

Grounding Service-Learning in the Digital Age: Exploring a Virtual Sense of Geographic Place Through Online Collaborative Mapping and Mixed Media

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Abstract

A sense of place has been an integral part of service-learning since the field's inception; it describes one's attachment to a particular geographic place and is often a precursor to engaging in action to care for localities and their inhabitants. But practicing service-learning in online environments requires reconsidering this core value. Should the field celebrate the "liberation" of service-learning from geographical constraints, as some authors suggest, or reclaim a geographically bounded sense of place as an essential part of service-learning? The authors recommend finding ways to cultivate a virtual sense of geographic place in online learning environments to enhance a critical understanding of physical localities, better prepare service-learners to enter service sites, and deepen connections among participating students. By providing examples of online collaborative mapping and virtual community projects, this paper considers some implications for theorizing sense of place for online and face-to-face service-learning in the digital age.

"It is not down in any map; true places never are."—Herman Melville, Moby-Dick

Introduction

Dan Butin (2013) observed that the explosion of online learning in recent years has the potential to disrupt the way we think about and practice service-learning and community engagement because it demands that we rethink fundamental concepts of our work. Examining ideas that do not translate easily from traditional to online learning environments can foster important innovations in the field. Although the theory of a sense of place has been explored for decades in service-learning, it has not yet been explored with regard to online service-learning. In fact, some researchers emphasize the benefits of "freeing service-learning from geographical constraints" (Waldner, McGorry, & Widener, 2012, p.124) through online learning environments. We take the opposite approach, instead raising questions about how a

sense of place may “ground” online service-learning. In the process, we consider Clark and Young’s (2005) suggestion that service-learning scholars and practitioners should theorize place to realize the field’s full potential. Geographically grounded service-learning can improve our students’ sense of place to deepen their contributions to civic life, ensure that they are better prepared to enter their service-learning sites, and increase the likelihood that they will choose service-learning options in online courses. Failure to take the role of place seriously in the digital age (Borgman, 2010) brings the risk of losing the essential ties to real-world civic engagement that are transformative for service-learners, educators, and communities.

Butin (2013) indicates that now may be the perfect time to “make the case for place-based community-engaged learning” (para. 4). In support of this goal, this article describes the distinctions between traditional geographic and virtual senses of place as they apply to service-learning and moves a step further to explore the possibilities for cultivating a *virtual sense of geographic place* to support service-learning’s philosophical and pedagogical practice (Giles, Honnet, & Migliore, 1991) in online and face-to-face settings. Next, a case study drawn from our online courses is presented, describing our use of online collaborative mapping to illustrate the idea of virtual sense of geographic place. We conclude with recommendations for ways to integrate community mapping and mixed media strategies in service-learning courses, topics for future inquiry, and considerations for the role of virtual geographic place in service-learning and community engagement.

Theoretical Background

The Service-Learning Gap in Online Learning

More higher education students than ever take online courses, with many students choosing to combine traditional face-to-face classes with online classes and others enrolling exclusively in online classes in order to accommodate their career and family obligations without ever setting foot on a college campus. Allen and Seaman (2010) reported that over 5.6 million students in the United States are enrolled in online classes, and these authors indicated the growth of enrolled online students now exceeds enrollment growth in face-to-face classes in U.S. higher education institutions.

As Northcote (2008) noted, “Online learning environments are as diverse as the students and teachers who inhabit them” (p.

676), and it is clear that many academic content areas and learning goals lend themselves to online learning approaches. The promise of online learning is resulting in significant innovations (e.g., massive online open courses or MOOCs; for example, see *Bruff, Fisher, McEwen, & Smith, 2013*), and educators are now beginning to seriously consider how to integrate learning experiences outside the online environment into such courses. To this end, service-learning is gradually being adapted for online learning environments. Giles et al. (1991) offered the following definition of service-learning:

Service-learning is both a program type and a philosophy of education. As a program type, service-learning includes myriad ways that students can perform meaningful service to their communities and to society while engaging in some form of reflection of study that is related to the service. As a philosophy of education, service-learning reflects the belief that education must be linked to social responsibility and that the most effective learning is active and connected to experience in some meaningful way (p. 7).

However, the potential of online service-learning remains underexplored (*Waldner et al., 2012*). Further, we found fewer than 15 scholarly references directly addressing this topic listed in Google Scholar as of October 2013. The Center for Digital Civic Engagement (*n.d.*) describes this gap as well, stating, “As online teaching and learning has grown, there have not been parallel innovative developments in the field of civically engaged teaching and learning” (*para. 2*). Within this literature, a few ways of describing digital or computer-facilitated service-learning approaches are offered, each suggesting a slightly different emphasis.

- **Service-eLearning.** Dailey-Herbert, Donnell-Sallee, and DiPavoda-Stocks (2008) define service-eLearning as “an integrative pedagogy that engages learners through technology in civic inquiry, service, reflection and action” (p. 1).
- **E-Service-Learning.** Waldner et al. (2012) define e-service-learning as learning that occurs “when the instructional component, the service component, or both are conducted online” (p. 125).
- **Distributed Service-Learning.** Straight and Sauer (2004) define distributed service-learning or e-service

as instances in which the service may be in multiple communities in proximity to particular students, but the instruction is supported online or through a mix of online and face-to-face support.

