

A Prestudy Curricula-as-Research Model for Scholarship of Engagement: Combining Continuous Service with Discontinuous Learning

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Abstract

Restructuring changes in higher education may be affecting how faculty conduct the scholarship of engagement. As faculty increasingly face uncertain futures, the limits of service-learning need to be better understood in order to maximize the pedagogical possibilities. One way of exploring limitations is to focus on sustainable faculty-community collaborative relationships since sustainability recognizes both constraint and possibility. This article presents a Curricula-as-Research Model as a risk-reduction strategy for faculty involved in Scholarship of Engagement. According to the model, the sustainability of research collaborations can be strengthened if a multicourse collaborative project is integrated into course sequencing. The model is developed with an autoethnographic prestudy of a service-learning collaboration between Indiana University, Purdue University Fort Wayne and Blackford County Concerned Citizens in Indiana (Fall 2014 -Spring 2016). Prestudy findings indicate that curricular content may be a factor influencing the evolution, and community impact, of collaborative relationships between the university and the community.

Keywords: service-learning, scholarship of engagement, sustainability, collaboration, partnership

Introduction

The public scholarship movement has “come of age” during a time of economic uncertainty. The global economic downturn of 2007–2008 decreased university endowments (Clark, 2009), adversely impacted other sources of higher education revenue (Weisbrod & Asch, 2010), and made external funding more difficult to obtain (Klentzin & Wierzbowski-Kwiatkowski, 2013). External pressures and increased scrutiny by external governing bodies have shifted the internal focus to learning outcomes assessment (Holberg & Taylor, 2007). Restructuring higher education institutions by restricting enrollments, eliminating programs, eliminating departments, and consolidating campuses has become an increasingly common response to statewide budget cuts (Smith

& Martinez, 2015). Although most research on the restructuring of institutions of higher education does not explore its psychological impact on faculty and staff (Eckel, 2003), a case study of Western University's mandated department eliminations resulting from statewide budget cuts describes "terror and anxiety now acting like a contagion" (Smith & Martinez, 2015, p. 78) among affected faculty and staff, who consistently reported being expected to do "the same job with fewer resources" (p. 79) under the restructuring. Higher status employees viewed restructuring more positively as a transformational moment, but lower status, more vulnerable employees perceived the change negatively.

Although ensuring the sustainability of quality collaborative processes between universities and communities is a recognized priority among community engagement scholars (Fitzgerald, Bruns, Sonka, Furco, & Swanson, 2016), strategies for ensuring program sustainability have focused primarily on top-down institutional change such as managerial aspects and resource allocation (Fear, 2015); the quad helix of systems change involving higher education, business, civil society, and government (Fitzgerald, 2014); transforming the culture of higher education (Klentzin & Wierzbowski-Kwiatkowski, 2013); institutionalizing service-learning programs (Bringle & Hatcher, 2000); and alignment of institutional structures with broader institutional missions (Reed, Swanson, & Schlutt, 2015). Perhaps this is the legacy of Boyer's initial focus on engaged scholarship at the institutional level of change, but the field has tended to embrace systems thinking and modeling and discouraged what Kania and Kramer (2011) refer to as the isolated-impact approach (Fitzgerald et al., 2016). Although a systems approach is needed for addressing the complexity and multidimensionality of problems that are most "worth solving" (Kolko, 2012), attention to the individual level should not be overlooked because of resistance to the isolated-impact approach. The long-term resolution of messy wicked problems requires sustained faculty-community engagement so that collective impact initiatives involving extensive partnerships and networks can be developed (Kania & Kramer, 2011). McNall, Barnes-Najor, Brown, Doberneck, and Fitzgerald (2015) offer six principles for systemic engagement: systems thinking, collaborative inquiry, support for ongoing learning, emergent design, multiple strands of inquiry and action, and transdisciplinarity. How are faculty to engage in this type of research behavior given the increasingly uncertain environment of higher education?

Despite calls for collective approaches and lack of empirical evidence supporting isolated initiatives as effective approaches

for engaging the most pressing problems, the isolated-impact approach continues to dominate faculty practice of community engagement with the nonprofit sector (*Fitzgerald et al., 2016; Kania & Kramer, 2011*). Even at the beginning of the movement, Boyer (1996) recognized that the mismatch between faculty reward systems and faculty behavior often leaves professors caught between competing obligations. Decades later, various deterrents to community engagement persist (*Maddrell, 2014*), including concerns over funding and logistical support, uncertainty regarding course design, and lingering negative perceptions of community engagement as too time consuming (*Lambright & Alden, 2012*). Klentzin and Wierzbowski-Kwiatkowski (2013) have added assessment pressures to this list, describing development of service-learning outcome measures as a methodologically impossible task that defies quantitative solutions. In the wake of the global economic downturn and the restructuring of higher education, service-learning programs are under increased pressure to become legitimized as an academic activity (and not simply community service) or risk being incorporated into a student engagement model of community service in student life. In addition, collaboratively responding to community input and jointly tackling injustices—that is, community-based participatory research (CBPR)—may be construed as a nonscholarly form of practice (*Brint, 2009; Martinez et al., 2012*).

Faculty who wish to engage professionally with the community are caught in a cross-purposes quandary: Implementation of best practices, such as community collaboration and taking an interdisciplinary approach, may undermine the sustainability of collaborative community relations by threatening personal job security. For example, can nontenured faculty establish their expertise by moving *away* from an expert-driven to a demand-driven mode of knowledge cocreation (*Fitzgerald et al., 2016*) without undermining their own futures? Optimal community engagement means demand-driven cocreation of knowledge with the community rather than creation of knowledge driven by academia. Because of uncertainty that this type of knowledge cocreation will be recognized in the context of promotion and tenure, nontenured faculty may threaten their own career advancement by applying community engagement best practices. A top-down focus on transforming the culture of higher education, institutionalizing service-learning programs and aligning institutional structures with broader institutional missions is too far removed from faculty experience to identify and understand how faculty are responding to the uncertain educational environment. A new approach is needed if scholars

want to understand why the isolated-impact approach continues to dominate faculty practice of community engagement with the nonprofit sector.

Administrators interested in strengthening university–community connections have long recognized a need to provide support to faculty caught in the crossfires of institutional change (*Seldin, 1982*). Some of these barriers have been addressed through the reform of promotion and tenure guidelines (*Chait, 2002; Diamond & Adam, 1995, 2000; Ellison & Eatman, 2008*), and mentorship programs have been established for new faculty. Boyer (*1990*) encouraged faculty to clarify how their service activities were “directly tied to one’s special field of knowledge and relate to, and flow directly out of, this professional activity” (*p. 22*) to qualify them as scholarship. Faculty were advised to decide early in their careers to be public scholars and establish a “public good” focus for teaching, scholarship, and creative work (*Ellison & Eatman, 2008, p. 21*). But the complexities of contemporary problems may place limitations on the extent to which an academically rigorous, civically engaged pedagogy that is both useful and responsive to community groups can progressively develop. Butin (*2010*) has suggested that there may be an achievement ceiling for higher education engagement that is oriented toward the public good, and that the *limits* of service-learning must be understood in order to maximize the pedagogical possibilities.

