

# The Promise of Public Scholarship for Undergraduate Research: Developing Students' Civic and Academic Scholarship Skills

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*The American goal of education is to change lives, not in an abstract sense of personal enlightenment, but as an active influence on thought and behavior. Hence, educators are charged with the responsibility of providing students with the learning experiences necessary to develop, as Bowen suggests, "practical competence" in citizenship, economic productivity, and in the practical affairs of life. Public scholarship, an emergent pedagogy, builds on the innovative hands-on practices of service learning and undergraduate research, but may further enhance both cognitive and affective student development. This article reviews research on student development as it is shaped by service learning and undergraduate research experiences, and establishes linkages between these educational practices and public scholarship. The purpose of this paper is to explore how faculty may simultaneously assist undergraduate students in achieving disciplinary goals conjointly with civic skills through the scholarly research of public issues and problems.*

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The Promise of Public Scholarship for Undergraduate Research:  
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A new conceptualization and practice of knowledge called public scholarship is emerging at Penn State and other institutions of higher learning. Rooted in service and service learning traditions, public scholarship incorporates several educational practices, such as volunteerism, experiential learning, civic engagement, and reflection. And it does more. Public scholarship is the application of scholarship by faculty and students in their teaching and learning, research, and service to the civic, cultural, artistic, social, economic, and educational needs of the community. (Cohen & Yapa, 2003, p. 5)

Higher education in the United States has a long tradition of commitment and contribution to society through the transmission and advancement of knowledge (Vogelgesang & Astin, 2005). The expectation that colleges and universities impart to students the knowledge and skills necessary for contribution to society, as workers, family members, consumers, and as citizens is evident in institutional missions (see Kellogg Commission on the Future of State and Land-Grant Universities, 2000; The Committee on the Objectives of a General Education in a Free Society, 1945; Yale Report, 1828), scholarly literature (see Astin, 1987; Boyer, 1987; Dewey, 1944; Rudolph, 1962), legislative policies and memorandums (see Morrill Acts of 1862 and 1890), and in public opinion regarding the purposes of higher education (Chambers, 2005). In short, the American goal of education is to change lives, not in an abstract sense of personal enlightenment, but as an active influence on thought and behavior. Hence, educators are charged with the responsibility of providing students with the learning experiences necessary to develop “practical competence” (Bowen, 1977, p. 137) in citizenship, economic productivity, and in the practical affairs of life.

Recently, public scholarship, an outgrowth of service-learning and “a new conceptualization and practice of knowledge” (Cohen

& Yapa, 2003, p. 5), has emerged in an attempt to seamlessly merge scholarly work with civic responsibility through research that benefits the public. Public scholarship moves beyond the hands-on, service requirement approach of service-learning and emphasizes, instead, what can more accurately be called a “mind-on” approach which balances both scholarly and civic responsibilities within students’ and faculty members’ academic work.

Public scholarship emphasizes *scholarly* work as it is grounded in disciplined elements of scholarship, that is [sic]: work that is peer reviewed; work that is shared and available to others; work that recognizes – whether to challenge or to build upon – the methods and bodies of knowledge that underlie and certify scholarly authenticity. (Cohen & Yapa, 2004, p. 6)

Public scholarship offers a promising pedagogy for preparing citizen scholars because it suggests a hybrid form of undergraduate research and service-learning; two educational strategies that have become increasingly practiced in general education and disciplinary curricula nationwide. More specifically, public scholarship has the potential to facilitate the academic outcomes and professional skills of traditional undergraduate research, as well as the citizenship skills typically associated with service-learning methods. Public scholarship may, therefore, enhance existing practices and address reformers’ calls for improved undergraduate education “through inquiry rather than the simple transmission of knowledge” (Boyer, 1998, p. 12). Given a public scholarship lens, students’ scholarship is prioritized, valued, and legitimized through their authentic discovery of knowledge in the “real” world. Students learn how to contribute to society using scholarly processes (i.e., how to formulate, solve, and share a research problem using disciplinary knowledge) because they have been taught the knowledge, attitudes, and behaviors that are characteristic of the aware, informed, and inquiring citizen.