Arguably, these three conceptualizations are not discrete ideas, but rather represent a continuum, both pedagogically and in terms of the complexity and reach of the programs they describe. For example, the work on service-eLearning primarily emphasizes the role of teaching, peer learning, and reflection about service-learning through online tools, whereas work on e-service-learning describes how some or all of the instruction and service-learning activities can be performed online; distributed service-learning approaches emphasize an online infrastructure to support robust on-site service-oriented activities in multiple localities. Figure 1 depicts some of the connections and distinctions among these concepts.

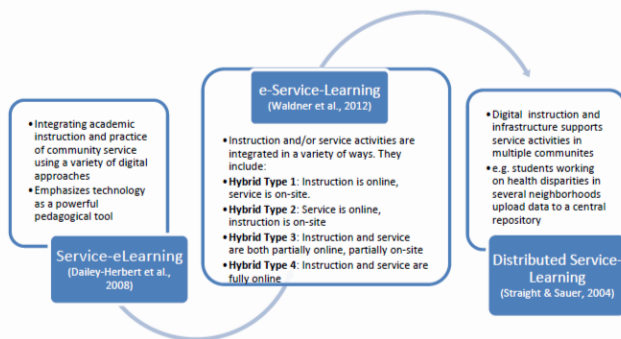


Figure 1. Interrelated aspects of digital service-learning.

Geographical Sense of Place

It will be interesting to see how aspects associated with traditional service-learning translate to online or distant learning environments. For example, traditional service-learning pedagogy privileges the local, embodied experience, particularly the direct participation of students in off-campus communities (e.g., *Clark & Young, 2005; Furco, 1996; Giles & Eyles, 1994; Sigmon, 1979; Stanton, Giles, & Cruz, 1999*). The field has long had an affinity with scholarship related to a “sense of place,” particularly as it has been used in place-based education (e.g., *Gruenwald, 2003; Smith, 2002; Sobel, 2004;*

Tuan, 1977), with the local community serving as a primary site of learning for students working to address local problems while also learning to appreciate the unique character of a community.

A geographic sense of place is often defined as our response to the unique features of a spatial locality (e.g., *Jackson, 1984; Relph, 1976; Seddon, 2004*); a sense of identity, belonging, or emotional attachment to a particular place (e.g., *Hummon, 1992; Semken, 2005*); and a sense of responsibility or care we develop for a place (e.g., *Haluzá-DeLay, 2007; Saunders & Myers, 2003*). Service-learning practitioners often consider place when interrogating aspects of privilege and power in existing social structures and the situational privilege of participants in service-learning experiences (e.g., *Hutzel, 2006; Vinson, 2013*); exploring motivations underlying environmental care and stewardship (e.g., *Covitt, 2002; Lieberman & Hoody, 1998; Russo, 2010; Semken, 2005; Sobel, 2004; Ward, 1999*); cultivating a sense of belonging to a particular place, such as a school for at-risk K-12 students, and to neighborhoods and communities more broadly (e.g., *Bausch, 2001; Steglin & Bailey, 2004*); and understanding the life-worlds of others by being with them in the places they inhabit (e.g., *Hutzel, 2006; Monikowski & Peterson, 2005; Porter, 2003*). Indigenous service-learning educators with a service-learning orientation highlight connections between indigenous knowledge systems and cultural identities (e.g., *Semken, 2005*) as part of a sense of place.

Practical-Philosophical Aspects of Place in Traditional Service-Learning

Philosopher of place Henri Lefebvre (1974/1991) noted that “spatial practice is lived directly before it is conceptualized” (p. 34). As often happens with service-learning practitioners, we first began to consider the importance of “unpacking place” in online courses because of questions and comments raised by our students. Students inevitably brought up their experiences of place in conversations about the nature of community, and it became clear that many of our online students harbored strong feelings about the city of Milwaukee, even if they rarely visited there. For example, one student noted in the online course discussion forum:

Whenever I travel to Milwaukee from Oconomowoc [a suburban area outside Milwaukee], I can see the difference in communities. The community in Oconomowoc is tightly woven with children, parents and trust. As I enter Milwaukee, I can see that the communities are falling apart. I barely see families outside playing in

their yards. It seems like it's a "bad area." One reason why I chose to finish my degree online is because I didn't feel safe commuting to Milwaukee, especially at night. Apparently, the other night there was an armed robbery near the university. I can't believe how the world has changed for the worse.

We can trace theoretical support for the place-based emphasis of service-learning to John Dewey, a founding theorist for the field (Giles & Eyles, 1994; Sandy, 2011). That Dewey might have supported discussions of a sense of place is reflected in his description of "sense-life" in *The School and Society* (1899/2010):

No number of object-lessons... can afford even the shadow of a substitute for acquaintance with the plants and animals of the farm and garden, acquired through actual living among them and caring for them. No training of sense organs in school, introduced for the sake of training, can begin to compete with the alertness and fullness of sense life that comes through daily intimacy and interest in familiar occupations. (p. 8)

Furthermore, Dewey (1927/1946) promoted the importance of place wherein the public can "find and identify itself" (p. 216), an approach that is consonant with the civic engagement mission of service-learning. In recent decades, researchers have demonstrated that a geographic sense of place is often a precursor to engaging in actions to care for a local environment as well as the people and animals who inhabit it (e.g., Cross, 2001; Russo, 2010), what HaluzadeLay (2007) called a "compassionate sense of place" (p. 1). There is a large body of work describing a sense of place in service-learning in diverse academic specializations, such as the arts and rhetoric (e.g., Hutzler, 2006; Vinson, 2013); deaf culture and interpreter education (Monikowski & Peterson, 2005); and, of course, environmental studies (e.g., Covitt, 2002; Lieberman & Hoody, 1998; McNally, 2004; Russo, 2010; Ward, 1999).