The current trend of decreased state support for higher education and resultant restructuring highlights the need for a new model for advancing the scholarship of engagement that takes internal and external pressures into account. Before the global economic downturn, Sandmann, Saltmarsh, and O’Meara (*2008*) identified five distinct models for advancing the scholarship of engagement: individualized faculty scholarship, campus revision of promotion and tenure guidelines, documenting scholarly engagement for reward systems and for improvement, creating rigorous criteria for peer review of engaged scholarship, and professional education/discipline-focused resources and examples. In 2010, Franz developed a holistic model of engaged scholarship to assist faculty who were looking for practical ways to plan, implement, and reflect on engaged scholarship to meet productivity expectations. Although this model identifies multiple points suitable for faculty to practice engaged scholarship, Franz’s engaged scholarship model assumes that “research is not more important than teaching or outreach” (*p. 34*). These assumptions may prove difficult to implement for faculty subject to traditional promotion and tenure guidelines. In 2012, Martinez et al. developed a research-as-curriculum model

of individualized faculty scholarship where faculty–community partnership research was used as pedagogy. Community residents participated in the course alongside undergraduates and faculty “to facilitate co-learning and promote the value that diverse perspectives bring to research” (Martinez *et al.*, 2012, p. 492). The study was designed and implemented in collaboration with local community residents, faculty, service providers, and students as a joint collaboration among multiple stakeholders. Students, community residents, and faculty members shared the roles of facilitator and student, and attempts were made to obtain academic credit for community member participants; in lieu of academic credit, community members received a certificate, stipend, and library access. Although this model “successfully engaged undergraduate students, faculty and community residents in applied research to increase the capacity of local nonprofit organizations” (p. 498), application of this model may increase faculty vulnerability in the current environment of increased scrutiny, outcome assessment pressures, and service-learning program devolution.

This article presents a curricula-as-research model of individualized faculty scholarship that complements existing individualized faculty scholarship models by incorporating faculty risk reduction strategies to accommodate an uncertain environment. Although service-learning practitioners in higher education have implemented “multi-semester projects with the same nonprofit partner, but different groups of service-learners” (Maddrell, 2014, p. 218), this strategy has not yet been fully developed into a working model for community-engaged scholarship. The model presented here helps faculty identify how research fits into their practice of service-learning as community-engaged scholarship. This model was designed to enable faculty to ameliorate the effects of institutional restructuring on motivation for engaged scholarship. Although it is not applicable to all contexts, this model offers a method that may enable faculty to engage undergraduate students and community members in a sustainable collaborative partnership that implements best practices principles while minimizing career-related risk and uncertainty.

Model Overview

The limits of service-learning are explored within a theoretical framework useful for understanding how sustainable collaborative faculty–community relationships can be developed in a context of institutionalized devolution. The model adapts Padgett’s (1980) theory of serial judgment, which combines Simon’s (1957) theory

of bounded rationality with Cohen, March, and Olsen's theory of organized anarchies (Cohen & March, 1974; Cohen, March, & Olsen, 1972; March & Olsen, 1976), to scholarship of engagement research.

According to Padgett, educational and public sector organizations operate as "organized anarchies" where ambiguity and uncertainty shape preferences so that what is being accomplished is neither clear nor consistent, implementation strategies remain unclear, and participation in decision-making remains fluid (Padgett, 1980, p. 583). Ambiguity becomes heightened during times of crisis or "value instability" (Mohr, 1978, p. 1035), but Padgett (1980) has also shown that the theory of organized anarchies is applicable to fairly traditional and bureaucratic organizational structures. Under trying circumstances, decision makers favor process incrementalism by seeking satisfactory, rather than optimal, solutions through a series of incremental judgments that systematically adjust the outcome by cycling through discrete neighboring alternatives; serial judgment provides the flexibility for pursuing superior outcomes within a hierarchical framework of budgeting uncertainty and change (Lepori, Usher, & Montauti, 2013). The theory focuses less on the details of individual decision making and more on how the flow of decisions provides an element of flexibility that is, in turn, "constrained by access structures, energy loads, and attention-focusing rules" (Padgett, 1980, p. 583). The series of choices is studied as a function of organizational processes operating under conditions of uncertainty and ambiguity. Lepori, Usher, and Montauti (2013) describe how budgeting is a power-based negotiation that operates under conditions of high uncertainty about both problems and priorities and is most applicable to contexts where horizontal power is strong but vertical power is weak. For this reason, the model put forward here is context dependent and is deemed most applicable to contexts where faculty have strong control over the course content of their teaching load. This model is also applicable in contexts where community-based organizations are seeking social change; it is not suitable to program-oriented service-learning goals where community-based organizations place students in established programs that need positions filled such as after-school tutoring, meal preparation, and client intakes (Blouin & Perry, 2009).

The curricula-as-research model is a continuous project-oriented model of service that spans multiple courses (see Figure 1). The project evolves over time within the constraints of a supportive sustainable university–community collaboration. Project components, or subprojects, are designed for completion within each course. Course discontinuity provides both exit and entry points at

which the *project* can move in a different direction, as determined by collaborators. Although Steiner (2016) states that it is difficult to develop collaborative relationships with community partners if the service-learning program exists only within the classroom context, and Harrison and Clayton (2012) consider development of collaborative service-learning relationships to be a counternormative pedagogical approach, the collaborative potential embedded in the curricula-as-research model is not rooted within classroom operations per se. Rather, reciprocity principles of the type that Steiner (2016) identifies as conducive to collaborative relationships are primarily implemented via the faculty member's role as a *boundary spanner* (see Figure 1). According to Steiner (2016), combining extracurricular programming with service-learning within the classroom allows faculty to strategically develop collaborative partnerships within the hierarchical context of higher education:

Curricular aspects of the program (e.g., service learning classes) become contexts where the academic standards and the higher education hierarchy are uncompromisingly prioritized without apology. In the overall relationship, academic pedagogy can be prioritized without compromising the relationship with the community partners because there are other aspects to the overall program which respect and showcase the practical knowledge nonprofit leaders derive from experience. From this perspective, the combination of curricular and extracurricular programming presents an opportunity to cultivate a willingness to collaborate from both faculty and nonprofit leaders. (p. 14)

In theoretical terms, the curricula-as-research model locates faculty extracurricular activities (formal and informal) within the framework of boundary spanning. Unlike models that Jones (2003) has critiqued for undermining collaborative partnerships, this model provides enough discontinuity within the continuous collaboration to enable faculty to arrange outlets for partner expertise and incorporate faculty pedagogical priorities without compromising community priorities of empowerment, capacity building, and problem solving. The curricula-as-research model combines continuous service with discontinuous learning over time (see Figure 2). The different courses also provide faculty with multiple entry and leverage points for moments when the collaboration suggests that the subject-based pedagogy may need to move in a dif-

ferent direction to respond to the changing context, needs, uncertainty, and complexity of the situation.

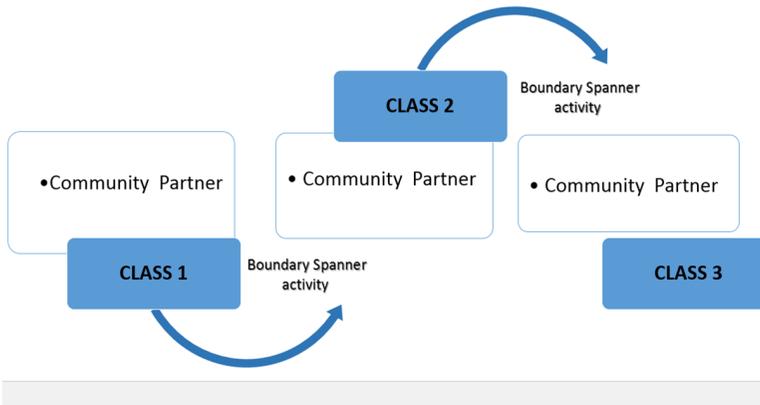


Figure 1. Curricula-as-research model for community-engaged scholarship. This figure illustrates how faculty can engage in boundary-spanning actions to arrange multiple classes for ongoing collaboration on a project with a community partner.

