater motivation to teach in urban schools (67% UTEC vs. 35% traditional), and a greater desire to teach in areas of poverty (65% UTEC vs. 33% traditional). One pre- and post-UTEC program survey indicated that students increased their desire to work with families and communities when they become teachers.

Sustainability

The Urban Teacher Education Center has gained sustainability at Broadway Circle School due to its emphasis on Steps 1 and 3 of the process model described in this article. Through UTEC’s “being there” (Step 1) at the school and community on a daily basis for 5 years, the school and community have come to trust this university program, and have in turn invited UTEC faculty and students to both join in existing efforts and create new initiatives in the school and community (Step 3). The UTEC program has continued even as the Broadway Circle

“The key to sustaining the partnership during these years of rapid administrative turnover was the intentional emphasis on partnering with the neighborhood’s community organization.”

School experienced rapid change, as evidenced by the school’s six

principals in 5 years. The key to sustaining the partnership during these years of rapid administrative turnover was the intentional emphasis on partnering with the neighborhood's community organization. When community members grow to trust and even expect a university program to be active in their school and community, that gives the university program the staying power needed to sustain its activities throughout the years.

Assessment: Next steps

As UTEC moves forward within the Broadway Circle community, two assessment systems will be established to determine the longer term impact of the program. Since the primary goal of the UTEC program is to prepare students for teaching positions in urban schools, a tracking system will be established to gather data about where UTEC graduates apply for and secure teaching positions. Another goal of the UTEC program is to help youth achieve academically. Therefore, working with the Broadway Circle community organization, the UTEC program will track the middle and high school completion rates of children tutored and mentored by UTEC students at the community-sponsored after-school program.

Conclusion

In conclusion, this article has proposed a process model for university programs that desire to become more authentic partners in urban schools and communities. Several lessons have been learned along the way.

First, locate university-community programs in the community. Teach courses there. Participate in community events there. This builds trust, and provides university students with a more authentic understanding of the political, social, and economic lives of a neighborhood and its community members.

Second, expand the university-community partnership beyond the primary or initial partner. Identify other trusted organizations or individuals within the community (e.g., neighborhood organizations, churches, preschool programs, or the matriarch of a public housing complex). This practice strengthens partnering with such a community member or connections with the community.

And finally, approach the community partnership with a humbleness, with the recognition that community members know more about life in their community than do outsiders from a university. With the recognition of mutuality in learning, a university-community partnership can achieve its goals and transform lives.

Endnote

1. The Sacramento State Urban Teacher Education Center received the 2008 “Quality Education Partnership Award for Distinguished Service to Children and the Preparation of Teachers” from the California Council on Teacher Education.

References

- Astin, A., Vogelgesang, L., Ikeda, E., & Yee, J. (2000). *How service-learning affects students*. Los Angeles: University of California, Los Angeles, Higher Education Research Institute.
- Bottery, M. (2003). The management and mismanagement of trust. *Educational Management & Administration*, 32(3), 245–261.
- Boyle-Baise, M., & Sleeter, C. E. (2000, Spring). Community service-learning for multicultural education. *Educational Foundations*, pp. 1–18.
- Center for Research on Education, Diversity & Excellence (CREDE). (2004). Various reports. Retrieved August 15, 2005, from <http://www.coe.uh.edu/crede/synthesis.html>
- Daniel, B. J. (2007). Developing educational collectives and networks: Moving beyond the boundaries of “community in urban education.” In R. P. Solomon and D. N. R. Sekayi (Eds.), *Urban teacher education and teaching: Innovative practices for diversity and social justice* (pp. 31–47). Mahwah, NJ: Lawrence Erlbaum Associates.
- Driscoll, A., Holland, B., Gelmon, S., & Kerrigan, S. (1996). An assessment model for service-learning: Comprehensive case studies of impact on faculty, students, community, and institution. *Michigan Journal of Community Service Learning*, 3, 66–71.
- Eyler, J., & Giles, D. E., Jr. (1999). *Where’s the learning in service-learning?* San Francisco, CA: Jossey-Bass.
- Foucault, M. (1977). *Discipline and punish: The birth of the prison*. New York, NY: Vintage.
- Gambetta, D. (1988). Can we trust trust? In D. Gambetta (Ed.), *Trust: Making and breaking cooperative relations* (pp. 213–219). Oxford, United Kingdom: Basil Blackwell.
- Giroux, H. A. (1997a). *Pedagogy and the politics of hope: Theory, culture, and schooling*. Boulder, CO: Westview Press.
- Giroux, H. A. (1997b). Rewriting the discourse of racial identity: Towards a pedagogy and politics of whiteness. *Harvard Educational Review*, 67(2), 285–320.
- Giroux, H., & McLaren, P. (1996). Teacher education and the politics of engagement: The case for democratic schooling. In P. Leistyna and A. Woodrum (Eds.), *Breaking free: The transformative power of critical pedagogy* (pp. 301–331). Cambridge, MA: Harvard Educational Review.
- Haberman, M. (2000). *What makes a teacher education program relevant preparation for teaching diverse students in urban poverty schools? (The Milwaukee Teacher Education Center Model)*. Retrieved from ERIC database. (ED442745)

- Hands, C. (2005). It's who you know and what you know: The process of creating partnerships between schools and communities. *The School Community Journal*, 15(2), 63–84.
- Harkavy, I., & Hartley, M. (2009). University-school-community partnerships for youth development and democratic renewal. *New Directions for Youth Development*, 122, 7–18.
- Howey, K. R. (2001). *A conceptual map to guide the Great City Universities Urban Educator Corps Partnership Initiative*. Retrieved March 4, 2004, from [http://www.gcu-edu.org/conceptual framework.doc](http://www.gcu-edu.org/conceptual%20framework.doc)
- Hoy, W. K., & Tschannen-Moran, M. (1999). Five facets of trust: An empirical confirmation in urban elementary schools. *Journal of School Leadership*, 9, 184–208.
- Kahne, J., & Westheimer, J. (1996). In the service of what? The politics of service-learning. *Phi Delta Kappan*, 77, 593–599.
- Kerrigan, S., Gelmon, S., & Spring, A. (2003). The community as classroom: Multiple perspectives on student learning. *Metropolitan Universities*, 14(3), 53–67.
- Kirlin, M. (2003). *The role of civic skills in fostering civic engagement*. Retrieved from <http://www.civicyouth.org/PopUps/WorkingPapers/WP06Kirlin.pdf>
- Ladson-Billings, G. (2006). It's not the culture of poverty, it's the poverty of culture: The problem with teacher education. *Anthropology and Education Quarterly*, 37(2), 104–109.
- McIntosh, P. (1988). *White privilege and male privilege: A personal account of coming to see correspondences through work in women's studies*. Wellesley, MA: Wellesley College Center for Research on Women.
- Moely, B. E., McFarland, M., Miron, D., Mercer, S., & Ilustre, V. (2002). Changes in college students' attitudes and intentions for civic involvement as a function of service-learning experiences. *Michigan Journal of Community Service Learning*, 8(2), 15–26.
- Moll, L. C., Amanti, C., Neff, D., & González, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice*, 31(10), 132–141.
- Murrell, P. C., Jr. (1998). *Like stone soup: The role of the professional development school in the renewal of urban schools*. Washington, DC: AACTE Publications.
- Murrell, P. C., Jr. (2001). *The community teacher: A new framework for effective urban teaching*. New York: Teachers College Press.
- Noel, J. (2006). Integrating a new teacher education center into a school and its community. *Journal of Urban Learning, Teaching, and Research*, 2, 197–205.
- Noel, J. (2008). *Developing multicultural educators* (2nd ed.). Long Grove, IL: Waveland Press, 2008.
- Oakes, J., Rogers, J., & Lipton, M. (2006). *Learning power: Organizing for education and justice*. New York: Teachers College Press.
- Reed, W. A. (2004). A tree grows in Brooklyn: Schools of education as brokers of social capital in low-income neighborhoods. In J. L. Kincheloe, A. Bursztyrn, and S. R. Steinberg (Eds.), *Teaching teachers: Building a quality school of urban education* (pp. 65–90). New York, NY: Peter Lang.