Virtual Sense of Place in Online Learning Communities

The term *virtual* is used within the context of computer science to describe activities or experiences carried on through the use of a computer or computer network, and it tends to be used when online activities or events mimic or simulate "real" experiences,

such as virtual conversations in an online chat room (*Virtual*, 2014). The term *sense of place* is sometimes used to describe how well we become attached to these virtual environments (*Relph*, 2007), such as online classrooms or the virtual world Second Life, and it can be gauged by how frequently participants engage within the virtual space and interact with others through shared activities (*Northcote*, 2008; *Relph*, 2007). Lehman and Conceição (2010) described this attachment to the virtual environment as a “sense of presence” in online classrooms. Northcote (2008) and others (e.g., *Brooke & Oliver*, 2003) have described this form of attachment as “sense of place,” and they emphasized the need for online educators to encourage the development of this sense of place by structuring learning experiences that encourage connectivity among students and instructors to build an online community where they experience a sense of belonging to overcome the disorientation and isolation commonly experienced by students in online classes. Users of this term typically emphasize the quality of the relationships among those participating *inside* the virtual learning environments, rather than connecting participants to the world *outside* the virtual environment or a common geographic location.

Toward Virtual Sense of Geographic Place in Online Service-Learning

Our review of the service-learning literature in e-service-learning, service-eLearning, and distributed learning indicates that the concepts of geographic and virtual senses of place have not been widely used in this domain and that emphasizing the advantages of being “liberated” from geographical locations altogether (*Waldner et al.*, 2012) risks creating what *Relph* (1976) and *Butin* (2013) might have called a “placeless” practice. We propose introducing a virtual sense of geographic place (i.e., an abstract representation of the real, physical world in the online learning environment) as a way to infuse place-based approaches to digital or computer-assisted service-learning.

Relph (2007) emphasized that “a mutual interaction is at work between what might be called ‘real’ place and virtual places . . . and that our experiences of real places are being changed by those same media” (p. 1). Many of us have used digital tools such as Google Maps or Mapquest to get the “lay of the land” before embarking on a trip, for example. Those tools depict “real” places we intend to visit and often provide our first taste of a place. Although virtual sense of geographic place has, in some sense, existed since the first verbal description of landmarks, these representations are increas-

ingly mediated through computer, web, and mobile technologies. We are now able to interact with real places down to very fine levels of detail, whether it is locally where we live and work or in a “trouble spot” thousands of miles away heard about in the news (Crampton, 2009). With paper maps, the level of resolution (i.e., scale and detail) were fixed and generally limited to key elements such as highways, airports, and waterways. Tools like Google Maps provide varying levels of information, including neighborhood-level boundary lines, building outlines, business names, user-added photos, satellite imagery overlay, 360-degree panoramics that show extremely fine detail (Street View), and alternate perspectives, depending on the types of tools used. The way we perceive places impacts how we act in them. Edward Soja (2000) noted that what we imagine a place to be precedes and accompanies being in place and making change, what he describes as the urban imaginary:

The urban imaginary, as it is used here, refers to our mental and cognitive mappings of urban reality and the interpretive grids through which we think about, experience, evaluate, and decide to act in the places, spaces, and communities in which we live. (p. 324)

Collectively, new technologies can afford users an almost visceral sense of what a place is like through virtual, rather than actual, interaction. Although not yet fully demonstrated, it is possible that virtual interaction with places may induce some of the same (and some different) psychological and social responses associated with physical place, including a sense of belonging or connection to a particular geography, a feeling of awe, or a deeper understanding of difficult or conflicted cultural histories (Bott, 2000) that are tied to digitally represented landmarks. By providing opportunities for students to work with participatory, digital tools to develop a virtual sense of place that informs them about the places they could engage in as part of service-learning experiences, we might better prepare them to participate in service-learning experiences. Developing a virtual sense of place might even encourage them to continue social change work in their home community or across multiple communities.

Collaborative Mapping: A First Step Toward Placed-Based Service-eLearning

The implications of a virtual sense of geographic place in service-learning are quite broad, making it important to ground

the discussion in real-world examples and achievable first steps. Employing widely available collaborative mapping technologies such as Google My Maps (<https://www.google.com/maps/d/splash?app=mp>), WikiMapia (<http://wikimapia.org>), Ushahidi (<http://ushahidi.com>), or Crowdmap (<https://crowdmap.com>) is one way to support learning opportunities that explore a geographic place, address our assumptions about geographic places while in a virtual environment, and enhance the connectivity among students in online classrooms. By definition, maps are diagrammatic representations of land or sea designed to orient us to places; they serve as a bridge between imagined representations of places that include our prejudices and previous experiences and the actual places themselves. As Powell (2010) noted, “Maps can shed light on the ways in which we traverse, encounter, and construct real, ethnic, gendered and political boundaries” (p. 553).