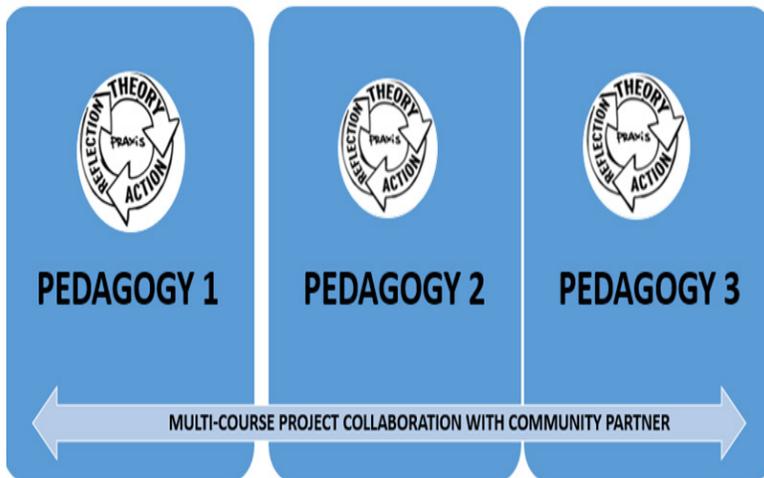


Figure 2. Combining continuous service with discontinuous subject-based pedagogy. This figure illustrates how the content of various courses introduces dynamics into the ongoing collaboration with the community partner as students reflect on their engagement in light of theories introduced in the classroom.

Williams (2002) defines boundary spanners as key agents who influence development of collaborative behavior in the interstitial spaces between organizations, what Williams refers to as *inter-organizational theatres*. Boundary spanners are particularly suitable for developing coalitions directed at messy public policy problems because “real progress is dependent on systemic change not short-term fixes” (Williams, 2002, p. 104), and wicked problems do not “yield readily to single efforts and [are] beyond the capacity of any one agency or jurisdiction” (Luke, 1998, p. 19). Although Williams indicates that interorganizational capacity “is unlikely to flourish in organizational structures that are based on hierarchical control and power” (2002, p. 105), this model is about how faculty pursue suboptimal “satisficing” behavior within organizational anarchies (Padgett, 1980).

This strategy intentionally diverges from the current trend toward service-learning program institutionalization, which deemphasizes “the individual [service-learning] ‘champion’ in favor of a more hands-off management approach” (Klontzin & Wierzbowski-Kwiatkowski, 2013, p. 50). Since it costs more to pay a faculty member to run an academically sound community engagement program than to pay an administrator to run a service-learning program located in student services, scholarship of engagement faculty could practice risk reduction by directing their expertise toward boundary-spanning work with specific classes rather than toward program development. Although Furco and Holland (2004, 2009) have identified both positive and negative dynamics associated with individual service-learning champions in the literature, Klontzin and Wierzbowski-Kwiatkowski’s (2013) recent study of service-learning program formalization identifies “the barrier of the individual” as one of five emergent themes obstructing service-learning institutionalization (p. 53). Might the tension run both ways? Might institutionalization serve as a barrier obstructing faculty engagement in research?

According to Hudson (1993), “the fashioning of collaborative relationships of substance is a job for talented practitioners” (p. 375). Williams (2002) describes it as an art involving “the use of particular skills, abilities, experience and personal characteristics” (pp. 114–115). Competent boundary spanners are trustworthy network managers capable of building effective personal relationships with a wide array of diverse actors within complex environments characterized by uncertainty and interdependence (Grandori, 1998). Different boundary-spanning skills are needed for different stages of the collaborative relationship involving cycles of problem set-

ting, direction setting, and/or implementation (Snow & Thomas, 1993; Williams, 2002). Competent boundary spanners negotiate and broker in nonhierarchical decision environments as “policy entrepreneurs” (Williams, 2002, p. 121), connecting problems to solutions and mobilizing resources and effort in the search for successful outcomes. Effective boundary spanners are necessary for building sustainable university–community relations so that conflict and criticism can be successfully managed within the context of an ongoing collaborative relationship (Williams, 2002). Williams (2002) identifies boundary spanning as particularly appropriate for addressing the type of complex and seemingly intractable “messes” (p.104) that McNall et al. (2015) consider suitable for the scholarship of engagement, and that characterize the contemporary public policy landscape (Clarke & Stewart, 1997). Emphasis on active researchers as boundary subjects is also in keeping with Huzzard, Ahlberg, and Ekman’s (2010) critical exploration of the action research team’s role in constructing collaborative development projects.

Faculty Acting as Boundary Spanners

Although Kolko (2012) has developed a social entrepreneurship curriculum template that provides a structure for business curricula, the model presented here is more versatile and not discipline specific. The curricula-as-research model facilitates faculty exercise of agency as boundary spanners to establish and maintain sustainable community–university collaborations in how they choose the problem, the community partner, the project, and the courses.

Choosing the problem(s). This model will work best if the scholar picks a “problem worth solving” (Kolko, 2012) that broadly fits with the faculty member’s areas of expertise. In systems theory, Ackoff (1999) refers to problems worth solving as “messes”; Rittel and Webber (1973) refer to them as “wicked problems” for governance because they elude definition, continue to change as they are studied, lack clear-cut solutions, leave little room for trial and error, and are unique yet interconnected with larger, more complex challenges (Clarke & Stewart, 1997; Ramaley, 2014). The messier the problem, the greater the likelihood that multiple strands of inquiry and action will be identified for course sequencing and multidisciplinary collaboration (McNall et al., 2015). Community-engaged scholarship is time consuming, so newer faculty should select problems with promotion and tenure requirements in mind. Problems most amenable to this model are wicked or messy problems that (1) bridge jurisdictional, organizational, functional, professional, and generational boundaries; (2) involve multiple stake-

holders from diverse perspectives; (3) remain intractable; (4) are dependent on systemic change; and (4) are beyond the capacity of any single agency or jurisdiction (Luke, 1998; Rittel & Webber, 1973; Williams, 2002). The more complex, multisystem, and multidimensional the problem, the greater the flexibility for arranging course sequencing in response to the unfolding collaborative research process. Examples of messy problems include community safety, poverty, social inclusion, urban regeneration, health inequalities, teenage pregnancies, climate change, homelessness, and substance misuse (Williams, 2002).