### Active Learning Through Research Experiences

Undergraduate research experiences have taken root within the American academy of higher education (Elgren & Hensel, 2006) and have been awarded recognition for their ability to improve students' academic outcomes (Lopatto, 2006). Collaborative student-mentor research experiences are part of the contemporary lexicon used by the National Science Foundation, the Carnegie Foundation for the Advancement of Teaching (see Boyer Commission on Educating Undergraduates in Research Universities, 1998) and even in popular media (e.g., U.S. News & World Report Best Colleges, 2006). Impressively, undergraduate research has become so widely instituted on campuses nationwide that the Boyer Commission (2002) declared it "a staple of most universities' curricular vocabulary" (p. 29). Although not all undergraduates currently conduct research with faculty mentors, a significant number do participate, as shown in a survey of 91 research universities which revealed that approximately 42% of research universities engage between 50% and 75% of their undergraduates, while 48% of institutions involve approximately 25% of students (*Reinventing Undergraduate Education: Three Years After the Boyer Report*, 2002). According to the Boyer report (2002), as well as other recent publications (see Elgren & Hensel, 2006; Lopatto, 2006), undergraduate research has "arrived."

Undergraduate research has gained considerable momentum, in part, because of the early interest and financial support of public and private foundations, professional associations, and faculty educators. The National Science Foundation (NSF) funds Research Experiences for Undergraduates (REU) and encourages faculty collaboration with students in many of its calls for papers and research (NSF, 2005). The Howard Hughes Medical Institute challenges researchers and undergraduates to "break the mold" of working separately and offers \$20 million in reward money for exceptional collaborative research programs (HHMI, 2005). As a result of funding initiatives such as those of NSF and HHMI, "during the past twenty years, faculty members at colleges and universities in the United States have grown increasingly more

receptive to the idea of involving undergraduates in research” (Evans & Wikosky, 2002, p. 1).

### Academic Successes of Undergraduate Research

Student cognitive development also helps explain why undergraduate research has become increasingly practiced on campuses. Qualitative and quantitative studies of undergraduate faculty-student collaborations suggest that students gain a better ability to design, implement, and produce new knowledge through research experiences (Lopatto, 2006). Students also acquire professional skills such as writing, communicating, publishing, and professional development (e.g., understanding professional behavior, appreciating the demands of a career, understanding how professionals work on problems) (Lopatto, 2006). Additionally, students involved in undergraduate research demonstrate an increased ability to think analytically and logically, to connect ideas, to observe relationships, to note similarities and differences between ideas, and to learn on their own, pursuing ideas and finding information they need to complete a task (Ishiyama, 2002). Furthermore, research experiences increase students’ ability to understand scientific findings, speak effectively, act as a leader, possess a clear sense of career goals, understand math concepts, think logically, approach problems creatively, adapt to changing technology, analyze literature, use foreign language skills, and place current issues in historical context. Students involved in undergraduate research are more likely to develop intellectual curiosity and to know the literature of merit in one’s field of study. Students also report an increased ability to acquire information on their own, synthesize and use information from diverse sources, and to solve problems independently (Bauer & Bennett, 2003).

Research on the effects of undergraduate research on the development of attitudes and behaviors is more extensive than that for cognitive development. Working on an unsolved, open-ended research problem teaches students about research processes and increases their disciplinary knowledge and ability to apply knowledge (Ishiyama, 2002). Through collaborative, mentored research, students learn about “the life of the mind” or the “world

of academia” and gain a degree of insight into the scholarly work graduate school offers. Racial and ethnic minority students, in particular, are more likely to enter graduate school given an undergraduate research experience (Pascarella & Terenzini, 2005). Ultimately, undergraduate research provides students with a more comprehensive, integrated, and personally rewarding learning environment for self-discovery, self-expression, and appreciation of artistic and creative differences (Bauer & Bennett, 2003).