- Reid, C. (2007). The confluence of teacher education and inner-city activism: A reciprocal possibility. In R. P. Solomon and D. N. R. Sekayi (Eds.), *Urban teacher education and teaching: Innovative practices for diversity and social justice* (pp. 227–240). Mahwah, NJ: Lawrence Erlbaum Associates.
- Rodriguez, N. M. (2000). Projects of whiteness in a critical pedagogy. In N. M. Rodriguez and L. E. Villaverde (Eds.), *Dismantling white privilege: Pedagogy, politics, and whiteness* (pp. 1–24). New York, NY: Peter Lang.
- Rosenberg, P. M. (1997). Underground discourses: Exploring whiteness in teacher education. In M. Fine, L. Weis, L. C. Powell, and L. M. Wong (Eds.), *Off white: Readings on race, power, and society* (pp. 79–89). New York, NY: Routledge.
- Sleeter, C. E. (1994). White racism. *Multicultural Education*, 1(4), 5–8, 39.
- Sleeter, C. E. (2001). Preparing teachers for culturally diverse schools: Research and the overwhelming presence of whiteness. *Journal of Teacher Education*, 52(2), 94–106.
- Solomon, R. P., Manoukian, R. K., & Clarke, J. (2005). From an ethic of altruism to possibilities of transformation in teacher candidates' community involvement. In L. Pease-Alvarez and S. R. Schecter (Eds.), *Learning, teaching, and community: Contributions of situated and participatory approaches to educational innovation* (pp. 171–190). Mahwah, NJ: Lawrence Erlbaum Associates.
- Stefkovich, J., & Shapiro, J. P. (2002). Deconstructing communities: Educational leaders and their ethical decision-making processes. In P. T. Begley and O. Johansson (Eds.), *The ethical dimensions of school leadership* (pp. 77–87). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin and S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks/Cole.
- Tschannen-Moran, M. (2004). *Trust matters: Leadership for successful schools*. San Francisco, CA: Jossey-Bass.
- Tschannen-Moran, M., & Hoy, W. K. (2000). A multidisciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research*, 71, 547–593.
- Weiner, L. (2000). Research in the 90s: Implications for urban teacher preparation. *Review of Educational Research*, 70(3), 369–406.
- Zeichner, K., & Melnick, S. (1996). The role of community field experiences in preparing teachers for cultural diversity. In K. Zeichner, S. Melnick, and M. L. Gomez (Eds.), *Currents of reform in preservice teacher education* (pp. 176–196). New York, NY: Teachers College Press.

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Supporting the K-12 Classroom through University Outreach

Barbara Moskal and Catherine Skokan

Abstract

This article provides a field-based example of a series of outreach programs that have been designed in response to current recommendations found in the K-12 outreach literature. These programs begin with university mathematics and science faculty members teaching a 10-day summer workshop to elementary and middle school teachers. Following this workshop, a graduate student provides direct classroom support for 15 hours each week throughout the academic year to the participating teachers. At the high school level, graduate students offer after-school mathematics and science enrichment clubs to students. Early findings indicate a positive impact on teacher understanding of mathematics and science as measured by summer workshop pre and post assessments and participating students' development of mathematical knowledge as measured by a standardized test. Additionally, there has been a recent increase in faculty members' willingness to participate in these outreach programs.

Introduction

*I*n mathematics and science, researchers (Kerachsky, 2008; Kirsch, Braun, Yamamoto, & Sum, 2007; Martin, Mullis, & Chrostowski, 2004; Mullis, Martin, Gonzalez, & Chrostowski, 2004) have found that U.S. students are performing below many of their international peers in comparable grade levels. According to Kirsch et al. (2007) and McMasters (2006), by college few U.S. students are prepared for or interested in pursuing degrees in engineering. In the past, engineering and engineers have played a pivotal role in building U.S. economic capabilities. Professional societies (National Academies, 2007) are expressing concerns that under the current conditions the U.S. may not be able to maintain its global competitive edge.

This article provides an example of a sequence of university outreach programs designed to complement each other and to build on the prior research in K-12 outreach. These programs utilize the efforts of graduate students to facilitate communication between university faculty members and the K-12 community. These programs are further designed to reduce the burden placed on K-12 instructors as they seek to identify and develop materials that deepen students' understanding of mathematics and science.

Additionally, this article discusses the factors that appear to contribute to higher education faculty member participation in these outreach programs. The opinions expressed in this article are those of the authors and do not necessarily reflect those of our funders.

We begin with a brief review of the U.S. K-12 system. This is followed by a discussion of the restrictions university systems directly or indirectly place on outreach activities. The section concludes with a review of research concerning effective models for K-12 outreach.

K-12 System

Research indicates that students lose interest in mathematics and science, subjects that provide the foundation for engineering, as early as the middle grades (grades 6 through 8), and this is reflected in students' declining test scores (Barker & Aspray, 2006; Fennema, 2000; Margolis & Fisher, 2003). By high school, many students opt out of higher level mathematics and science (American Association of University Women, 1992; National Center on Education and the Economy, 2006), unknowingly limiting their future career options. Both the Trends in International Mathematics and Science Study (TIMSS) (Kerachsky, 2008) and the National Assessment of

“[T]he future competitiveness of the U.S. is dependent on the K-12 education system developing all students' talents in mathematics and science. . .”

Educational Progress (National Center for Educational Statistics, 2008) found that as U.S. students progress from primary through secondary schools, their average academic performance in these subjects steadily declines. Many competing nations have not reported a similar decline. Researchers (Hyde, Lindberg, Linn, Ellis, & Williams 2008; Kerachsky, 2008; Mead 2006) have further reported that in the United States the performance of African

American and Hispanic students in mathematics and science lags behind that of Caucasian students. Additionally, students whose families have low incomes are more likely than their financially able peers to perform at the lowest levels (Kerachsky, 2008). Unlike any other period in history, the future competitiveness of the U.S. is dependent on the K-12 education system developing all students' talents in mathematics and science, and in encouraging all students' interests in these areas as well as engineering. No U.S.

subcultures or subpopulations can be left without a strong education in mathematics and science.

The results of standardized tests indicate that students are engaging in mathematical and scientific learning in the elementary years, and it is during these years that students need to be exposed to the exciting applications of these fields. In U.S. elementary schools, teachers need to develop student understanding and interest in mathematics and science while maintaining a focus on reading. Reading provides an essential foundation for all forms of learning. Because of this, mathematical and scientific discoveries in the early years need to be embedded in a literacy-rich environment. Students need continual exposure to simple and exciting texts that address mathematical and scientific content.

By middle school, many students are equipped with basic mathematics skills that can be used to answer scientific questions that surfaced during elementary school investigations. In other words, by middle school an interest in science can provide the stimulus for developing deeper levels of mathematical understanding, much in the same manner that scientists deepen their own mathematical knowledge during scientific exploration. High school becomes a vehicle for feeding students' natural scientific and mathematical curiosity that has been nurtured through the earlier grades.

U.S. teachers, especially at the elementary level, are not equipped with an in-depth knowledge of mathematics, nor do they understand how mathematics, science, and engineering are being applied to the rapidly changing world (Ball, Lubienski, & Mewborn, 2001; Hill, Rowan, & Ball, 2005; Ma, 1999). Their own education was a product of an educational system that emphasized the reproduction of memorized algorithms with few examples of the applications (Ball et al., 2001). Expecting teachers to acquire detailed knowledge of mathematics, science, and engineering in a short period of time across many fields, while continuing to develop mastery of their own field, is both unnecessary and unreasonable. Many scientists struggle with the challenge of staying abreast of their field; teachers cannot be expected to stay abreast of their field as well as that of the mathematicians and scientists. As has been argued elsewhere, improving K-12 education is a shared responsibility between K-12 and higher education institutions (Lima, 2004; National Academies, 2007).

Restrictions in Higher Education

Most administrators and faculty members in higher education institutions would agree that higher education has an obligation to

support the improvement of K-12 education (Lima, 2004; *National Academies*, 2007). Historically, a major barrier to faculty work in K-12 schools is the value placed on outreach activities in the promotion and tenure process. At most universities, promotion and tenure decisions are based on research publications and funding (Justice, 2006). Although most higher education institutions consider outreach consistent with the university mission, these same institutions often do not reward or encourage outreach activities. Academic faculty members who begin their careers with an interest in K-12 outreach soon become entrenched in a system that values and rewards research productivity and prestige. The few faculty members who remain involved in K-12 outreach do so at the risk of reduced recognition and, if their tenure decision has not been made, at the risk of losing their jobs. Senior faculty members often recommend that junior faculty members avoid outreach activities, such as working with K-12 schools. By the time a faculty member completes the tenure process, interest in K-12 outreach is often a faint memory.

Today, however, the National Science Foundation (NSF), a primary funding source for many universities, recommends that university faculty members include K-12 outreach as part of their broader impact statements when submitting a proposal. Researchers may fulfill this obligation through visits to the K-12 classroom or through the development of singular content modules. Untrained faculty members who do not understand the classroom structure may unintentionally place a burden on the classroom teachers by introducing material that is not readily applicable in the standard curriculum. Classroom students may see little relevance in the scientists' visits or may be discouraged by the material the scientist presents. When such presentations are poorly implemented by the visiting faculty members, teachers and students can develop negative attitudes toward mathematics and science. Research indicates that short interventions, even when done well, are unlikely to have impact on the ongoing, day-to-day activities of the classroom (*National Council of Teachers of Mathematics*, 2002). A more effective approach to outreach is likely to be the development of a collaborative relationship among university faculty members and K-12 teachers over a sustained period of time, such as a year or longer.