Choosing the community partner(s). The faculty member begins the search for the primary long-term community partner by first identifying how far the scholar is willing (and able) to travel with the students, then search within that radius. The highest quality collaborative partner may be worth the inconvenience of navigating some distance. Messy problems will require maturity and expertise from everyone involved in the partnership, not just from the faculty. Enos and Morton (2003) have identified a continuum of university–community partnerships ranging from “transactional” to “transformational.” Transactional partnerships involve relatively superficial levels of interaction, span short periods of time, and involve short-term projects. Transformational partnerships involve longer term commitments of interdependent involvement that at times is mutually transformative. Although Bushouse (2005) has shown that community organizations prefer transactional service-learning partnerships because they yield higher benefits with lower economic costs, choosing a community partner open to development of a transformational partnership is better suited for any type of sustainable collaboration. That said, collaborative attempts to transform community partners’ neighborhoods for the better will involve a wide range of factors. In keeping with best practices as identified by McNall et al. (2015), faculty might look for a community partner that is willing to embrace an emergent design approach and openness toward expanding the collaborative partnership, when necessary, to better address the multiple strands of inquiry and action that emerge over time. Unlike service-learning programs that let students choose from a diverse array of partners, in this model the faculty member develops service-learning opportunities for students in the context of a long-term sustainable collaborative relationship with a few highly vetted community partners. This approach is in keeping with Maddrell’s (2014) finding that faculty routinely express a preference for focusing on long-term relationships with a small, select set of nonprofit partners.

Choosing the project(s). Most project-oriented service-learning experiences are short-term, specific, one-time assignments such as event planning, grant writing, advertising, or administration of special projects (*Blouin & Perry, 2009*). In this model the overall project associated with the wicked problem is transformational and long term, spanning multiple courses. Specific assignments associated with the project emerge within the context of each course over time. If the project is initially sketched out very broadly, the design, methods, and measures associated with specific elements of the design can emerge based on what is being learned (*McNall et al., 2015*). The scope of subprojects should be realistically aligned with a 15-week semester. Maddrell (*2014*) recommends establishing clear boundaries for any given subproject with the community partner at the outset, including the deliverables to be completed, subproject milestone checkpoints for monitoring progress, and forms of student assessment that will be used once the subproject is under way. It is also helpful to develop, if possible, an array of subprojects that can adapt to students' competing time constraints and make accommodations to place-based service demands. Subprojects involving virtual e-service are particularly adaptable in this regard (*Maddrell, 2014*). Project element diversity often presents opportunities for additional short-term collaborators to participate in the project.

Choosing the courses. This model presumes that faculty have some say in the courses and the course sequencing associated with their workload. When identifying the course sequence, faculty should distinguish between ongoing foundational courses for the collaboration and courses suitable for augmenting the collaboration where appropriate. Foundational courses define the parameters of the long-term ongoing collaborative project. Augmenting courses (special topics, readings, etc.) "fill in" as opportunities arise. Augmenting courses are less tightly integrated into the service-learning collaboration (e.g., student service-learning participation is a choice among alternate assignment options). Courses would be carefully chosen to allow maximum flexibility to respond to the evolving, complex, and multidimensional issues associated with community engagement around "problems worth solving." However, faculty should resist the temptation to make a course fit the messy problem; "poor fit" partnerships present significant challenges in service-learning (*Blouin & Perry, 2009, p. 128*). At times the best way to keep the collaboration moving forward may be an individualized readings service-learning activity with a small cadre of students implemented as an unpaid overload; one way to make this

suboptimal arrangement work to the faculty member's advantage is to use this opportunity to mentor students and promote undergraduate scholarship. Whenever possible, the scholarship can try to match course pedagogy to issues that arise from one semester to the next in accordance with the emergent design principles of the systemic engagement approach to messy problems (McNall et al., 2015). Course sequencing should also be carefully matched, where possible, to fit the needs of the community-based organization. "Poor fit" partnerships can put the community organization at risk of losing much-needed resources and can interfere with student learning outcomes (Blouin & Perry, 2009).

Because messy problems consist of networks of interacting problems, effective management of the emergent issues that arise from transformational community engagement will involve different teams collaborating to tackle different aspects of the same mess (McNall et al., 2015). Kania and Kramer (2011) advocate for a collective impact approach involving collaborative teams capable of addressing multiple strands of inquiry and action that become drawn together to address complex problems. Although such an approach may be optimal and more desirable, the "satisficing" model proposed here for faculty affected by economic constraint and university restructuring is more modest: It is to focus on developing a long-term, sustainable partnership with one or two high-quality community partners. Working from within that core relationship, the project can be appropriately expanded and/or contracted by adding or withdrawing additional collaborators as the project proceeds. Faculty can partner with their core community partner to develop the service component of different courses as the project moves forward and clarify the community partner's role in each course (Blouin & Perry, 2009) without being overwhelmed by pressures to joint venture with all of the partners involved in collaborative teamwork. Although the organizational constraints of higher education institutions may hinder boundary-spanning activity, universities also provide interstitial spaces where faculty exercise choice of problems, community partners, courses, and projects. The curricula-as-research model suggests that strategic exercise of those choices may be conducive to faculty interest in conducting community-engaged research even during times of fiscal constraint and uncertainty.

Curricula-as-Research Prestudy

This prestudy used the ethnographic method, an approach used by scholars of engagement (e.g., Fear, Rosaen, Basden, & Foster-

Fishman, 2006; Sandmann 2008). The curricula-as-research model prestudy was developed at Indiana University, Purdue University Fort Wayne (IPFW) over a 2-year timeframe between August 2014, when the faculty member serving as primary investigator (PI) first began to choose a problem and identify an appropriate community partner, and June 2016, when the third course in the prestudy was concluded. The collaborative partnership is ongoing. Illustrative data is referenced for purposes of theorizing in a context of discovery, rather than gathered as test data for purposes of theory testing in a context of justification (*Reichenbach, 1938*). In contrast to theory-driven or atheoretical research, prestudies represent the earliest and first stage of theoretical development where scholars engage in what Swedberg (*2012*) describes as “empirically driven creative theorizing” (*p.8*). In prestudies, scholars observe, name the concepts, build out the theory, and complete the theoretical explanation (*Swedberg, 2012*). For this reason, the PI obtained Institutional Review Board protocols in association with the service-learning conducted within each discrete course associated with this project during that timeframe (spring semester 2015, fall semester 2015, and spring semester 2016).

The initial PI activities were consistent with Sandmann, Saltmarsh, and O’Meara’s (*2008*) integrated model for advancing the scholarship of engagement: Faculty are said to operate in an environment influenced by the horizontal axis of faculty socialization and the hierarchical vertical axis of scholarship of engagement institutionalization. The PI initially served as a visiting assistant professor in fall 2014 and was heavily socialized by the department chair to engage in service-learning. IPFW has a Carnegie Foundation Community Engagement Classification and an Indiana Campus Compact membership to maintain, so service-learning activities were highly encouraged at the institutional level as well. The PI obtained funding for the service-learning project from two Indiana Campus Compact Scholarship of Engagement grants. Matching funds were provided by the IPFW Department of Sociology. Broader institutional support for the project was provided the following year when the PI was selected to be a Purdue Scholarship of Engagement Fellow; fellow funds were put toward the project.

However, the PI went beyond guidance offered in current models by deciding against broader program development at IPFW despite having significant experience with institutionalization at two universities, and given the current trends in the field (*Klentszin & Wierzbowski-Kwiatkowski, 2013*). Similarly, the PI did not rely on

these models for the decision to seek out a community partner that, although within the university's service area, was located 60 miles from the campus rather than collaborate with local nonprofits. When queried, the PI conveyed an appreciation for the value structured programming brings to an institution; the PI's decisions for this project, however, reflected the recent experience of having been replaced by an administrator at a previous institution after establishing a service-learning program involving between 10 and 19 partnerships that serviced a required service-learning course for the core curriculum. The PI was motivated to pursue a less risky service-learning strategy centered on academic integrity and service-learning scholarship.