Collaborative community mapping (Perkins, 2007) is a recognized alternative geographical approach for developing and asserting local knowledge about place and has been used as a community organizing tool for several decades (Aberley, 1993; King & Clifford, 1985). It is designed to expose what a group of individuals think about place and typically focuses on perceived strengths and weaknesses of a community and may be used to “counter-map” or offer critical reinterpretation of existing maps (Perkins, 2007). Although not a substitute for actually entering communities, creating online community maps captures several key pieces of community awareness appropriate for those about to embark on service-learning experiences. Online maps allow students to visualize and annotate based on their current knowledge of “what is there” in communities. This might range from businesses and neighborhood hangouts to community problems or indicators like high pollution, high crime areas, and health disparities (e.g., Kramers, 2003). Through such online mapping, they can better understand the relationships between geographical features of the neighborhoods, the built structures in those locations, and the linkages between map features and their potential influence on community.

In the Open GIS Consortium, McKee (*n.d.*) describes the importance of digital mapping (maps generated using collaborative, computer-based tools) for civic engagement and global citizenship:

Taking a longer psychological, social, and historical view of every citizen, we should also research the various “media effects” of digital maps. Maps of all kinds

powerfully condition our thinking about the world beyond our immediate viewspace. Geographic information systems (GIS), which enable interactive viewing and intersection of multiple spatially coincident maps *representing diverse cultural and natural themes, promote holistic, cross-disciplinary thinking. Widespread viewing and use of geographic information potentially promote broad public global awareness* [emphasis added]. (p. 1)

To date, collaborative online mapping projects have been used with K-12 students, but have not received as much attention in college-level education (Matei, 2009; Michie, 1998). However, collaborative mapping using low-cost, low-training overhead systems such as Google Maps and Google Earth has been used with students to collect data to map health-related community information such as access to fresh food, places to exercise, and assessments of food quality in marginalized communities, although the final map making itself is typically performed by faculty rather than by the students themselves working collaboratively (Lefer et al., 2008).

Case Study: Method and Orientation

Our work to address the problem of developing a virtual sense of geographical place for our students was an iterative process—moving from a purely online collaborative mapping task to engaging undergraduate college students enrolled in online courses in a more robust discussion of sense of place considerations in the city of Milwaukee that involved a physical installation accompanied by an online map. In this article, we consider the progressive integration of online mapping technology into several classes at the University of Wisconsin–Milwaukee in the Educational Policy and Community Studies Department over a period of 4 years. The progression involved (1) the utilization of Google Maps in online-only classes (EDPOL 111/501, Organizing for Social Action/Organizing for Social Action in Urban Communities and EDPOL 114, Community Problems) as a way of teaching basic community mapping in an online, collaborative environment and (2) the creation of an online “virtual community walk” that showed the locations of a variety of community-based organizations (CBOs), combined with a physical installation of the map in the department with a QR (Quick Reference) code reference linked back to the digital instance. QR (Quick Response) codes are two-dimensional barcodes originally used by the auto industry to track vehicles during assembly and are now a nearly ubiquitous approach to providing

the general public rapid access to additional social media resources. The information can be retrieved by pointing a smartphone at the QR code, a much simpler process than typing in a website URL. This physical installation was created by a traditional face-to-face class (EDPOL 612, Community Power and Participation).

Student Participants

The majority of the 76 students in the four online courses resided in Milwaukee or the surrounding suburbs, but approximately 14 of them lived in rural parts of Wisconsin. Four other students were located in different states, including Florida, Illinois, and Arizona. Many of these students worked full-time jobs or had full-time family responsibilities. One student participated in the online EDPOL 111 class while in a study abroad program in Africa, and another student, a Milwaukee native, completed the online EDPOL 114 class while in the Middle East. All of the face-to-face EDPOL 612 students lived locally.

Course Structure

Two of these online courses would be described by Waldner et al. (2012) as Hybrid Type 1 e-service-learning courses in which the instruction is online and the service takes place on-site. As in the online service-learning programs Strait and Sauer (2004) and Guthrie and McCracken (2010) described, these students helped arrange their service site placement in collaboration with the instructor. Service-learning was optional for the online classes (EDPOL 111 and 114) and was used in place of a final research paper. The first two online courses that included the online mapping exercise did not include a service-learning component because the instructor (author Marie Sandy) had recently arrived at this university and Milwaukee, and based on recommendations of community partners involved with community-campus partnerships (Sandy & Holland, 2006), she waited until she had met with partners in person and had a sense of the local context prior to integrating service-learning in her courses. The face-to-face class (EDPOL 612) included a mandatory service-learning component.

Regarding use of student-generated content in publications, we were granted IRB approval through UW-Milwaukee to include course-related materials and anonymous student comments posted in discussion forums and surveys. Written consent was obtained for the inclusion of images of students in photographs. We also

informed former course participants via e-mail about our intention to incorporate their course-generated materials in publications.

Conversations on place and the structural inequalities rendered visible through place began through coconstructing the maps and often continued through the discussion forums as students reflected on the map-building process. Important work has already been done on the role of online discussion forums in mediating difficult conversations about inequalities of power and race, gender, and class to support service-learning (e.g., *Guthrie & McCracken, 2010; Merryfield, 2003; Meyers, 2008*), so we focus here on the generation of the digital and physical artifacts themselves.

Genesis of Concept: EDPOL 111, Organizing for Social Action

In contrast with one of the few published student community mapping projects with adult learners (*Lefer et al., 2008*), the mapping projects described here relied entirely on students to place points of interest and annotate maps both individually and collectively, scaffolding students' skill with these platforms using written instructions for Gmail account creation and Google Maps use. The exercise was designed to more deeply familiarize students with the city of Milwaukee, regardless of their physical location, as participants in these online classes. We found that these maps offered a powerful way to explore a sense of place because they "evoke relationships between place, lived experience and community" (*Powell, 2010, p.1*) and can generate a shared spatial narrative as part of the class discussions for these classes (*Elwood, 2006*). They provided a starting point for us to critique various assumptions about Milwaukee and the social, cultural, and political issues and inequalities embedded here.