Models for University K-12 Outreach

NSF has supported programs in which graduate students, referred to as graduate teaching fellows, rather than members of the faculty, provide academic year support to the K-12 classroom. These programs often begin with a summer workshop in which

faculty members, K-12 teachers, and graduate teaching fellows establish a collaborative relationship. Through NSF funding, the graduate students are compensated for their classroom efforts, which consist of up to 15 hours of direct classroom support each week throughout the academic year. Bledsoe, Young-Shin Park, and Gummer (2004) have proposed and have studied models for such interventions that are tailored to the elementary, middle, or high school level.

Elementary school level (K-5).

At the elementary level, Bledsoe et al. (2004) propose that graduate teaching fellows act as liaisons between teachers within the given school, and between the elementary schools (K-5) and the university. This design is possible primarily due to the structure of the elementary school, in which every teacher provides instruction on many different subjects. Elementary school teachers are generalists, and in this capacity they have a broad base of knowledge that spans the disciplines—literacy, language, art, music, science, mathematics, history, and social studies. A primary benefit of the graduate teaching fellows' participation in the classroom is the content knowledge that they bring to the classroom in mathematics and science. Because elementary teachers spend less time teaching mathematics and science than do middle and high school teachers, a single graduate student can support multiple classrooms. This provides additional benefits. A graduate teaching fellow who is supporting several elementary school teachers can transfer information horizontally across teachers who are instructing the same grade level, and vertically across the participating grade levels. Teachers and graduate students have the opportunity to use lesson plans designed for one grade to inspire instruction at another grade level. Schmidt, Houang, and Cogan (2002) have argued that the spiral curriculum in many U.S. schools is often implemented as a circular curriculum. A spiral curriculum is intended to gradually deepen student knowledge, but teachers who are pressed for time frequently address repeated topics with little more depth than in the prior year. Not knowing how the content was addressed in the prior years can result in the teachers' beginning instruction at a basic level, assuming the students have had no previous exposure to the material. With the added pressure of content coverage, many teachers never progress beyond a basic introduction of complex topics.

Trained graduate teaching fellows can facilitate communication between grade levels as they move from classroom to classroom. They can also alleviate the stress of teaching a topic at increasing

levels of depth by having the time to ask the teachers of the younger grades how the topic was previously addressed. Another benefit of having graduate students participate in the elementary classroom is that, since it is their job, they have the time to research innovative activities. Teachers often do not have the time to complete online searches for new materials or to review recent literature on a particular learning topic. Graduate students are also familiar with the university system. They can act as liaisons with the university, arranging for classroom visits by faculty members, or for loans of scientific equipment from the university.

Middle school and high school level.

According to Bledsoe et al. (2004), the role of the graduate teaching fellow should be defined differently at the middle school (Grades 6 through 8) and high school (Grades 9 through 12) levels. Middle school and high school teachers provide instruction within one or two content areas, allowing them to develop expertise in these areas. At the middle and high school levels, graduate fellows can be placed with a single teacher, or with two teachers providing instruction at the same grade level and within the same discipline. Sharing a graduate student across multiple teachers and grade levels becomes less feasible, as the instruction of mathematics and science by the given teacher occurs throughout the day. The role of the graduate student at the middle and high school levels is to enhance teachers' knowledge, and to support the development of student knowledge as well as to provide curricular support. As at the elementary level, it is the graduate students who have time to research topics, and to propose hands-on activities for the classroom. Also at this level, the graduate students continue to provide a connection with the university, arranging for classroom visits by scientists, and for loans of scientific equipment.

Summary

In summary, although K-12 and higher education institutions both hold the premise that educating K-12 students is a shared responsibility, neither system has a structure or reward system to support joint efforts. Justice (2006) argues that it is the intrinsic rewards, or the desire to make a difference, that catalyze outreach collaborations to form and continue between K-12 institutions and higher education. Effective outreach programs need to capitalize on the synergy offered by K-12 and university partnerships. Faculty members recognize the important contributions that they can make to K-12 instruction; teachers know the K-12 education structure and what works in the classroom.

Outreach Programs at the Colorado School of Mines

In this section, we describe a sequence of outreach programs at the Colorado School of Mines (CSM) that are designed to build on the intrinsic rewards that faculty members experience when they engage in outreach. The authors of this paper, Moskal and Skokan, are the project leaders for these programs. CSM, located in the west, is a school primarily of science and engineering, and has no school of education. The outreach programs described in this article are designed to minimize the time demand placed on faculty members and teachers during the development and implementation process. These programs employ graduate students to facilitate communication between university faculty members and the K-12 community. This section provides a discussion of our funding sources, the participating school districts, and our programs. These programs are based on current literature in K-12 outreach in that they are designed to build on the models proposed in the previous section for elementary, middle, and high school K-12 outreach. We present these programs as examples of how recommendations located in the literature can be transferred to practice.

Funding

Multiple sources of funding support the efforts of CSM. At the elementary level, we receive funding from the Bechtel Foundation for the Bechtel K-5 Educational Excellence Initiative. At the middle school and high school levels, our efforts are primarily supported by the National Science Foundation (NSF) through the GK-12 Learning Partnerships: Creating Problem Centered, Interdisciplinary Learning Environments and the BPC-DP: Broadening Female Participation in Computing: Middle School through Undergraduate Study. We additionally have matching funds to those provided by the Bechtel Foundation from the Renewable Energy Materials Research Science and Engineering Center, Denver Foundation, J. P. Morgan Foundation, Shell Oil Foundation, Boeing Foundation, and ECA Foundation. For our middle and high school programs, we have received additional support from the Tensor Foundation. The total level of funding for the combination of outreach programs is over \$1 million per year for the next three years. Teachers at all levels receive honorariums for their efforts, and have the option of receiving continuing education credits. CSM graduate students are compensated through the funding of their stipends, and the payment of their university tuition and fees. These programs provide faculty members with an organized outreach program with which to connect their research.

Elementary and middle school teachers have a classroom resource in the form of a graduate student who has detailed knowledge of mathematics and science, and of the resources available through CSM.

Participating School Districts

Although CSM offers outreach programs in multiple school districts, our primary efforts have been in two school districts. District 1 is 58% Hispanic, 2% African American, 2% Asian, and 38% Caucasian. District 2 is 48% Hispanic, 21% African American, 2% Asian, and 29% Caucasian. Both districts are economically disadvantaged, with a large proportion of students receiving free or reduced-cost lunches (69% in District 1 and 49% in District 2). By concentrating our efforts on two districts, CSM has the opportunity to work intensely with teachers across the grade levels, thus having an impact on the entire K-12 pipeline. Additionally, each of the participating schools was selected because it was classified as low-performing in mathematics or science based on the state's standardized testing system. Currently, we have five participating elementary schools, three middle schools, and two high schools. Additional schools have participated in these programs in prior years.

Outline of Outreach Programs

The Bechtel K-5 Educational Excellence Initiative provides support to kindergarten through fifth grade teachers (elementary school). The GK-12 Learning Partnerships program provides support to sixth through eighth grade teachers (middle school), and the BPC-DP: Broadening Female Participation in Computing program provides support to ninth through 12th grade students. For both our elementary and middle school programs, the participating teachers attend a two-week summer workshop designed to deepen their understanding of mathematics and science as it applies to the concepts of energy and renewable energy. During this program, the teachers meet and begin to develop a professional relationship with the graduate teaching fellows who will provide direct classroom support throughout the academic year. At the high school level, our outreach programs work directly with high school students.

Content Focus

We selected energy, with a specific emphasis on renewable energy, as a key concentration area for this sequence of outreach

efforts for the following reasons: (i) interest in energy and renewable energy topics is growing with respect to public concern and research; (ii) sources of renewable energy (i.e., wind, water, and sun) are within the experience base of young children, and are required as part of Colorado's learning standards in science for the fourth grade; (iii) energy and renewable energy concepts are naturally linked with mathematics, science, and engineering at all levels; and (iv) CSM has the appropriate expertise in these areas for sharing with elementary, middle, and high school teachers and students. Additionally, in 2008 NSF funded the Renewable Energy Materials Research Science and Engineering Center (REMRSEC), which has a research focus on the advancement of renewable energy resources. We recruited faculty members from this center to provide their expert knowledge of energy and renewable energy to our K-12 outreach programs. Although many REMRSEC faculty members are tenure track and are concerned with the time demand of outreach, we have constructed a sequence of programs that allows joint efforts among the project directors and participating REMRSEC faculty members, in order to reduce the burden on any given individual.