Choosing the problem(s). The PI chose a “messy problem” compatible with a research agenda centered on civic engagement for responsible governance and operative within the faculty member's areas of expertise which, in this case, were environmental sociology and social change. According to the Environmental Protection Agency's Toxics Release Inventory Program, Indiana is consistently ranked among the highest releasers of toxic pollutants in air, soil, and water and is most recently ranked as the second highest polluter of all states and territories in the United States (EPA, 2014). Since the unintended consequences associated with unsustainable socioeconomic conditions have been identified as social problems that are widespread, messy, and intractable, the PI chose public health in relation to environmental pollution as the focus problem. The PI then consulted tenured faculty members familiar with community organizations and performed an internet search to identify civic groups committed to addressing public health concerns related to the environment.

Choosing the community partner(s). The PI has a strong background in service-learning and was aware of what would be involved in conducting service-learning off campus. The PI printed out a map and drew a circumference around the campus to delineate the boundaries within which service-learning could be practically implemented. Congruent with an interest in developing a transformational partnership, the PI searched for civic groups engaged in environmental justice concerns. The leading environmental justice nonprofit in the area, Hoosier Environmental Council (HEC), focused the majority of its activities in regions outside the service-learning boundary lines. However, a smaller affiliate, Blackford County Concerned Citizens (BCCC), had recently partnered with HEC to investigate the possibility that environmental exposures were contributing to higher risks of cancer and neurologic disease

in Blackford County. BCCC was also partnering with Indiana State Department of Health, the Indiana University Fairbanks School of Public Health, Cancer Services of East Central Indiana, and the American Cancer Society. The BCCC board was deeply rooted in the community and composed of people with significant experience and relevant expertise (former two-term mayor, former district attorney, etc.) to competently respond to the types of emergent issues that might arise over time. Formed in 2008, the BCCC described its mission as “to improve the quality of life of Blackford County, Indiana residents by reducing the incidence of diseases, primarily through citizen action to investigate the diseases that are prevalent and by advocating to have these diseases investigated” (BCCC, 2014, *para. 2*).

Blackford County, Indiana, had been a pastoral agricultural community from first settlement until natural gas was discovered in the 1880s. A natural gas and oil boom lasted for three decades, attracting eight glass factories that worked at full capacity with all of the practices and impacting outcomes associated with the legal operation of that industry over a century ago. Other industries were also attracted to the region, from support industries such as nitroglycerin factories, to local paper production and steel recycling firms. In the 1950s, a few large manufacturing facilities were attracted to the area (e.g., plastics, glue); other industries, such as metal stamping and fiberglass auto part molding, had come and gone.

Many residents were concerned that one of the legacies of this industrial history might be toxic exposure to industrial pollutants such as arsenic and lead that remain in the soil and do not break down over time. Blackford County has a cancer rate higher than the state average and an increased rate of amyotrophic lateral sclerosis (ALS), a serious nervous system disease. According to the Indiana State Department of Health, Blackford County had some of the highest age adjusted county incidence rates for lymphoma, bladder, colon, lung and thyroid cancers for the period between 2004 through 2008 (ISDH, 2012). Cigarette smoking is elevated in Blackford County, but during the same timeframe, reports indicated a decrease in smoking behavior among Blackford County residents. Given the area’s industrial legacy, BCCC board members wanted to investigate whether there might be links between the cancer rates and toxic exposure. Over time, a few local residents have expressed concerns at the collaborative service-learning events convened in Fall 2015 and Spring 2016 that the publicity associated with BCCC activities might negatively affect the local

economy. BCCC board members have adopted a different perspective, as indicated in their brochure, where they state:

When people can speak in a climate of openness—where we can candidly discuss challenges facing our community, and work swiftly and with sound science to solve them. Recent local clean-ups of leaking petroleum tanks, PCBs and heavy metals have reduced hazardous exposures. These clean-ups are also helping restore community confidence and improve local property values. These examples show that addressing environmental issues is good for the community and good for the economy. (BCCC, 2014, para. 15)

In 2011, BCCC worked with the Indiana State Department of Health (ISDH) to get an analysis of the county's cancer data, and in 2014, ISDH agreed to their request for an update. By 2014, BCCC had gathered sufficient donations and grant funds to hire an environmental health specialist.

When the PI contacted BCCC, they had just agreed to collaborate with HEC to use funds from the Blackford County Community Foundation to hire Dr. Indra Frank, a medical doctor with a master of public health degree. Dr. Frank served as an Environmental Health Project Director and worked with the Blackford County community to review environmental exposures and their links to health. BCCC board members secured funding from the Blackford County Community Foundation, but they did not have sufficient organizational capacity to process the grant and solicit matching funds. Dr. Frank was hired by HEC to focus on the BCCC project. Dr. Frank brought significant experience in working on environmental health programs, education, and policy with Indiana-based nonprofit organizations, including Improving Kids' Environment, the Health by Design Coalition, and the Indiana Environmental Health Summit. The high quality composition of the BCCC's board, the transformative agenda associated with its mission, and the location of its concerns within the service-learning boundary lines were decisive factors influencing the PI's choice of this small, minimal-infrastructure organization as a community partner.

Choosing the project(s). The shared collaborative project spanning multiple courses was to use a popular epidemiology approach to investigate avenues of toxic exposure in the community. Dr. Frank worked on behalf of BCCC to get the state health department to provide a cancer data update in January of 2015.

Information on the elevated bladder, colon, and thyroid cancer rates were communicated to the community via the BCCC newsletter, the BCCC webpage, and a variety of community meetings. Citizens were educated about behaviors they could adopt to protect themselves and their families from possible toxic exposure. Funding constraints eventually prevented the partnership from using Dr. Frank's preferred case control approach, so the project shifted strategies as the collaborative relationship evolved over time to accommodate grant outcomes. The collaboration eventually focused on identifying avenues of toxic exposure in the immediate neighborhood surrounding the only industry already documented as exceeding legal limits for several carcinogenic pollutants: Hartford Iron & Metal. Appropriate semester-long subprojects were variously implemented as the project evolved. During the prestudy, the project collaboration spanned three courses: a special topics public policy course on environmental sociology, a collective behavior and social movements course, and an individualized readings course on risk society with a small group of students interested in continuing with the collaboration (see Figure 3). BCCC initiated requests for the first two subprojects: development of geographic information system

(GIS) maps of the industrial history of Blackford County, and a short video describing their well-testing project that could be used to communicate their activities to the general public on their web page.