The Google Maps product was first released in 2005, and the Google "My Places" feature was released in beta in 2007 and as a finalized product in 2008 (*Mihm, 2013*). In 2008, we incorporated the My Places feature into the online course Organizing for Social Action in Urban Communities (EDPOL 111). At that time, the technology was still fairly new and Google mail (Gmail) had not achieved the level of market penetration it currently enjoys. Literacy with information technology has been noted as a rate-limiting factor in the adoption of these approaches with students (*Wallace, Kupperman, Krajcik, & Soloway, 2000*). Therefore, we provided detailed instructions on how to register for a Gmail account (required to use the My Places feature), as well as step-by-step

instructions on how to create and annotate Points of Interest (POIs) on the shared group map. Initially, students were simply asked to identify at least two of their “favorite places” where they experienced community or believed it might be a good place to experience community, by placing a marker and creating a brief annotation on the map describing the place of interest.

Despite the technical problems associated with orienting students sufficiently to use the technology on their own, these approaches have the advantage of being scalable, allowing multiple users to simultaneously or iteratively place and react to POIs, paths, or areas (polygons) defined by others. Annotation can include various symbols and text, user photos, and other means, and these tools can be augmented by tools such as Google Street View. Because the students are not just interacting with their own Points of Interest but viewing a collectively constructed map with many points representing a wide variety of life experience, we were able to provide a virtual learning experience designed to encourage students to reexamine their own worldview through comparing their selections to those of other students, learning about other perspectives through the juxtaposition of their own annotated POIs and those of their classmates, and further unpacking the placement and assumptions of their POIs in the weekly discussion forums. On “gallery night,” all students were required to review all of the maps made during the semester and reflect on what these maps revealed about themselves and others in the class as well as the social and political construction of Milwaukee. One student noted in the final week of the class discussion forum that gallery night was her favorite activity of the semester. Students may also have experienced a sense of pride in what they created together.

Although most students were able to initiate the process on their own, some struggled, posting questions about how to sign on to Google Maps My Places in the online course management system (Desire 2 Learn). Peer support in online collaborative learning environments is noted as an important scaffolding strategy (*Ge & Land, 2004*). Some technical support was provided by one of the authors (Zeno Franco) but for the most part, students who were more adept at the process helped others, thus creating opportunities for greater mutuality. Students were not simply posting responses to one another about course content but striving toward the creation of a map artifact that contained content from each student in the class, what Armstrong and Cole (2002) would describe as a superordinate group goal as part of virtual work.

The course was divided into two sections for small group discussion and group projects: Section 1 created 10 place markers, and the Google My Places page for Section 1 was viewed 2,758 times as of early 2012; Section 2 created 27 place markers, and the Google My Places page for this group was viewed 4,847 times. Although both maps were made publicly available and were left open after the class ended, the gross majority of these page views occurred during the course semester. The large number of views suggests that individual students may have viewed the maps on average between 90 and 160 times, depending on their section, even though they were required to post only twice. This suggests several possibilities: (1) Students were accessing the map multiple times as they read and worked through the instructions; (2) the iterative coconstruction and somewhat more “real-time” virtual collaboration was particularly compelling for students, perhaps inducing a flow state in which they were deeply immersed in completing these tasks because the tasks were intrinsically rewarding, both challenging and appropriate for their abilities (*Choi & Baek, 2011; Eickhoff, Harris, deVries, & Srinivasan, 2012*); and/or (3) the coconstructed map was interesting in and of itself, as students considered their own and others’ favorite places in the overall context of the map of Milwaukee. We did not seek to test this, but we believe there is evidence from the large number of views on the maps themselves, as well as comments on the student discussion forums and in the student evaluations, that these collaborative maps may have enhanced the virtual sense of place (*Northcote, 2008*) or sense of presence (*Lehman & Conceição, 2010*) of these students, dramatically increasing their participation and engagement in the online learning process.

Refinement: EDPOL 114, Community Problems

In 2010, the online collaborative mapping approach was also used in EDPOL 114, Community Problems. From the start, the students’ understanding of Google Maps and utilization of the technology was more sophisticated than in the first years. They began using routes placed on the map, photos, and more detailed text annotations. The number of places described on the map increased substantially, to 120 POIs for Course Section 1 and 108 for Course Section 2. The Section 1 map received 2,326 views (see <https://maps.google.com/maps/ms?msid=214341714282976632304.00047dca143a000c0ecde&msa=0>), and the Section 2 map received 793 views (see <https://maps.google.com/maps/ms?msid=214341714282976632304.00047dcab5ddd075c1973&msa=0>). Students began

with the “favorite places” prompt for the map at the start of the semester and were later charged with identifying community assets and resources related to the particular community problem being studied every week. The emphasis of the class naturally resulted in more students creating POIs for community-based organizations (CBOs), and many of the annotations noted community issues that were addressed by these CBOs (see Figure 2).