Summer Workshops

A key component of the outreach is that the elementary and middle school teachers from the two participating school districts complete summer workshops designed to strengthen their content knowledge in mathematics and science. Since 2000, we, the authors, had been offering teacher workshops within our own areas of expertise. This restricted our efforts to mathematics and geophysics for Moskal and Skokan, respectively. Beginning in 2009, we designed a workshop to address energy and renewable energy, areas that were outside our own expertise but aligned with REMRSEC.

Faculty members drawn from mathematics, computer science, physics, and engineering instruct these workshops. Expert mathematics and science teachers drawn from the participating school districts provide pedagogical guidance for workshop design.

As of 2009, participating elementary and middle school teachers within the districts attend a summer workshop 7 hours per day for 10 days. Some sessions are designed to encourage collaboration and exchange of information between elementary and middle school teachers, supporting the vertical exchange of information across grade levels. Other sessions are designed to develop a collaborative relationship among the participating teachers and

the graduate students who will provide support in the classroom. All of the workshop activities are hands-on and inquiry based, providing a professional development environment that mimics the environment we seek to support in the classroom (*McCarthy & Bellina, 2002/2003*). Additionally, ongoing interactions between the teachers at the different grade levels within the same school district support the potential of a spiral curriculum rather than the circular approach of which Schmidt et al. (2002) warn.

Graduate students are selected during the spring semester prior to the summer workshops. Each interested graduate student submits an application that includes three letters of support and an essay explaining why he or she is interested in supporting the K-12 classroom during the summer workshop and throughout the academic year. Many of the graduate student applicants are already on campus and know about our programs. We also provide a direct mailing to new graduate students whose application materials indicate prior experience or interest in the K-12 classroom (volunteers in the K-12 classroom, teaching experience, etc.). Both the students' applications and their prior academic record are considered in the final selection process. All graduate teaching fellows attend the summer workshop.

The summer workshops prepare the graduate teaching fellows for the classroom. During approximately 15% of the two-week workshop, the graduate students attend special instructional sessions on student developmental levels, cultural differences in the classroom, and graduate student roles as professionals in the classroom. Expert teachers—teachers identified by the district as having extensive experience or advanced pedagogical knowledge—teach these sessions. The participating graduate students also complete a unit on literacy in the K-12 classroom taught by an expert in literacy. This component of the workshop is designed to prepare graduate students to address the common teacher concern that standardized tests emphasize literacy, and that many students struggle when learning to read, even older students. Our approach is to treat literacy as an integrated component of mathematical and scientific learning. In order to learn mathematics and science, students must be able to read. Through the literacy session, the participating graduate students explore literature that is age-appropriate and that addresses scientific and mathematical content, such as *Amy Loves the Wind* (*Hoban, 1988*). In fact, this author has written a series of books that address wind, sun, and rain at the preschool and kindergarten levels, providing an appropriate introduction to renewable sources of energy for the youngest learners.

Academic Year Support

Follow-up activities to the summer workshop include the placement of a graduate teaching fellow in the participating elementary and middle school classrooms for an academic year. At the elementary level, the graduate student is a shared resource, spending a portion of his or her time assisting teachers in the different grade levels (approximately 2 hours per week with each teacher). This design is consistent with the elementary level model proposed by Bledsoe et al. (2004). At the middle school level, the graduate student is placed either full time (15 hours) with a single teacher, or half time (7.5 hours) with two teachers. Whether a graduate student is placed full time or half time depends on the experience level of the graduate student.

Throughout the academic year, the graduate teaching fellows directly support the participating teachers in the classroom. Graduate student efforts include the development and implementation of innovative hands-on mathematics and science instruction that is appropriate to the given grade level. The activities that the graduate students develop are not restricted to energy or renewable energy. Instead, graduate students are encouraged to investigate new areas that are aligned with classroom curriculum. Although we use energy and renewable energy to illustrate mathematical and scientific content and hands-on experimentation during the summer workshop, we do not restrict teachers to the explicit use of these materials. We recognize that each classroom has a required curriculum which it must follow. Our goal is not to infuse energy and renewable energy into the curriculum but rather to encourage teachers to include hands-on learning in the instruction of mathematics and science. The materials that faculty members present during the summer workshop are intended to illustrate such activities, and the graduate students are provided as a classroom resource.

“Our goal is not to infuse energy and renewable energy into the curriculum but rather to encourage teachers to include hands-on learning in the instruction of mathematics and science.”

With each activity, the graduate students also research children's books that may complement the mathematics and science being investigated. The graduate students further act as

liaisons between the participating faculty and the participating classrooms. They are responsible for assisting the teachers in identifying and inviting appropriate faculty members to visit or participate in the classroom. As part of the larger program, we maintain a list of faculty members who are interested in K-12 outreach. Many of the participating faculty members have expertise outside the realm of energy and renewable energy, but provide expertise in mathematics, science, computer science, and engineering. The graduate students also arrange to borrow university scientific equipment for the classroom, or they arrange field trips to visit the university campus and laboratories.

Within all of the classrooms, the graduate students and faculty recognize the teacher as the expert on curriculum and pedagogy. Although our graduate students complete much of the background research for identifying or developing literacy-rich, hands-on activities, it is the teacher who decides whether these activities are consistent with the curriculum, and whether the activities will be used in the classroom. The teacher directs graduate students throughout the activity development process, and assists the graduate student if the unit is taught in the classroom. This structure supports continuous collaboration among the graduate students and teachers. Through the graduate students, there are also ongoing interactions and collaborations with the participating faculty members.

Summer Camps and After-School Programs

The summer workshops are designed to enrich the participating elementary and middle school teachers' knowledge and understanding of mathematics and science through applications to energy and renewable energy. The participating elementary and middle school students are indirectly affected by the training that their teachers receive and the participation of graduate students in the classroom. Our programs also include components that directly target the knowledge and understanding of middle and high school students.

Middle school.

As part of the outreach program and during the summer, graduate students teach in one-week summer camps for middle school students drawn from the classrooms that participate in the academic year programs. Middle school is the focus of this effort since in middle school many students lose interest in mathematics and science (*Barker & Aspray, 2006; Clewell & Braddock, 2000*). Through summer camps, we seek to maintain or increase student

enthusiasm for mathematics and science. The middle school summer camps, referred to as “Technology Camp,” are currently offered in four sessions throughout the summer, one week each. The title of the camp reflects the camps’ emphasis on the use of technology in mathematics and science. Up to 25 middle school students attend each camp.

High school.

At the high school level, our outreach efforts are less intense. Due to funding, we cannot place graduate students directly in high school classrooms during the academic year. Also, because the majority of the high school students need summer jobs, we cannot offer summer camps. At the high school level, the graduate students support an after-school club at two participating high schools (one within each district) that focus on recent advances in technology. Because the middle school outreach programs have been in place since 2003 in one of the participating districts, some of the high school students are familiar with our programs.

Indicators of Impact

We use four mechanisms described in the section below to indicate the impact of the CSM programs. The first section describes the pre and post content assessments findings from our summer workshops. The participating faculty members, expert teachers, and an external evaluator collaborate in designing instruments to measure change in the participating teachers’ knowledge from the beginning to the end of the summer workshop. The second section describes the external evaluator’s observations based on visits to the participating classrooms and interviews with the participating teachers and graduate students. The third section addresses changes in student performance on the mathematics component of the Colorado Student Assessment Program (CSAP), a state-mandated test. The final section tracks the participation of faculty members who have volunteered to participate in our outreach programs over several years.

Unfortunately, a true experimental design with pre and post measures, a control group, and a fully randomized experiment is not possible when working with the public school systems (*Olds, Moskal, & Miller, 2005*). Most school districts will not randomly place students into treatment and control groups, nor will they deny a subset of students access to a treatment that has the potential for educational benefits. Additionally, these outreach programs are being implemented in school districts that have a large

migrant population. In other words, it is unlikely that many of the same students that enter a given grade within a year will exit the same grade in the same district at the end of the year. Given these limitations, the sections that follow should be interpreted as program indicators rather than as experimental results.

Teacher Workshops

During the summer, university faculty members collaborate with expert teachers to instruct a workshop attended by the participating elementary and middle school teachers. For most of the prior workshops, the participating teachers completed multiple-choice pretests that were developed through the collaboration of workshop instructors, expert teachers, and an external evaluator. Example questions from the 2009 instrument are displayed in Figure 1. These pre and post assessments were designed to measure the impact that workshop instruction had on the participating teachers' knowledge and understanding of the content addressed during the workshop. On the last day of the workshop, the teachers completed the same multiple choice questions as a posttest. Table 1 provides a summary of outcomes on these instruments for the periods in which they were administered. As this table indicates, paired t-tests were used to determine whether a statistically significant change was observed from pre- to posttest. Across the four measured years a statistically significant change was found across the six test administrations. The data in Table 1 are reported separately for elementary and middle school teachers; as is reflected through the table, we did not begin working with elementary teachers until the academic year 2008–2009. Based on this table, it can also be observed that over the last six years, we have gradually increased the number of teachers and indirectly the number of students who participate in the program.