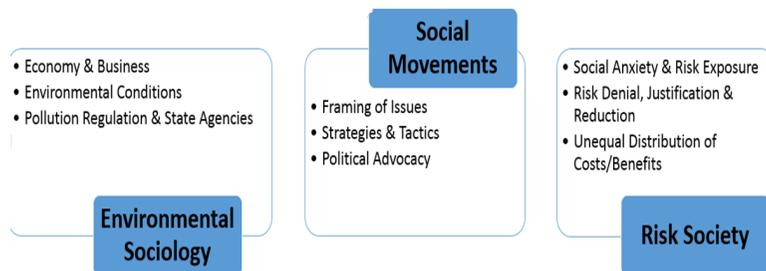


Figure 3. Application of curricula-as-research model for community-engaged scholarship. This figure identifies specific course content from three different classes that influenced the ongoing community partner collaboration

The methodologies involved in both of these requests were outside the expertise of the PI, so the professor approached IPFW's Studio M and Environmental Resources Center and asked if they would like to collaborate for these subprojects. Both agreed, and a series of maps and three videos were created by students for use

by BCCC (maps and videos are posted at <http://blackfordcounty-concernedcitizens.com/resources/>). The maps, which identified areas of concentrated industrial activity, enabled BCCC to target locations for additional soil testing for specific contaminants related to industry type. This approach was continued through the second course during which the *students* initiated two subproject ideas: social media reorganization and a photovoice project. The BCCC board approved both projects for implementation in Course 3, and the PI obtained a grant extension from Indiana Campus Compact (see Table 1). By the third course, BCCC, the PI, and students were collaborating on subprojects. The PI and BCCC were working together to test soil samples, students were training a newly positioned communications coordinator, and students were teaching BCCC board members how to use Twitter and their Facebook page.

Table 1. Multicourse subproject diversification and collaborative evolution.

Course	Subproject	Initiator	Subproject Support
Environmental Sociology	GIS maps	BCCC	Environmental Resources Center
	Project videos	BCCC	Studio M
Social Movements	GIS maps	BCCC	Environmental Resources Center
	Video update	BCCC	Studio M
Risk Society	Photovoice project	Faculty & students	
	Social media project	IPFW students	IPFW IT Services
	Communications job	Faculty & students	
	Soil testing	Faculty & BCCC	Hoosier Environmental Council & Envision Laboratories

Note: This table displays how subprojects may be initiated by multiple partners over time as part of the overall collaborative project.

An unintended consequence of this collaborative approach was that faculty colleagues responded to the PI's novice use of GIS as if the PI was an expert in GIS mapping, despite repeated claims to the contrary. GIS mapping was a phase of the service-learning collaboration that came, and went, as needed. Communicating this to colleagues in an environment where faculty are expected to engage

as experts blurred the relationship between the PI's emphasis on service-learning and colleagues' interpretations of the maps as research. The PI has felt similar pressures from the community partner, who would eventually like to produce a documentary on the unfolding story. The prestudy highlights the importance of faculty being careful to clarify when they are making a novice employ of a specific methodology for purposes of service-learning versus when their products reflect an area of expertise (see Figure 4).

Choosing the courses. The PI selected two foundational courses sequenced in alternate years to strengthen the sustainability of the ongoing partnership. In this case, because the BCCC–IPFW collaboration is a transformational partnership focused on societal-environmental relations in Blackford County, the PI designated Environmental Sociology and Social Movements as foundational courses. The PI obtained two Indiana Service Engagement

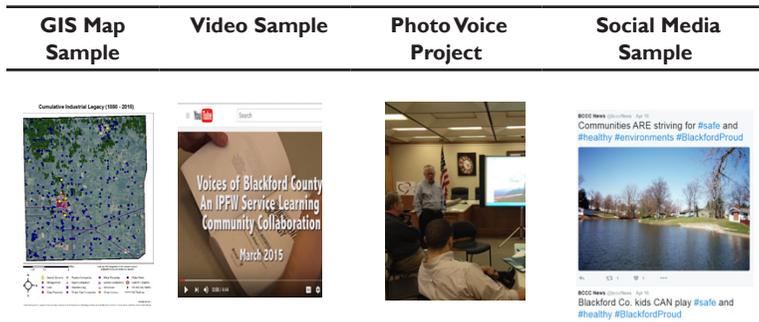


Figure 4. Novice employ of diverse methodologies for service-learning. This figure illustrates the variety of methods faculty may be asked to utilize when collaborating on an ongoing project.

Grants that were augmented by departmental matching funds to finance this part of the collaboration. During the prestudy, a small cadre of students in the Social Movements course initiated a service-learning subproject that they wanted to implement (see Table 1) the following semester, so the PI augmented course sequencing with a special readings overload course centered on risk (exposure, perception, denial, justification, and reduction; see Figure 5).

Toward the end of the Social Movements course in fall 2015, the students submitted their service-learning subproject proposals, and the BCCC board reviewed and approved the subprojects for implementation during spring 2016. This course was funded through efficient spending on a prior grant that was extended to cover costs through spring 2016. The PI obtained student grants from

the Department of Sociology, the College of Arts and Sciences, and the university's Office of Sponsored Programs to cover the costs of taking students to present at professional meetings about their experiences with community engagement. Students participated in paper presentations on the collaborative project at the 2016 Midwest Sociological Society annual meeting in Chicago.



Figure 5. Sequencing foundation and augmenting courses for sustainability. This figure illustrates how faculty may choose to augment the sequencing of foundational courses with the occasional creation of a specific course to address issues that emerge from the project collaboration.

One possibility that was considered but rejected was integration of this service-learning project into a Religion and Society course. As a reflection of a growing faith-based environmental activism movement, such integration could have been academically relevant. A local minister had participated in the well-testing video; however, he had done so as a citizen and father, not acting as minister of a particular faith. If BCCC had been formally collaborating with a local multifaith organization, integrating service-learning into the Religion and Society course might have been appropriate; however, the absence of religious diversity and the informal nature of the local minister's endorsement led the PI to consider the Religion and Society course a poor fit for the service-learning project.

The PI obtained an Indiana Campus Compact Service Engagement Grant to convene a community conversation with BCCC and Hartford Iron & Metal to explore the possibility of relocating the facility from the residential neighborhood to a more appropriate industrial location. In a voluntary service-learning assignment, a limited number of students were able to observe how various stakeholders interpreted and responded to the same social problem via a fall semester 2016 socialization course. The PI worked with students to obtain a Purdue Office of Engagement

Student Grant for a spring 2017 foundation course, Environment and Society, that is under way as of this writing; on Earth Day, students are slated to gather nine samples of moss from trees in the residential neighborhood to test for possible pollutants in the upwind/downwind air surrounding Hartford Iron & Metal. At several points in the collaboration, the current sociology chair provided matching departmental funding in support of grant applications to keep the project moving forward; however, the chair of the department will be retiring soon, and the department has been identified for university restructuring in the near future, so the long-term viability of the service-learning collaboration remains uncertain.

Findings and Discussion

The curricula-as-research model facilitated project continuity, but course discontinuity introduced an unanticipated influence on the service-learning collaborative relationship between IPFW and BCCC. The PI and students from the Risk Course reflected on these context-specific impacts in their paper presentations at the Midwest Sociological Society annual meeting (Puff, 2016; Steiner, Wegner, Puff, & Marsh, 2016). During the Environmental Sociology course, BCCC representatives had exposed students to a complex situation. While students studied the tension between economic interests and environmental regulation that pervades the global economy, they also observed BCCC's efforts to identify possible contaminants. Several students were inspired by BCCC's activism. For the final service-learning trip for that course, more than 60 people came to City Hall in Hartford City to hear updates on BCCC's work to identify risk factors associated with cancer and neurologic disease, including well testing, soil testing at old glass factory sites, and the student mapping of the county's industrial history. BCCC, in partnership with HEC (and with the support of the Blackford County Health Department, EnviroForensics, and Envision Laboratories), had tested private wells and soil at some of the old glass factory sites. All of the water results came back clear, and all of the soil samples from Montpelier and Southside Elementary School had the low levels of arsenic and lead characteristic of soil in that part of Indiana. A few deposits of arsenic and lead were found at Hartford City's baseball field; the amounts were high enough to exceed Indiana's residential standard, but they were well within the standard for recreational fields (IDEM, 2015). The results reduced the anxiety levels of many residents, but also contributed to an attitudinal shift among participants when the service-learning collaboration resumed the fol-

lowing fall. Failure to produce a polluting “smoking gun” affected BCCC’s ability to obtain additional funding from the Blackford County Community Foundation.