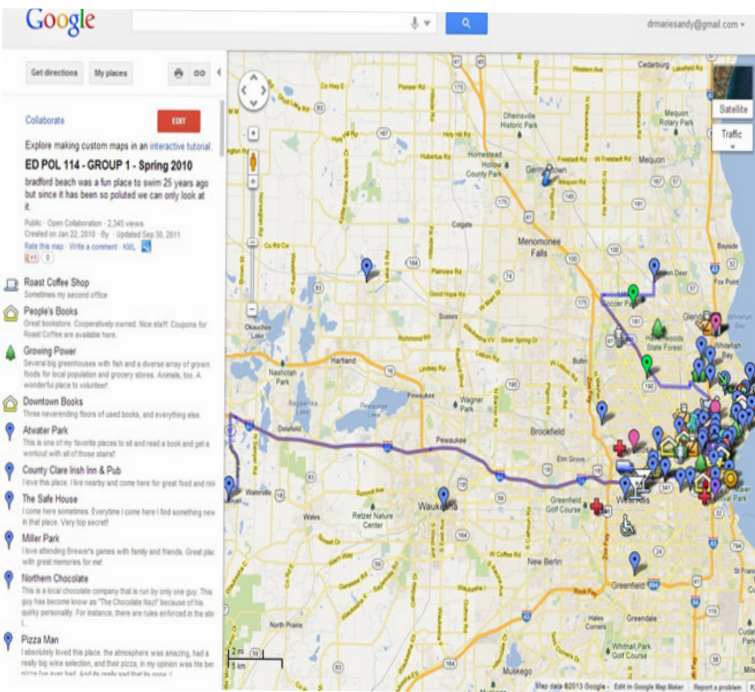


Figure 2. Screen shot of student-generated collaborative Google Maps.

For example, one student placed a marker for Sojourner Truth House, a women’s shelter in Milwaukee, annotating the POI by stating, “Sojourner Truth House is a leader in the community effort that offers every victim of domestic violence access to effective and complete programs required to achieve a life free of violence.” Although not a requirement, a number of students used the Google My Places photo embedding feature to include images of the locations described in their POIs. Most of these were published photos from the organizations’ websites, but some were photos the students had taken themselves, suggesting the potential of this platform to provide a mutually constructed photo-based narrative of neighborhoods (e.g., digital photo-voice; *Gubrium & Harper, 2009*).

The collaborative mapping exercise provided an opportunity for students to reflect on the structure of Milwaukee, which is ranked as one of the most segregated cities in the United States (*Jacobs, Kiersz, & Lubin, 2013*). Here are some of their reflections from the weekly discussion forums:

I didn't know there was a section of Milwaukee where Latinos lived! I thought it was just white and African American. (Discussion forum, EDPOL 114, 2009)

I feel like the Milwaukee area is a set of different communities, it's highly segregated and every area feels like a new city or town. (Sense of Place questionnaire, EDPOL 114, 2013)

Milwaukee is a place I have lived my entire life, and just now have started to truly understand it and how the city really works. For a long time I was blind to the blatant segregation in this city. But even that has its positives in people have a sense of place and where they belong, it may not be right, but it still gives people a sense of belonging. I love this city and every day I am learning more about it, it has such an interesting history, and a unique style. (Sense of Place questionnaire, EDPOL 114, 2013)

I liked learning about the organizations that the other students in my map group posted. And the restaurants. (Discussion forum, EDPOL 111, 2012)

Another student who had a reading-related learning disability indicated that the map exercise was her favorite part of the course (EDPOL 114, 2013). The spatial mapping exercise may have drawn on some of her strengths as a learner.

Although we did not specifically ask students why they chose to do service-learning, some anecdotal evidence indicates that online mapping can help encourage students to select service-learning in online courses. In the two courses that included a service-learning option, six students (out of a total of nine) indicated in discussion forums and in follow-up conversations that the mapping exercise persuaded them to choose service-learning rather than the final

research paper option. In one instance, the mapping exercise encouraged the student to select a different service placement. For example, some of their comments included the following:

I know more about the [homeless services organization] neighborhood now, so this is the week I posted [on the online map] the most. I'm excited to go there! (Discussion forum, EDPOL 114, 2011)

It [online map exercise] helped me know about where there are lots of pins [organizations] and where there isn't much. I wanted to go to where I would make a difference [i.e., a location with a lower density of organizations]. (Final Paper Reflection, EDPOL 612, 2012)

Two students who selected the service-learning option lived in rural Wisconsin and did their service-learning work there (i.e., distributed service-learning). One indicated that the map exercise encouraged her to learn whether or not their local mix of organizations and resources was similar to that in Milwaukee (*personal communication, October 16, 2013*).

Creating a Recursive Digital Map/Physical Map Installation Loop: EDPOL 612, Community Power and Participation

In 2011, students in EDPOL 612, Community Power and Participation, a traditional, face-to-face class, began linking the online mapping projects created by the students in online courses with a physical map installation focused on a more practical problem, describing the locations and areas of emphasis of various CBOs in the city of Milwaukee to help students on campus learn about potential sites for service-learning and internship opportunities. This artifact took the students approximately one month to complete after they drafted the basic idea. One master's student was an art major and helped lead the design and physical installation, and two undergraduate students led the technological aspects of the project (see Figure 3).



Figure 3. Photograph of physical map installation with online community walk projected on wall next to it in left-hand corner.