Finally, undergraduate research is a successful tool for increasing persistence and degree completion for African American and second-year students (Kinkead, 2003; Nagada, Gregerman, Jonides, von Hippel, & Lerner, 1998; Pascarella & Terenzini, 2005), as well as for students who are considered “at risk” or underrepresented within a field of study (Kinkead, 2003). Collaborative efforts with faculty members in authentic research aid student retention by offering them close attention from faculty and new active learning opportunities, which engage them in meaningful work that is relevant to their studies.

### Active Learning

Undergraduate research is effective because self-propelled, yet guided learning requires students to actively control their own learning (Bransford, Brown, & Cocking, 2003). Self-monitoring one’s progress in learning in an effort to improve one’s work (*metacognition*), effectively increases the degree to which students transfer knowledge from an prior experience to a new one (Bransford, Brown, & Cocking, 2003) and is enhanced by teaching practices that support “sense-making, self-assessment, and reflection on what worked and what needs improving” (p. 12). Active learning improves grades and increases student satisfaction with courses (Ehrlich, 1997). It also improves knowledge retention and comprehension, as well as its application to problems (Perkins, 1999).

Active learning is effective because cognitive and affective development are “inextricably linked” (Stark & Lattuca, 1997, p. 188). “It is artificial to separate these two aspects of development because intellectual development requires active involvement by

the learner. Involvement depends on positive attitudes and motivation as well as on an appropriately challenging educational environment” (p.188). Research on learning supports Dewey’s oft quoted phrase, “thinking always gets started when a person genuinely feels a problem arise” (as cited in Phillips & Soltis, 1998, p. 39).

Given its myriad benefits on student development, undergraduate research deserves the support and accolades it receives from institutions of higher education and funding sources. Re-envisioned with an eye towards the public responsibilities of colleges and universities, however, undergraduate research has the potential to foster civic development in students, including civic self-efficacy, social responsibility, civic mindedness, and community commitment and involvement. Public scholarship is the pedagogical framework through which this evolution may occur.

### Public Scholars as Civic Learners

Public scholarship contextualizes, and in a sense, personalizes, research as it challenges students and faculty to situate research questions in the context of a local, regional, national, or global community. The application of one’s work to the public good is not an afterthought; it is the environment in which learning is contextualized and realized. The emphasis of scholarly research and student reflection are important promoters of reflective judgment. Research and reflection trains students to consider “complex and multiple perspectives in identifying the causes of and formulating the solutions to specific social problems” (Pascarella & Terenzini, 2005, p. 193). Without the purposeful integration of service into academic research, and vice versa, important aspects of students’ learning may be jeopardized.

Community engagement has implications for students’ attitudinal and behavioral (affective) development as well. Involvement in service-learning activities positively affects students’ self-confidence, social responsibility, civic-mindedness, self-esteem, and personal efficacy and promotes the development of accepting attitudes towards cultural differences (Kezar &

Rhoads, 2001). Additionally, service-learning assists students in gaining citizenship confidence, values, and skills and fosters community involvement, commitment to providing service in the future, and a sense of social justice (Pascarella & Terenzini, 2005). Through a public or civic (re)orientation of research, faculty and students “foster a sense of themselves not only as subject-specific experts but as citizens who can facilitate public discussion of controversies surrounding their areas of expertise” (Eberly, 2003, p. 12). Similar to cognitive outcomes, the development of students’ citizenship skills and behaviors does not occur as a result of service alone; it also relies on the intentional linking of service to the course curriculum. For example, those programs in which the service component was most closely integrated into the course curricula through reflection exercises showed the most significant increases in students’ concern for social justice (Pascarella & Terenzini, 2005).

### Shifting Sands Within Civic Learning Pedagogy

Faculty who are committed to the types of knowledge, skills, and values taught through service-learning experiences are now beginning to call themselves and their students “public scholars” and to label their work as public scholarship. This shift is intentional, and, indeed, may be critical to the acceptance of civic engagement pedagogy within academe as public scholarship “insist[s] upon *academic*, that is, scholarship-based service protocols in which students learn by reflecting on the relationships between their academic discovery and their civic engagement” (Cohen & Yapa, 2004, p. 6). Public scholarship is practiced nationwide at universities, such as The Pennsylvania State University, the University of Minnesota, Cornell University, and the University of Washington, and is supported by granting agencies and foundations, such as the Kettering Foundation and the NSF.