BCCC changed their strategy to focus on one industry, Hartford Iron & Metal, where unacceptably high levels of carcinogenic pollution had been documented 10 years earlier by the Indiana Department of Environmental Management (IDEM). Hartford Iron & Metal had been mismanaging auto fluids and other waste on their five-acre site on Division Street. The U.S. Environmental Protection Agency (EPA) got involved when dangerous levels of PCBs were discovered. In 2009, the scrapyard agreed to remove pollutants on the property, control stormwater runoff, and prevent further impact on the residential neighborhood, but cleanup efforts stalled over a dispute between Hartford Iron & Metal and Valley Forge Insurance while Hartford Iron & Metal activities continued to expand (*Slabaugh, 2016a*). BCCC met with representatives from IDEM asking them to enforce the order. IDEM and the EPA have brought enforcement actions to fine Hartford Iron & Metal and enforce remediation, but the pollution has continued. Other than addressing direct stormwater runoff to city streets bordering the junkyard, attention to Hartford Iron & Metal’s impact on the immediate neighborhood has been minimal at best. Citizens routinely complain about fugitive dust; children are particularly vulnerable to the types of pollutants produced by Hartford Iron & Metal (*Slabaugh, 2016b*). The immediate neighborhood surrounding Hartford Iron & Metal is disproportionately poor. Residents have not yet organized a neighborhood association to advocate for their interests and concerns.

Students approached the service-learning collaboration with expectations that change on behalf of residents in the Hartford Iron & Metal neighborhood was possible. Throughout the second course, students studied successful and unsuccessful case studies of social change. When they interacted with their service partners, however, they were repeatedly cautioned by BCCC board members against being overly optimistic. Students encountered a diverse array of frames (e.g., risk denial, risk justification, and risk reduction) on their service-learning trips, so the PI facilitated several in-class discussions with students about the social construction of social problems and the importance of framing for human agency in social movements. Students updated the water-testing video from the previous semester to include the good news about the negative findings, and added the industrial history of Montpelier to the Blackford County maps.

As the semester drew to a close, the BCCC board asked students to provide recommendations based on their readings of the social movement literature. One group of students focused on the role of social media usage as a social movement strategy. They then conducted a SWOT (strengths, weaknesses, opportunities, threats) analysis of BCCC's social media and critiqued it as an underutilized resource. They presented recommendations for social media reorganization and expressed a desire to continue with the service-learning project. The board discussed and approved their proposal in time for students to enroll in an individualized readings course focused on risk for spring semester 2016. BCCC's funding from the Blackford County Community Foundation that supported Hoosier Environmental Council's environmental health project director was coming to an end, so any future collaboration with HEC would be performed by BCCC board members volunteering their time. Dr. Frank, drawing upon resources at HEC, had processed donations, maintained an updated donor and newsletter data base, written and delivered regular newsletters, maintained social media sites, communicated with residents interested in testing their water and/or soil, and answered email inquiries. BCCC board members were unable to maintain this level of activity on a volunteer basis and they became discouraged about what their nonprofit organization might contribute to the community. Students disagreed with BCCC board members about what might be possible in Blackford County. They were convinced that BCCC, despite funding issues and a weak infrastructure, could influence community dynamics associated with Hartford Iron & Metal if they reduced their rural isolation by appropriately connecting to relevant virtual communities (Puff, 2016; Steiner et al., 2016). BCCC board members were less optimistic about how an increased presence on the internet might influence community dynamics.

Throughout spring semester 2016, the PI and students continued to encounter diverse risk responses from community members. They distributed 30 cameras to residents for a photovoice project. Photovoice is an approach to service learning that uses video and/or photographic images to empower marginalized people by capturing aspects of their experience to share with other people. In 1992, Caroline Wang and Mary Ann Burris gave cameras to rural village women in Yunnan Province, China and asked them to document their lives in ways that would provide insight into the power relationships that affect their lives. The method of photovoice is built upon the following five principles: 1) images teach, 2) pictures can influence policy, 3) community members

ought to participate in creating and defining the images that shape public policy, 4) the process requires policy makers to serve as an audience, and 5) individuals and communities take action (Wang & Burris, 1997). When IPFW conducted the photovoice project in Hartford City, local participation was less than what was hoped for; of the 30 cameras that were distributed, only 23% fully participated. Despite extensive discussion with residents about the importance of using this project as an opportunity to voice community concerns in relation to the mission of BCCC, the majority of photos that were taken expressed pride of place without controversy or critique (e.g., most of the photos were of the Carnegie library and the beautiful courthouse). This behavior was consistent with results of other photovoice service-learning projects (e.g., Bell, 2015), but the PI and students were surprised by how few photos were used to address public health issues. The PI and students encouraged the BCCC board to choose a hashtag to record social media posts that would make residents most comfortable. BCCC chose the hashtag #BlackfordProud. When it came time to post commentary with photos on social media, the number of participants had shrunk so much that the board decided to create posts as a group to learn together how to use social media in a manner consistent with BCCC's mission. Board members developed a series of tweets that told local stories of community improvement and transformation before they addressed the situation of children playing in fugitive dust at the entrance of Hartford Iron & Metal (see Figure 6). Although students were discouraged by the low levels of community participation, the board considered this photovoice project a trial run. Board members kept the unused cameras and asked to repeat the photovoice project in the future now that they understood the process and were more comfortable using social media to the organization's advantage.

When the PI and the students reflected on how the collaborative dynamics shifted throughout Courses 2 and 3, they developed the diagram shown in Figure 7 to indicate how the IPFW service-learning collaboration influenced BCCC regarding the community dynamics surrounding Hartford Iron & Metal (Steiner et al., 2016). The ongoing collaboration with IPFW influenced the board of BCCC to maintain communications with their constituencies in relation to ongoing board engagement with Indiana Department of Environmental Management (IDEM) and the role of the Environmental Protection Agency (EPA) about enforcement of Hartford Iron & Metal cleanup activities.

What's wrong with this picture? Lets paint a new one...#OurNeighborhood #DoSomething #BlackfordProud



Figure 6. Photovoice commentary on Hartford Iron & Metal. This figure illustrates what can emerge from student contributions to a collaborative project over time.

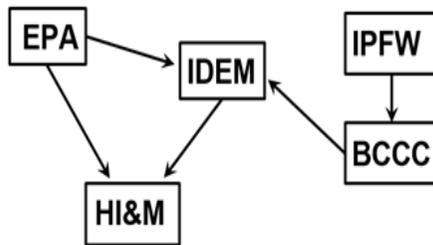


Figure 7. IPFW service-learning as contingent actor. This figure illustrates how the students came to indirectly influence community dynamics surrounding Hartford Iron & Metal (HI&M) through their collaboration with BCCC.