Table 1. Attending teachers' performance on pre and post content assessment

Teachers' Level	Year	n	Number of questions on exam	Mean		
				Pre	Post	p-value
Middle	2003-2004	7	20	11	14	.00
Middle	2004-2005	7	25	13	16	.03
Middle	2008-2009	11	25	22	25	.00
Elementary	2008-2009	17	25	17	24	.00
Middle	2009-2010	11	24	13	19	.00
Elementary	2009-2010	16	24	13	21	.00

Figure 1. Sample problems from pre and post teachers' workshop content assessment

Correct answers are labeled with an “*.”

Atoms are made of?

- (a) Protons and electrons
 - (b) Protons and neutrons
 - (c) Protons and neutrons in the nucleus, and electrons spinning around the nucleus*
 - (d) Protons and electrons in the nucleus, and neutrons spinning around the nucleus
-

Which process is exothermic?

- (a) Melting ice
 - (b) Melting snow
 - (c) Condensing water vapor*
 - (d) Evaporation of water
 - (e) None of the above
-

Which of the following is the basic relationship between volts, amps, and ohms?

- (a) $V = R/I$ (voltage = resistance/current)
 - (b) $I = R/V$ (current = resistance/voltage)
 - (c) $R = IV$ (resistance = current x voltage)
 - (d) $V = I/R$ (voltage = current/resistance)
 - (e) $I = V/R$ (current = voltage/resistance)*
-

Evaluator Observations

Our external evaluator observed each of the participating middle school classrooms at least once every semester and completed focus group interviews with the participating graduate students and their teachers at the end of the academic year. Reflecting on her observations, she stated, “Typically, fellows were actively involved in the classroom activities, creating hands-on activities for the middle school and high school students” (*Westland, 2010, p. 14*). She also explained, “They [middle school students] associated having a fellow in their classroom with hands-on activities” (material in brackets added by current authors). Examples of such activities can be found both at the GK-12 Learning Partnerships project website (<http://mcs.mines.edu/Research/k12-partnership/new/stud.html>) and the Bechtel K-5 Educational Excellence Initiative project website (<http://mcs.mines.edu/Research/bechtel/new/stud.html>). The nature of these activities is illustrated through the following teacher comments (*Westland, 2010*):

When my fellow led an activity on how engineers need to consider the properties of materials in the construction of towers. He brought in a variety of items for the kids

to build towers with and they were challenged to create the tallest and strongest. They had to use their knowledge of properties of solids to do this activity (p. 11).

We did a lesson on measuring electricity use when items are on and off. We then graphed this data. It was a good way for students to validate their predictions and use their math skills to justify their predictions (p. 11).

The impact crater lab was a great success because students needed to use new vocabulary to describe what they saw. There was a high level of engagement with this lab, also. We layered sand, flour and paprika to make the surface of Mars. Using a larger rock to drop into the layers, students drew and described what they saw. Students measured four different distances to determine if distance would affect the depth of the crater. Before we began the lab, one student noticed that another group had a larger rock than his group. He wondered if the size of the rock would make a difference in the depth of the crater. My fellow changed up the lab a bit to include a control group. This is a great example of critical thinking that I want my students to achieve (p. 12).

My lesson was on blood and my fellow introduced a more complex idea to my students (Newtonian vs. Non-Newtonian fluids). Students got to touch/feel types of liquids and discuss which fluid blood was and why. Students enjoyed this and really got to view blood in a new light and gain new understanding of it. My fellow initiated this as my subject was life science and his background was so varied, he easily incorporated other subjects into mine (p. 14).

As these examples illustrate, many of the classroom activities did not address energy or renewable energy. However, throughout these programs and during the summer workshops, the graduate students are encouraged to connect their efforts to the curriculum of the classroom as well as to the graduate student's area of expertise. We used energy and renewable energy during the summer workshops to provide examples of hands-on, literacy-rich activities for the classroom. According to the external evaluator, "The challenge for the fellows was coordinating with the teachers in terms

of their curricular needs and the research interests and expertise of the fellows” (Westland, 2010, p. 14).

Student Performances

All students attending public school in Colorado are required to participate in a standardized assessment to measure content knowledge in mathematics, science, reading, and writing. In mathematics, reading, and writing, the state administers the CSAP in Grades 3 through 10. In science, the state administers the CSAP in Grades 5, 8, and 10. Table 2 reflects these requirements, with an X in a column indicating mandated testing within the given subject area within a given grade.

Table 2. CSAP Mandated Testing Requirements
X indicates a mandated test within a given grade level.

Grade Level	Mathematics	Science	Reading	Writing
3	X		X	X
4	X		X	X
5	X	X	X	X
6	X		X	X
7	X		X	X
8	X	X	X	X
9	X		X	X
10	X	X	X	X

Colorado has further developed a student growth model that targets 100% student proficiency in mathematics and reading across grade levels and school districts by 2014. In order to examine the attainment of this goal, 95% of students across Colorado as well as in any given school or subpopulation must complete the CSAP each year. To measure student knowledge growth on an annual basis and evaluate progress toward the attainment of the 100% proficiency requirement for 2014, Colorado currently uses a student growth model in mathematics, reading, and writing. All four of our participating middle schools in 2008 and 2009 were classified by Colorado as having a student growth rate above the 50th percentile in mathematics. In other words, when compared to other schools in the state, all of the participating schools had gains that exceeded the statewide established median. These schools participated in our programs in 2007–2008 and 2008–2009—that is, in the academic

years immediately prior to the reported growth scores on the CSAP, this is a positive outcome, given that the participating schools were selected because in prior years they had been classified as underperforming, or beneath the state median. This finding is also important because had the growth rate on the CSAP been judged as insufficient within these schools, our programs would have been closely scrutinized and questioned by the participating districts.

Additionally, two of our elementary schools in 2009 also had a student growth rate in mathematics above the 50th percentile. Both of these schools began participation in the Bechtel K-5 Educational Excellence Initiative in 2008–2009, and the 2009 data reflect the first state measurement following project participation. The third participating school began the program in the 2009–2010 academic year and state data is not yet available for 2010. Since the standardized assessment is not administered in science on a yearly basis, similar measurements are not available for this subject.

Faculty Participation

A measure of impact on faculty members is the change in the number of faculty participants in our outreach programs. In the academic years 2003–2004, 2004–2005, and 2005–2006, we, the authors, planned and implemented the summer workshops with compensation through outreach funds. These workshops were implemented over an 8-day period rather than the originally planned 10-day period due to the exhausting nature of offering such a workshop with only two instructors. No workshop was offered in 2006–2007. In 2007–2008 and 2008–2009, three additional faculty members participated in the instruction of an 8-day summer workshop (five faculty members total). These additional faculty members either were volunteers without compensation or compensated themselves through outreach funds from their own research grants. In 2009–2010, the workshop was extended to 10 days and 26 faculty members participated. The authors of this article were the only members of the faculty compensated through outreach funds. The remaining faculty members either supported themselves through outreach components to their own research grants or volunteered their efforts. A major contributing factor to this increase was the funding of REMRSEC. As part of the REMRSEC proposal, the participating researchers agreed to participate in K-12 outreach. Two additional research teams have made contact during the fall semester (representing two teams of three faculty members each) to discuss the possibility of providing additional support to the summer programs.

How faculty members are recruited to these programs has also changed. Previously, a faculty member with appropriate expertise to participate in our programs would be contacted, and outreach funds would be used to provide faculty members with compensation for their time. Currently, faculty members initiate contact and volunteer their support. A probable major factor contributing to this change is the current NSF recommendation that funded research grants contain an outreach component. In order to fulfill this requirement, faculty members are seeking to connect with K-12 outreach programs.

Conclusion

As is described and illustrated here, the authors have developed and are implementing a structure for K-12 outreach that is based on prior research and spans the K-12 pipeline. Both elementary and middle school programs include fifteen hours per week of direct classroom support by graduate teaching fellows throughout the academic year. As has been recommended by Bledsoe et al. (2004), at the elementary level, graduate teaching fellows act as liaisons between the elementary school and the university. At the middle school level, graduate students are assigned to one or two teachers and seek to enhance the middle school classroom by sharing their content knowledge with both teachers and students. Through these programs, we seek to maintain students' interest and performance in mathematics and science throughout the middle school years, when standardized scores in mathematics and science commonly decline (*Barker & Aspray, 2006; Fennema, 2000; Margolis & Fisher, 2003*). Our high school programs are optional for students and are designed to further encourage interest and enthusiasm in mathematics and science. By focusing our programs primarily in two school districts, we have had the opportunity to implement programs that span the entire K-12 pipeline within those districts.