Efforts to map CBOs and visually describe information about their services and interrelationships are at the forefront of community informatics efforts nationally and internationally (e.g., Aronson, Wallis, O'Campo, & Schafer, 2007; Gwede et al., 2010). From a pedagogical perspective, Buxton (2011) suggests that "transmedia" applications involving location awareness such as the one developed by these students have "trickster" characteristics that can enable alternative ways of knowing, learning, and teaching. Buxton observes:

These leading-edge e-learning formats allow us to meet the requirements of mainstream education standards and formal processes, while also reactivating spaces and places in our neighborhoods. It may be possible to combine situation-based learning with more general community development initiatives. (p. 150)

Instead of using the Google My Places tool employed in previous courses, students in this class elected to use the CommunityWalk website, a Google Maps mash-up that provides more sophisticated sorting of POI categories to create a virtual map for a number of CBO locations in Milwaukee (see http://www.communitywalk.com/milwaukee/wi/uwm_community_organizations/map/1451544). The students described this approach as a mixed reality (see Buxton, 2011; Drascic & Milgram, 1996) virtual community walk. Drawing on some of the principles associated with collaborative mapping, Drascic & Milgram (1996) defined mixed reality as lying “between the extremes of real life and Virtual Reality... in which views of the real world are combined in some proportion with views of a virtual environment” (p. 123). The students’ mixed reality installation involved the map installation on the fifth floor of Enderis Hall, which serves as the physical artifact, and the CommunityWalk virtual companion map, which serves as the digital artifact. The two artifacts describe different aspects of the same place—the “on the ground” reality of Milwaukee itself, which can never fully be captured by any single artifact. The physical map is static, yet describes in somewhat more detail the physical nuances of the city (e.g., green spaces and inland waterways were visually highlighted in the physical map). In contrast, the CommunityWalk map is a digital artifact of the same space, offering dynamic markup and visualization tools. Because the physical map links to the digital artifact through the QR code, students are encouraged to interrogate the actual physical reality of Milwaukee using different media, perhaps allowing a deeper understanding of place than one mode would offer on its own. We describe this process as mutually self-referencing, as each artifact represents facets of the actual object that are different yet ultimately reference the same thing.

The virtual community walk designed by students enabled users to (1) search by CBO service categories generated by the students such as social justice, education, arts, health, and community organizing; (2) search/sort categories in the online community walk application and display how they matched the physical installation map legend (discussed below); and (3) display POIs in the online environment visually categorized by color and shape, allowing users to immediately see which locations provide similar services. Fifty POIs were placed on the physical map installation, and the online map for this class was viewed 71 times during the semester—a notably smaller number of views than for the online learning classes. This may be because the final product was due at

the end of the semester, rather than having been an embedded activity throughout the course.

The students in this class replicated their virtual map with a physical map installation in the Department of Educational Policy & Community Studies, creating a recursive loop between a digital and physical artifact. The physical map included a large QR code (see Figure 4), allowing people viewing the physical installation to immediately navigate to the online map, and provided a graphic that mimicked the CommunityWalk webpage POIs. QR codes allow anyone with a smartphone to instantly connect to more detailed information on the web about a particular topic.



Figure 4. Close-up of QR code on physical map installation.

The use of QR codes in social marketing has become a near ubiquitous way of conveying context-aware information. QR codes have enjoyed considerable popularity with younger, technologically savvy students; however, this technology can also improve the utility and “findability” of web resources for other populations who may not be as technologically aware, with potentially significant implications for future collaborative mapping efforts that involve the community (Chang, Wang, Tsai, & Chu, 2007; Chen & Choi, 2010). For example, Chen and Choi (2010) noted:

The emergence of geographic visualization and location aware technologies provides educators and teachers with an opportunity to design more effective instructional materials. A new generation of online tools, such as social networking, annotating and sharing as illus-

trated by Facebook, Evernote, Qik, Mandelay, or Diigo, *has transformed the unilateral relationship between users and content to a multilevel, many-to-many network of ties between individuals, content, locations or other individuals* [emphasis added]. (p.13)

For the students enrolled in this course, creating the elements of the project, gathering information about the community organizations they wanted to include on the virtual community walk, and annotating the maps provided an opportunity for in-depth, geographically grounded learning that oriented them to Milwaukee as a whole, made them aware of the community assets within the city, and allowed some initial exploration of the relationships between geography and the various problems faced in specific neighborhoods.

Although this installation was designed by students in a traditional, face-to-face class, they were very aware that prior iterations of this project had been done in online classes, and they recognized that part of the power of this project lies not only in the ability of a single class to collaborate, but also in the longitudinal development of the project, both in terms of the specific strategies employed and the content that might be curated and expanded upon in the virtual mapping environment. Thus, the ability to “link back” to the online map from the physical map installation was a crucial feature (see Figure 5).



Figure 5. Student Cherise Garner accessing QR code of physical installation on her smart phone.

Students in the face-to-face course could interact with the maps online through the course, but could also see and interact with the larger, more traditional physical map in the department. This process more directly draws the connection between the tangible and virtual, highlighting what types of information are better conveyed by each medium. Work on this project continues. In the fall 2012 semester, a fully online version of the Community Power and Participation class extended the Virtual Community Walks project initiated by the previous face-to-face course by adding links and categories to the map so that it might become a longitudinal project that is continually updated by students in our department. These students opted to include resources for students who are also parents with limited incomes. Therefore, more on-campus and community resources were included.

In addition to increasing their awareness about Milwaukee, we believe this ongoing project may possibly deepen the connection our students hold with one another and to our university. At UWM, fully online students and face-to-face-only students rarely have opportunities to interact; through this project, they were able to positively impact the university by creating a bridge to local community infrastructure through a physical and virtual installation designed to serve the community as well as higher education faculty, staff, students.