### *Re-orienting Undergraduate Research*

Public scholarship may prove an effective method of incorporating civic skills and values into undergraduate research experiences in a manner that is more scholarly and natural to the discipline than service is capable of achieving alone. Anecdotal evidence, as well as some preliminary empirical research (Flanagan, 2004) suggests that public scholarship may offer similar affective development benefits as those achieved through service-oriented courses, while merging more seamlessly (and appropriately) within the traditional boundaries of the disciplines. Public scholarship provides faculty and students with the opportunity to engage in civic professionalism moving beyond isolated, disciplinary-bound efforts and into a more holistic contextualization of research. Situating research within historical, social, economic, scientific, and political realities helps to develop students' "contextual competence"—the ability to comprehend the complex interdependence between the profession and society (Stark & Lowther, 1988). Public scholarship effectively takes the work of students and faculty beyond the campus (Peters, Jordan, Adamek, & Alter, 2006) and into the public forum positively affecting not only the public in which they are engaged, but also, students' cognitive and affective development as well.

#### Implementation Challenges

As public scholarship is still in its infancy, much of its credibility rests on associational ties with other innovative, active learning pedagogies, and in particular, service-learning. In the coming years, public scholarship, as it informs pedagogy, must be demonstrated to improve, at the very least, the cognitive development of students, if it is to gain the acceptance of faculty currently engaged in mentoring undergraduate researchers.

Public scholarship will need to demonstrate its effectiveness in facilitating cognitive and affective development outcomes if it is to gain faculty acceptance. The positive results of undergraduate research and service-learning experiences suggest that similar results will be forthcoming as public scholarship is practiced and empirically evaluated. In the meantime, however, public

scholarship relies on associational ties with service-learning—perhaps decreasing the status of its academic merit in the eyes of faculty.

The acceptance of public scholarship may also require a shift in how faculty and administrators currently view theoretical and applied research. While theory provides a critical foundation in the construction of knowledge, public scholarship recognizes the “obligations implicit in [the membership of an academic community for] ... faculty and students to view their work not as the isolated, self-indulgent actions of a campus segregated from society, but as the contributions of scholar-citizens with membership in a larger community” (Cohen & Yapa, 2003, p. 5). Public scholarship not only requires that research and knowledge be useful, it also requires learning to be contextualized and applicable within the public realm. In this sense, public scholarship is a new form of “action research” in which knowledge is gained in the action of learning (Schön, 1995).

A current limitation in gaining greater acceptance and support for public scholarship is the “radical separation between [theoretically based] research and [practical] knowledge” (Schön, 1995, p. 29). Public scholarship is essentially a “relationship between ‘higher’ and ‘lower’ schools, academic and practical knowledge” (Schön, 1995, p. 29). Theoretical knowledge is valuable only insofar as it informs an actual (ideally, public) problem. However, practical knowledge is frequently viewed by those in academe as secondary to theoretical knowledge. “Too often, action research or research having practical implications is seen as something less scholarly than theoretically oriented research. Obviously, we need both, and quite often they need to be integrated” (Kezar & Rhoads, 2001, p. 166). I argue public scholarship requires an epistemological shift in which scholars “think about the practice [of learning] as a setting not only for the application of knowledge but for its *generation*” (Schön, 1995, p. 29, emphasis added). The dualistic view in which research is separated from the accountability of practice must be changed if public scholarship is to be fully accepted and integrated into the academy.

Public scholarship lays civic development responsibilities at the feet of faculty members and requires them to include issues of public concern in their disciplinary research. Although most faculty (81% of faculty members surveyed in the 2004 Higher Education Research Institute [HERI] survey) believe that colleges and universities have a responsibility to work with their surrounding communities to address local issues (Lindholm, Szelényi, Hurtado, & Korn, 2005), most educators seem not to address the charge in their own work with undergraduates. Instead, faculty members relegate the institutions' commitment to addressing local issues to non-academic community service activities. It seems faculty understand "civic learning (to be) an important impetus, but it is not the primary motivation in the minds of many—probably most—faculty members who are teaching community-service-learning courses" (Ehrlich, 1997, pp. 243-244). Although the public relations offices of higher education institutions make frequent claims to developing the skills of citizens, "there remains a tension between the educational and civic goals of the discipline. Not all faculty ... would agree that developing active citizens is or should be part of [their disciplinary] mission" (Carpini & Keeter, 2000, p. 635). Hence, it is of little surprise that public scholarship is practiced primarily by the "converted" or those who subscribe to Deweyian principles of democratic education, and not as a disciplinary-based pedagogy.