Source: Steiner, Wegner, Puff, & Marsh (2016).

Sustaining Collaboration Through Satisficing

Over time, the PI engaged in suboptimal satisficing behaviors to sustain and develop the collaborative project with BCCC. When failure to identify high concentrations of soil or water pollutants weakened local foundation support, the environmental health director shifted to work primarily with Hoosier Environmental Council. This left BCCC without anyone to write their newsletters and update their social media sites. The BCCC board trusted the PI by providing the PI with access to their social media sites to

enable students to reorganize and integrate BCCC's online presence. When the semester came to an end, the PI and students presented BCCC with a communication coordinator volunteer job description and encouraged them to find a resident interested in maintaining communication with their constituency. Initial efforts failed to implement this process; however, one resident has been identified and is currently obtaining university training in social media. In the meantime, the PI has written and distributed two BCCC newsletters as suboptimal boundary-spanning activity to keep the BCCC constituency updated regarding the ongoing non-profit activities.

After the departure of the environmental health director from BCCC, the PI maintained contact in an effort to secure funding for a collaborative case control community health survey of Blackford County. The PI applied for external grants from national, regional, and university sources, but case control studies are expensive, the grants were highly competitive, and funding was not secured. The PI decided to shift attention to popular epidemiology as a suboptimal satisficing strategy. Along with this shift, the PI narrowed the coalition to focus on BCCC as the core partner.

The PI successfully applied to become a Scholarship of Engagement Fellow with Purdue University and used fellow funds to pay for residential soil testing for pollutants around Hartford Iron & Metal as a popular epidemiological exploration of neighborhood health issues. The first 10 of 15 soil samples were gathered by the PI in collaboration with BCCC board members as part of boundary-spanning activities between classes; students assisted with collection of the final five samples. Four of the 15 samples indicated heavy metal contamination above Indiana background levels, but none were high enough to be actionable according to EPA residential yard standards. Benzo(a)pyrene, a carcinogen, was detected at two locations, but this substance is an example of a polycyclic aromatic hydrocarbon that can come from a wide variety of sources (including barbecuing, asphalt sealcoating, and creosote-covered railroad ties); the findings did not unequivocally point to the activities of Hartford Iron & Metal. Enough pollution was found to motivate the PI to secure funding to continue with additional testing.

Popular epidemiology involves a process of activism where epidemiological findings are used to explore possible causes of community health problems to alleviate suffering and query whether (for example) cancer-related deaths might be due to pollution that has escaped official medical surveys (*Brown, 1992*). The popular

epidemiology approach tends to interpret findings in accordance with the precautionary principle that aims to shift the burden of proof from exposed communities onto producers and distributors of pollutants and to prioritize democratic over private interests in an attempt to preempt community harm. Actionable levels are lower for air than soil pollution since the point of contact between humans and the pollutants is considered to be more direct for air than for soil. Although testing air samples was previously avoided because of its prohibitive cost, tree moss has been increasingly used as an affordable surrogate for air pollution testing (*Gatziolis, Jovan, Donovan, Amacher, & Monleon, 2016*). This form of sampling underlies the previously mentioned plan for students to collect moss samples on Earth Day 2017.

Conclusion

This article has had two purposes. On a theoretical level, an attempt has been made to extend the organized anarchy paradigm to the scholarship of engagement in the context of institutional devolution and restructuring. The model proposed that scholarship of engagement can operate with some limited flexibility within classical bureaucratic chain-of-command constraints in uncertain environments. On a more practical level, the model suggests several managerial recommendations for faculty interested in reducing the personal risk involved in community-engaged research. The opportunity to engage in valuable boundary-spanning behavior is enhanced when faculty pick a complex problem worth solving, find a community partner interested in developing a transformational partnership, choose a project that can accommodate a variety of subprojects that can be realistically aligned with a 15-week semester, choose a set of foundational courses for the ongoing integration of service-learning, and identify a set of augmenting courses that are less tightly integrated into the service-learning collaboration for “filling in” as opportunities arise. Prestudy findings also indicate that the novice employ of methodologies in association with subprojects may pose risk to faculty who are expected to be methodological experts. The added workload associated with piecing together funding should be carefully considered; faculty may hesitate to invest in ongoing collaborations that are plagued by financial uncertainties.

In keeping with Butin (2010), the inability to secure funding in support of a case control study suggested that there may be an engagement ceiling for higher education that is oriented toward the public good, and that the *limits* of service-learning must be

understood in order to maximize the pedagogical possibilities. In this case, the PI shifted toward adoption of a satisficing approach to the project (popular epidemiology). This strategic shift was particularly noteworthy as a boundary-spanning behavior that reflected an internal locus of control that increased the spanner's ability to frame ideas as opportunities (Holmes & Moir, 2007). When the PI concluded that the normative "ideal" of a case control study was not possible for this particular collaboration, the PI shifted strategies to do what could be done within the boundaries posed by the given financial constraints. Nevertheless, the curricula-as-research model explores the merits of greater investment in faculty as boundary spanners despite the trend toward the increased institutionalization of service-learning. The curriculum itself may be an important factor influencing the evolution of collaborative partnerships.

A key limitation of this work is the focus on individual faculty choices for addressing complex problems that involve institutional and systemic change. Although the article is attuned to how faculty might make the best of constraining circumstances (e.g., applying for grants, shifting to more affordable satisficing models, engaging in extracurricular activities to ensure the collaboration continues between class sessions, making novice use of methodologies requested by the collaborative partners), the model is not useful for addressing the kinds of institutional cultural changes that are needed. Neither is this approach conducive to understanding how to create collective impact community collaborations for effective responses to messy problems. Although recent studies of boundary-spanner roles have emphasized the entrepreneurial function that boundary spanners play in *expanding networks* and bringing innovation in cross-sector partnerships (Ryan & O'Malley, 2016), this work has identified the way in which faculty engage in boundary spanning under pressures of constraint and *network reduction*. Sometimes coalition devolution and extracurricular activities are appropriate boundary-spanning innovations when financial pressures necessitate suboptimal satisficing behavior. In either case, whether networks are expanding or contracting, the ability to manage trustworthy networks appears to be a consistent boundary-spanning behavior that is essential to the maintenance of healthy and sustainable collaborative partnerships. Boundary spanners play an important role when they build effective personal relations and demonstrate an ability to manage in nonhierarchical decision environments through negotiation and brokering (Williams, 2002).

Future research might implement what Swedberg (2012) refers to as Phase 2 of the research process. According to Swedberg, research data enters into the overall research process at two different stages: the more familiar test data stage, in relation to hypothesis testing, and the less familiar illustrative data stage, where empirical observations are used for theoretical development. This prestudy empirically illustrated a curricula-as-research model with an ethnography of IPFW's 2-year research collaboration with BCCC in Blackford County, Indiana. Future research might execute a research design to test a model hypothesis in a context of justification. Research might also explore whether this model poses less risk to faculty and is more conducive to development of sustainable university–community collaborations than other systemic engagement models.

There are many important questions that remain unresolved in this work. The model is strong on structure and faculty motivation for investing in the individual during a time of service-learning institutionalization. The model is weak on processes and effectiveness. More specific evidence is needed to link the use of particular boundary-spanning competencies or collaborative behavior techniques to outcomes.

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