Our findings indicate that these programs are having a positive impact on the participating teachers' knowledge and understanding of mathematics and science as measured by the workshop pre- and posttests. Observations completed by our external evaluator indicate that the graduate students are supporting hands-on learning in the classroom. Students' performances on the mathematics component of the CSAP, Colorado's state-mandated test, are improving in the participating districts, and this improvement is at a level that exceeds the median student performance improvement rate for the state of Colorado. Although improvements in standardized test scores cannot be directly attributed to our programs, they

do provide an indicator that district-level improvements are being made.

We have also given careful attention throughout the development of our programs to encourage and increase the participation of university faculty members in K-12 outreach. Originally, our outreach efforts were restricted to our own (the authors') efforts to support local school districts. This restricted the content that we could cover to our areas of expertise: mathematics and geophysics. As is the case at most universities (*Justice, 2006*), tenure and promotion at CSM is primarily based on publications and funding. Many of our faculty members do, however, recognize the value that the NSF places on K-12 outreach efforts. We decided

"We no longer need to recruit faculty members to participate in our summer programs; many faculty members call us and ask to join our outreach programs."

to use this NSF recommendation to encourage faculty members to contribute to our programs. In 2008, we realigned our programs to emphasize energy and renewable energy, an area of increased funding and recognition at CSM. When we began our outreach efforts in 2003, we had two participating faculty members. As of 2009, we had 26 faculty members, the majority of whom were volunteering their time or supporting themselves through their own research funds. We no longer need to recruit fac-

ulty members to participate in our summer programs; many faculty members call us and ask to join our outreach programs. Additionally, many faculty members at CSM write the outreach components of their research proposals in collaboration with our programs. This provides faculty members the benefit of connecting with an established effort that is designed to be in alignment with the current literature in K-12 outreach.

Our major challenge in the development and implementation of this K-12 outreach structure continues to be funding. We currently have over \$1 million in annual funding to support our K-12 outreach activities. A natural question is whether programs such as these be sustained once the current grants come to a close? Although the final answer will not be known until funding ends, we optimistically believe that sustainability is likely. Many members of CSM's faculty directly contact us hoping to connect their

research programs to our outreach activities. Each year, members of CSM's faculty write research proposals that include K-12 outreach components with targeted outreach budgets. Much like faculty members' participation in our summer workshops, these commitments continue to grow, and approximately 10% of our annual budget currently comes from such relationships. Despite funding concerns, our plans for the future are to provide outreach programs that span the grade levels within the participating districts, and to adapt our programs to align with cutting-edge, funded research at Colorado School of Mines.

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References

- American Association of University Women. (1992). *How schools shortchange girls: A study of major findings on girls and education*. Washington, DC: American Association of University Women Educational Foundation.
- Ball, D. L., Hill, H. C., & Bass, H. (2005, Fall). Knowing mathematics for teaching: Who knows mathematics well enough to teach third grade, and how can we decide? *American Educator*, pp. 14–22.
- Ball, D. L., Lubienski, S., & Mewborn, D. (2001). Research on teaching mathematics: The unsolved problem of teachers' mathematics knowledge. In V. Richardson (Ed.), *Handbook of research on teaching* (4th edition, pp. 433–456). New York, NY: Macmillan.
- Barker, L. J., & Aspray, W. (2006). The state of research on girls and IT. In J. McGrath Cohoon and W. Aspray (Eds.), *Women and information technology: Research on underrepresentation* (pp. 3–54). Cambridge, MA: MIT Press.
- Bledsoe, K., Young-Shin Park, R. S., & Gummer, E. (2004). Role perceptions and role dynamics between graduate scientists and K-12 teachers in a school-university outreach project: Understudied constructs. *Journal of Higher Education Outreach and Engagement*, 9(2), 107–122.
- Clewell, B. C., & Braddock, J. H. (2000). Influences on minority participation in mathematics, science, and engineering. In G. Campbell Jr., R. Denes, and C. Morrison (Eds.), *Access denied: Race, ethnicity, and the scientific enterprise* (pp. 89–137). New York, NY: Oxford.
- Council for Exceptional Children. (2001). *No Child Left Behind Act 2001: Reauthorization of elementary and secondary education act*. Retrieved from <http://www.cec.sped.org/Content/NavigationMenu/PolicyAdvocacy/CECPolicyResources/OverviewNCLB.pdf>

- Fennema, E. (2000, May). *Gender and mathematics: What is known and what do I wish was known?* Paper presented at the Fifth Annual Forum of the National Institute for Science Education, Detroit, MI.
- Hill, H., Rowan, B., & Ball, D. L. (2005). Effects of teachers' mathematical knowledge for teaching on student achievement. *American Education Research Journal*, 42(2), 371–406.
- Hoban, J. (1988). *Amy loves the wind*. New York, NY: Scholastic.
- Hyde, J. S., Lindberg, S. M., Linn, M. C., Ellis, A. B., & Williams, C. C. (2008). Gender similarities characterize math performance. *Science*, 321, 494–495. Retrieved from http://dericbownds.net/uploaded_images/hyde.pdf
- Justice, G. W. (2006). Motivating university faculty participation in training and professional development of P-12 teachers. *Journal of Higher Education Outreach and Engagement*, 11(2), 3–20.
- Kerachsky, S. (2008). *NCES Statement on TIMSS 2007*. National Center for Education Statistics. Retrieved from http://nces.ed.gov/whatsnew/commissioner/remarks2008/12_9_2008.asp
- Kirsch, I., Braun, H., Yamamoto, K., & Sum, A. (2007). *America's perfect storm: Three forces changing our nation's future*. Princeton, NJ: Educational Testing Service. Retrieved from http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/28/
- Lima, M. (2004). Service-learning in engineering through K-12/university partnerships: Reflections from five years in the trenches. *Journal of Higher Education Outreach and Engagement*, 9(2), 159–171.
- Ma, L. (1999). *Knowing and teaching elementary mathematics: Teachers' understanding of fundamental mathematics in China and the United States*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Margolis, J., & Fisher, A. (2003). *Unlocking the clubhouse: Women in computing*. Cambridge, MA: MIT Press.
- Martin, M., Mullis, I., & Chrostowski, S. (2004). *TIMSS 2003 technical report*. Boston, MA: TIMSS & PIRLS International Study Center.
- McCarthy, D., & Bellina, J. (2002/2003). Saint Mary's College Teacher Science Institute: Converting teachers to using guided inquiry for science curriculum. *Journal of Higher Education Outreach and Engagement*, 8(1), 167–178.
- McMasters, J. H. (2006). Influencing student learning: An industry perspective. *International Journal of Engineering Education*, 22(3), 447–459.
- Mead, S. (2006). *The truth about boys and girls*. Washington, DC: Education Sector. Retrieved from http://www.educationsector.org/usr_doc/ESO_BoysAndGirls.pdf
- Mullis, I. V. S., Martin, M. O., Gonzalez, E. J., & Chrostowski, S. J. (2004). *TIMSS 2003 international mathematics report: Findings from IEA's trends in international mathematics and science study at the fourth and eighth grades*. Boston, MA: TIMSS & PIRLS International Study Center.
- National Academy of Sciences, National Academy of Engineering, Institute of Medicine (National Academies). (2007). *Rising above the gathering storm: Energizing and employing America for a brighter economic future*. Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology. Washington, DC.

- National Center for Educational Statistics. (2008). *NAEP [National Assessment of Educational Progress] overview*. Retrieved from <http://nces.ed.gov/nationsreportcard/about/#overview>
- National Center on Education and the Economy. (2006). *Tough choices or tough times: The report of the New Commission on the Skills of the American Workforce*. New York, NY: Jossey-Bass.
- National Council of Teachers of Mathematics. (2002). Study shows high-quality professional development helps teachers most. *NCTM News Bulletin*, 38(7), 7.
- Olds, B., Moskal, B., & Miller, R. (2005). Assessment in engineering education: Evolution, approaches and future collaborations. *Journal of Engineering Education*, 94(1), 13–25.
- Schmidt, W., Houang, R., & Cogan, L. (2002). A coherent curriculum: The case of mathematics. *American Educator*, 26(2), 10–26.
- Westland, C. (2010). *GK-12 Annual Evaluation: Colorado School of Mines*. Report submitted to the National Science Foundation, June 2010.