If public scholarship is to take root in academe, faculty must be supported in their efforts to re-envision undergraduate research to include considerations of the public good. Mentoring students in research activities that address public issues requires additional time, creativity, and effort, as would any restructuring or re-envisioning of a course or program curriculum. Mentoring, training workshops, discussions of ethics, and additional funds may be necessary to facilitate faculty members' first forays into public-based research. Hence, the integration of public scholarship not only requires a new approach to facilitating undergraduate research, but it also requires guidance and support from faculty governance bodies, disciplinary associations, and college or university administrators.

### Future Research

Further research on public scholarship should consider the long-term effects of public scholarship. As it is discussed here and elsewhere, public scholarship is an intellectual exercise that is assumed to portend practical impacts. However, little empirical research, to date, has examined the transference of civic skills and dispositions developed in the classroom to later professional careers. It is assumed that students who learn how to break down a public problem into researchable pieces will then be inclined to repeat these efforts elsewhere.

Additional research should focus on the role of interpersonal connections with community members, and the degree to which face-to-face interactions enhance or alter the type of civic skills or dispositions gained by students. For instance, does a student who researches and shares her conclusions regarding the allocation of food stamps in Centre County, Pennsylvania develop the same degree of community involvement, commitment to providing service in the future, and a sense of social justice as a student who works in a government office helping low-income residents fill out applications for food stamps? Discovering the extent to which interpersonal interaction affects cognitive and affective development is a critical piece of public scholarship which is yet unknown.

### Conclusion

The application of public scholarship to active learning pedagogies concerned with citizenship engagement provides faculty members with a new perspective and approach with which to develop students' cognitive and civic skills. This article suggests that civic responsibility can be taught through contextualizing our thinking with public problems, and not solely through concrete service-based activities. That is, when scholars ask themselves at the start of their research, or at the start of their class, how their work might be applied to society, they are challenged to think creatively. When scholars think about making the end product of their work a "deliverable" product to be disseminated beyond the

campus walls to solve public problems, they are challenged to act civically. Unlike service-learning which reinforces the notion that civic work is limited to acts of public service outside of the classroom and within the community environs, public scholarship can be used to demonstrate that civic responsibility can be incorporated, seamlessly, into one's own work.

Public scholarship provides faculty researchers an avenue for integrating their research, teaching, and service to the public. Given its focus on scholarly research, public scholarship provides a research-based pedagogy for faculty members who have neither the time, nor the interest in bringing students, literally, into the field to do and learn through service experiences. Lab experiments or research papers, which are already a part of undergraduate research experiences, become acts of civic engagement when students and faculty use real world data that can be presented to community boards, public service agencies, or local schools. Public scholarship can be practiced without funds for travel; it does not require faculty to become community organizers, to take on administrative tasks, or legal liability for the interactions of students with community members. Hence, public scholarship has the potential to expand the numbers of faculty educating citizen scholars beyond those already committed to service-learning-type activities, to those who are committed to their research as it is currently practiced within the university's or classroom's walls. In short, public scholarship suggests a course by which faculty may simultaneously navigate their own, as well as their students' work, towards the goals of their disciplines and the aims of democracy through scholarly engagement with society.

Finally, public scholarship offers local, regional, national, and global communities more creative ways of approaching, researching, and potentially resolving societal concerns. New, creative, and thoughtful questions will emerge as a result of involving more diverse persons in academic investigations of public matters. If our nation's "brain trust" is envisioned as inclusive of student-level novice scholars, as well as faculty experts, a wide cadre of innovations and insights may be gained in service to discovering, raising, and solving community concerns.

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