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BOOK REVIEWS

*Theodore R. Alter, Associate Editor
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Newfield, C. (2008). *Unmaking the Public University: The Forty-Year Assault on the Middle Class*. Cambridge, MA: Harvard University Press.

Review by Sam Cordes

Professor Newfield is professor of English at the University of California–Santa Barbara, and his latest work is an exceptionally provocative read. I am certain there is widespread recognition of Newfield’s basic concern: the decline in support and funding for public universities since the 1970s, following post–World War II economic growth, puts the United States’ economic and social progress at great risk.

The concern over the secondary effects of declining public funding, such as rapidly escalating tuition, is also likely to be widely shared. Another secondary effect that often has considerable downside risk is the decision by higher education administrators to look longingly at certain types of alternative revenue streams that are either not very lucrative (e.g., the sale of intellectual property and patents), or that have unintended consequences. An example of the latter is “chasing money” (via grants, contracts, fee-for-service, and philanthropic initiatives) to the point that resources and attention are diverted from the core functions of the university or from certain foundational disciplines (namely, the humanities and social sciences) to contemporary “hot fields.” Newfield, in part three of his four-part book, does an outstanding job of questioning this new “business model” of public universities.

My guess is there is much less consensus about Newfield’s hypothesis as to why state support and appropriations for public universities have waned so much over the past three to four decades. He argues that the decline in public support is part of a larger systemic cultural war in which conservative elites felt threatened in the 1960s and 1970s because state universities were producing large numbers of people who supported a left-leaning agenda, including an attack on the free-market economy. Although this argument certainly has some merit, alternative hypotheses are also persuasive. For example, others have argued that public universities, especially land-grant universities, were once linked much more closely to undergraduate education and practical problem-solving. As faculty became more research oriented, however (due, in part, to an infusion of federal support for basic research that began as a trickle in the 1950s and subsequently rose dramatically), they and administrators shifted their orientation and became somewhat

detached or agnostic toward what they once considered their bread and butter.

It is surprising that Newfield makes no mention of such alternative explanations for the decline in public support, and does not consider the possibility that various explanations, including his own, may each have a role. It is also unfortunate that Newfield spends only the last four pages of the book discussing how to reverse the downward spiral of public funding support for public universities.

Readers of the *Journal of Higher Education Outreach and Engagement* may also be disappointed that Newfield focuses almost exclusively on campus activities and frames everything in the traditional lexicon of teaching and research. There is no mention of broader definitions of scholarship and the role of the “engaged university” (e.g., Boyer, 1991, and the Kellogg Commission on the Future of State and Land-Grant Universities, 1999). “Public service” is mentioned for the first time on page 68. One component of outreach and engagement—technology transfer—commands half a dozen pages at the end of Chapter 12. Even here, however, technology transfer is defined narrowly, focusing entirely on revenue streams from patents and inventions.

That Newfield effectively ignores outreach and engagement does not mean readers of this journal should ignore his book. First, engagement and outreach are part of the larger fabric of public universities: Newfield gives us much to think about in terms of the historical “big picture” of public universities, within which outreach and engagement functions reside. Second, Newfield’s failure to link his basic hypothesis to outreach and engagement creates an extremely fertile field for exploration within the scholarship of outreach and engagement.

With respect to the second point, I encourage readers of Newfield’s book to read it with their minds focused on how they might fill this void in the scholarship of outreach and engagement. For example, Newfield argues that “the public good” dimension of public universities has become somewhat marginalized. Assuming that is the case, how can outreach and engagement work to help address this challenge? Moreover, given that Newfield considers only teaching and research as the core mission of public universities, what is the public good dimension of outreach and engagement? In other words, what outreach and engagement activities meet the criteria of a public good? How should we price those engagement and outreach activities that are *not* public goods?

As another example, Newfield argues that the humanities have been hit particularly hard as overall public funding and support for public universities has declined. He further argues that it is now, more than ever, that we need such expertise to help facilitate social progress and cultural understanding. My sense is that the humanities are much less likely to be involved in outreach and engagement than fields such as the agricultural sciences and professional schools (e.g., colleges of business, health sciences, and education). If that is the case, why? What can be done to encourage more outreach and engagement in the humanities?

Finally, to what extent can robust outreach and engagement functions help rebuild the social contract with the public? Newfield never considers the hypothesis that they might, which is unfortunate. It is those who are committed to outreach and engagement who need to lift up and test this hypothesis—that public university outreach and engagement can help restore public confidence, support, and funding for higher education.

References

- Boyer, E. (1991). *Scholarship reconsidered: Priorities of the professoriate*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.
- Kellogg Commission on the Future of State and Land-Grant Universities. (1999). *Returning to our roots: The engaged institution*. Washington, DC: National Association of State Universities and Land-Grant Colleges.

About the Reviewer

Sam Cordes is associate vice provost for engagement at Purdue University.

Youniss, J. & Levine, P. (Eds.). (2009). *Engaging Young People in Civic Life*. Nashville, TN: Vanderbilt University Press.

Review by Josh Krawczyk

Youniss and Levine's *Engaging Young People in Civic Life* assembles 13 essays and research findings that examine the perceived disengagement of American youth from civic and political processes. The collected works consider youth and public schools, their communities and municipalities, and policy recommendations, including an examination of international best practices. In compiling this collection, however, the editors seek not to perpetuate indictments of apathy and laziness of American youth, but instead take an asset-based approach, identifying ways to motivate and engage youth on their own terms, and to replicate successful engagement strategies demonstrated in recent election cycles.

This collection shows that the challenge of engaging young people in civic life is multifaceted and may not be addressed by any single recommendation, program, or policy; rather, multiple actors, including schools, communities, and governmental bodies, must actively seek to catalyze the interest and involvement of youth by recognizing their engagement potential and constructing customized efforts targeting youth specifically. Presumably, colleges and universities may be included in this list of critical actors. Where public schools and municipalities leave off, colleges and universities must pick up and continue addressing the challenge of engaging young people in civic life.

Although this volume focuses primarily on school-age youth, this aspect of the collection does not limit the volume's utility for higher education scholars and practitioners; rather, themes and recommendations that emerge may predict challenges and successes in higher education settings. Research in the text provides impetus for a paradigm shift for scholars and practitioners in higher education to better understand where their students come from in terms of race, socioeconomic status, and other factors. Intensified understanding of these factors will benefit curricular and cocurricular engagement efforts. Additionally, the volume includes policy recommendations at the local, state, federal, and even international levels, with broad implications for all educators.

The first section of the volume defines youth and barriers to their civic engagement, and the terms on which older

generations might successfully seek to engage these students. Rather than understanding youth through generational labels describing a collective set of inherent attitudes and characteristics, Youniss and Levine's opening chapter, "A 'Younger Americans Act': An Old Idea for a New Era," encourages scholars and practitioners in higher education to understand youth in terms of their engagement potential and to develop strategies to target them specifically. Factors such as quality of civic engagement opportunities provided by schools, the postsecondary educational plans of youth, and how both may be affected by student demographic characteristics are examined in Kahne and Middaugh's chapter, "Democracy for Some: The Civic Opportunity Gap in High School." Hess's chapter, "Principles That Promote Discussion of Controversial Political Issues in the Curriculum," demonstrates how institutional policies shape the terms upon which we successfully increase and improve youth engagement in civic life.

In the second section, Gimpel and Pearson-Merkowitz, in "Policies for Civic Engagement beyond the Schoolyard," explore partnerships and programs that target youth in order to demonstrate that public schools cannot be the only venue in which youth are trained and motivated for civic engagement. Hart and Kirshner's "Civic Participation and Development among Urban Adolescents" describes how and why neighborhoods and municipalities must take an equally active role in providing such opportunities, while Sirianni and Schor's "City Government as Enabler of Youth Civic Engagement: Policy Designs and Implications" recommends recognition and diffusion of historical tensions between citizens and government based on race and socioeconomic status, and inclusion of other community actors such as churches and activist youth groups as potential engagement vehicles. Finally, Shea's "Local Political Parties and Young Voters: Context, Resources, and Policy Innovation" calls for local political parties to be more active in targeting youth voter turnout through voter education and registration.

The last section of the book examines civic education and policy practices in other countries. Milner's "Youth Electoral Participation in Canada and Scandinavia" as well as Hooghe and Claes' "Civic Education in Europe: Comparative Policy Perspectives from the Netherlands, Belgium, and France" provide international comparisons of civic engagement policies and practice. The section concludes with an examination of the United Kingdom in Kerr and Cleaver's "Strengthening Education for Citizenship and Democracy in England: A Progress Report." These analyses describe a variety

of international practices, including compulsory voting, teacher training, and federal-level policies to improve youth engagement.

Themes that emerge in these essays identify barriers to youth engagement that result from historical racial tensions; the impact of socioeconomic status on opportunity and individual attitudes; and the lack of federal policy support for youth civic and community engagement. This volume went to press late in 2008, and thus does not include discussion of more recent federal legislation designed to promote and support community service, civic engagement, and access to higher education. For example, the [Edward M. Kennedy Serve America Act](#) provides expanded support for volunteer corps under the coordination of the [Corporation for National Community Service](#). The bill increases federal incentives for support of volunteerism among youth, college students, and adults, and provides opportunities for more successful engagement of youth—as called for by Youniss and Levine and the other contributing authors.

The strength of the volume lies in its details. The research presented ranges from qualitative studies of the power dynamics of youth engagement to policy analysis of teacher training. The text focuses on high-school-age youth; however, colleges and universities will find utility in multiple elements. Practitioners and scholars may be encouraged to move beyond the deficit-based paradigm of youth civic engagement to a more complete understanding of how youth are motivated to political engagement, and to more successful engagement strategies as a result. Instructors and staff may design experiences that appeal to youth in new ways and measure success accordingly; for example, these experiences may include expanding scope and depth of partnerships with local community groups and governments. The design of these experiences, either within courses or as cocurricular experiences, should include consideration of historical tensions, as well as the impact of the socioeconomic status of all participants in the experience, including students and the community partners.

In short, higher education scholars and practitioners may use the research in this text to reshape their understanding of how to more successfully engage students in civic life, and to better prepare themselves to provide meaningful, informed learning environments. Young people currently attending colleges and universities, or about to graduate from high school, constitute a large national group with high potential for positive civic impact. Higher education can help them realize this potential by meeting them more on their terms.

About the Reviewer

Josh Krawczyk is a doctoral candidate in the Higher Education Administration program at Oklahoma State University, as well as a Senior Academic Advisor. His research interests include retention and remediation policy in higher education, transformational learning, and university and community engagement.

JHEOE Associate Editor for Book Reviews, Ted Alter (who is Professor of Agricultural, Regional, and Environmental Economics at Penn State), and Editor, Trish Kalivoda (who is Senior Associate Vice President for Public Service and Outreach at the University of Georgia) thank Vanderbilt University Press, for providing complimentary copies of the book for this review.

Krause, S.R. *Civil Passions: Moral Sentiment and Democratic Deliberation*. (2008). Princeton, NJ: Princeton University Press.

Review By Timothy J. Shaffer

What is the appropriate role of passions in democracy? Sharon Krause's *Civil Passions* adds to the debate on this highly contested question in democratic theory. Faculty and other professionals whose work includes deliberative forums or related forms of engagement will find this book to be an important contribution addressing the critical question of how to reconcile impartiality with passions.

While many would contend that deliberation within a liberal democracy must leave out passions so rational judgments can be made, Krause contends that passions can and should contribute positively to the process. She argues that passions and moral sentiment are already involved in practical reasoning and should be acknowledged as such.

Krause situates her argument between those who hold a neo-Kantian position stating that reason alone motivates individuals to act or make decisions, and those who perceive the role of passion and emotion in motivation and decision-making. She states that "our theories of moral judgment and democratic deliberation have been caught on the horns of a dilemma: they have either been too rationalistic to motivate action and decision, or they have been too indiscriminately rooted in the passions to carry normative weight" (6). Krause argues for a notion of impartiality that takes seriously the role of moral sentiments in democratic practice. This "middle way" of moral sentiments shaping impartiality ends up being a fine line to walk that offers questionable likelihood of success. Nevertheless, engaged scholars who work in and with communities in decision-making capacities should wrestle with this question. The struggle for determining what should shape democratic practice in communities that seek equal justice and voice for citizens is at the heart of what Krause engages.

The starting point for her argument is based on Hume because of the "fruitful way in which his theory of judgment combines impartiality with affective engagement" (14). From this starting point, however, Krause moves well beyond the limitations of the eighteenth century to questions Hume could not answer. Chapter 1 focuses on Rawls and Habermas as exemplars of the rationalist position, specifically on the topic of justice. The most important

point in this chapter rests on the neo-Kantian rationalistic position on the motivations for practical reasoning and the need to go beyond Rawls and Habermas—among others—on how sentiments could potentially contribute to impartial judgment about justice. Chapter 2 explores alternatives to rationalism drawing on sources such as Gillian, Nussbaum, Damasio, and Young. The failure of these authors, for Krause, is their belief that impartiality must be cast aside for sentimentality. The rationalists too quickly dismiss passions; conversely, those who offer alternatives based on passions fail to find a proper balance with rationality.

The foundation for Krause's argument comes from Hume's conception of moral sentiment. In Chapter 3, she notes that the Humean approach to deliberation contrasts with the Kantian model because it "is not devoid of intellect, but . . . involves more than merely intellect. The process of practical reasoning is a holistic one, in which cognition and affect are deeply entwined" (103). Impartiality and equal respect matter in our liberal democracy, but recognizing these values requires a moral sentiment theory that "go[es] beyond Hume" (109). As Krause notes, "judgment and deliberation cannot do without the passions, [so] the best hope for impartiality lies not in trying to transcend the passions but in reforming the political context that helps shape them" (110). Expanding our horizons of concern and our sympathies to the sentiments of others is essential to reforming the political world. Doing so moves us beyond the "familiar terrain of our families and social groups" (110). The political context must include diverse groups and individuals, and we must allow ourselves to be open to experiencing sympathies for those unlike ourselves.

In Chapters 4 and 5 Krause attempts to bring sentiments into democratic politics, particularly for the individual engaging in public deliberation. Krause argues that deliberation requires cultivating the capacity to "feel with the widest range of others" and not to simply have a familiarity with the *other* (135). Gay rights is highlighted as an example issue for challenging individuals' views in order to elicit a sympathetic imagination, thus bringing about a change in perspective on an issue. Although this example might seem too political, many less political community issues can likewise be approached in this way. Thinking about how to address divisive or contentious community issues (e.g., lack of jobs, racial tensions, or wildlife management) offers an opportunity to reflect on the difficulty of *feeling* for those in a situation different from our own. Krause's argument is that we need a normative account of affective deliberation that can specify between "right

feeling and wrong in the deliberative context and that supports the ideal of impartiality” (156). Sentiments play more than simply a motivational role; they have a central function in reconstructing what we mean by *reciprocity*. If deliberation takes sentiments into account, it cannot simply be cognitive. Rather, the affective concerns of others must become our own or “at least they must connect up with concerns that [we] have” (164). This is difficult work, especially when communities face deep divisions and value differences. Krause concludes that we need a new politics of passion based on justice, having a “holistic—and therefore more realistic—account of practical reasoning, in which affective and cognitive modes of consciousness are deeply entwined” (201).

Although laudable as a contribution to the literature, *Civil Passions* remains weak in some areas. First, Krause writes about a tension found in Western thought reaching back to Aristotle. However, the bibliography is focused almost entirely on contemporary thinkers. Second, the work is targeted at an audience interested in the theoretical debate about deliberative democracy. Consequently, the empirical examples feel disconnected. They remain topics of theoretical debate rather than being contextually rich examples of moral sentiments playing out in deliberative forums. Krause’s examples feel removed from many of the settings on which engaged faculty members might reflect as they read this book.

Third, the question of moral sentiments in democratic deliberation seems to be framed as a discussion about the role of passions in a liberal democracy rather than about the politics of communities. Chapter 6, “The Affective Authority of Law,” highlights this focus. Although the book offers many insights, it would be better placed with works on democratic theory for national politics than with those on topics of democratic practice.

Fourth, while it is easy to say that Rawls, Habermas, and others conceptualize deliberation as purely rational discourse, Spragens (1990) seems to be the only scholar who wants to eradicate passions from politics. This lack of support in the scholarship leaves the rational position as something of a straw man. This book recognizes the need to focus on why and how citizens are to engage one another, but it remains at a level for discussion among scholars—not for practitioner-scholars.

Civil Passions makes a serious contribution to the literature on democratic theory, adding to the chorus of scholars who highlight the need for conversation about the role of passions and emotion

in deliberative democracy. Although this literature may exaggerate the pure rationality of real-life deliberation, it marginalizes passions all the same. The exclusion of emotion from scholarly discussion of democratic theory is very real. Krause adds to the literature by trying to reconcile passions and impartiality. *Civil Passions* is an important book, and it adds a great deal to this growing literature.

References

Spragens, T. A. (1990). *Reason and democracy*. Durham, NC: Duke University Press.

About the Reviewer

Timothy J. Shaffer is a Ph.D. candidate studying adult and extension education at Cornell University. His research focuses on historical and contemporary examples of higher education's public purposes and work. Specifically, he is interested in questions about democracy, expertise, knowledge, and passion—both for academic professionals and for citizens.

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