Discussion and Conclusion

Finding ways to value a sense of place in online learning and traditional service-learning practices can increase the likelihood that students will enhance their sense of belonging to particular geographic locations; it can also encourage active participation in the stewardship and care of localities and their inhabitants. A sense of place is relevant for all service-learning practice because it is a core concept of the field, but practitioners should consider whether or not the specific tools we describe in this article are appropriate for their particular course or program. Walking tours and other on-the-ground experiences may be more appropriate ways for some face-to-face service-learning courses to nurture a sense of place, for example. But intentionally working to incorporate a virtual sense of geographical place into e-service-learning and traditional service-learning by using online collaborative maps or other mixed media experiences is a powerful way to bring place to the foreground by providing a changing, dynamic visual representation of the institutions, contexts, and power relations in a particular location from polyvocal perspectives.

Our multiyear effort described here illustrates the progression of our efforts to engage students in online learning and e-service-learning classes in meaningful learning activities to deepen their sense of connection to their virtual learning environment, enhance their geographical understanding of the city of Milwaukee, and support their success in service-learning placements. Using this readily available technology to produce mutually constructed artifacts, we were able to substantially increase participation and engagement in our online classroom, and students were able to represent diverse narratives about Milwaukee in the same visual field through their collaborative maps, providing a sense of our students' "lived landscapes" (*Seyer-Ochi, 2006*) through this expression of virtual geographic place. Online students seemed to have been more likely to select service-learning options, and our face-to-face class was able to produce an artifact that helped link our online and face-to-face learners by enabling them to share knowledge about community-based organizations interested in hosting service-learners and interns.

Based on these experiences, we see a number of potential applications for online mapping tools designed to enhance a virtual sense of place for service-learning participants in online courses.

Collaborative Mapping as Part of Orientations for Service-Learning Placements

Traditional windshield and walking tours of neighborhoods are often incorporated as part of traditional service-learning orientations (e.g., *Rabinowitz, n.d.*), and online mapping experiences could function as a meaningful translation of such tours for online learning students. Online mapping may be equally appropriate for traditional face-to-face service-learning courses as well because virtual exploration often precedes or accompanies physical exploration for many people. Because they can help build an understanding of and sensitivity to the social context in which service work will occur, these experiences lend themselves to service-learning in a wide array of academic disciplines: business, nursing, education, environmental studies, urban planning, and so on. Additionally, some of the mapping exercises described here can expose students to a wide variety of organizations, enabling them to choose service sites that they might not have otherwise considered.

Lack of familiarity with certain neighborhoods, including basic logistics such as where to park safely or access public transportation, can pose barriers for some students. For service-learning

courses that involve on-site placements, mapping experiences can be used to help familiarize students with aspects of the physical infrastructure of a relevant site. Although cultivating a virtual sense of place may appear less important for “extreme” e-service-learning experiences that are fully online, it would still be helpful for students in such courses to gain a better understanding of the lived context of the people they serve, even if they never have the opportunity to meet them.

Encouraging Online Students to Select Service-Learning Options

We have found some anecdotal evidence that participating in these mapping exercises at the start of the semester may encourage more online students to choose service-learning options. There is some evidence (i.e., *Reed-Bouley & Hoss, 2013*) that students who select service-learning in online courses are stronger students academically. The field may benefit from additional tools to entice a broader range of students to engage in this powerful pedagogy. This is an area that warrants additional research.

Providing online collaborative mapping experiences might also enhance the overall quality of online service-learning courses by increasing the amount of time students spend interacting with one another, thereby enhancing their connection to their virtual classroom environment.

Documenting Student Understanding of Place for International Service-Learning and Alternative Break Experiences

Cultivating a virtual sense of geographic place through online mapping might be utilized as an orientation component of international service-learning courses for which walking tours prior to the service-learning experience itself are usually not feasible. Powell (2010) described how students in her Pennsylvania State University course learned how to map urban neighborhoods in Panama City while still in their U.S. classroom *before* they traveled to Panama and then continued their mapmaking efforts with local residents. This work served to highlight the residents’ lived experience of the built environment, environmental conditions, and public infrastructure as part of the students’ work to analyze community development project proposals. Most international service-learning projects will probably not be able to incorporate map products to this extent.

Although the authors did not use online mapping tools in this way, we also imagine that they might be useful tools to help ground student reflections by allowing them to annotate important aspects of their felt experience in specific locations during their international service-learning assignments. Similarly, online collaborative mapping might also help service-learning students involved with alternative spring breaks. The novelty of this format as a reflection tool might inspire new ways for students to think about their experiences together.

Deepening a Sense of Place for Civic Engagement

Preliminary data from the survey implemented in one course (Summer 2013) indicates there was promising movement on a positive sense of place. However, the sample size was too small to show statistically significant differences in the pre- and post-tests. We will continue to implement a pre- and post-assessment tool on a sense of geographic place (*Bott, 2000*) to learn how participating in these collaborative online mapping experiences impacts student experience of place. We are especially interested in learning how developing a virtual sense of geographic place about Milwaukee might deepen students' sense of care toward or their desire to learn more about other locations. This is a critical point since we wish to understand the transferability of virtual map work (for example, with rural students not able to come to Milwaukee).

We are also concerned with identifying new ways to invite community audiences to participate in our work to enhance local civic engagement efforts. In collaboration with UWM's Center for Community-Based Learning, Leadership and Research, we expect to conceptualize and implement a Virtual e-Service-Learning Task Clearinghouse that will provide a user-friendly platform through which community-based organizations can describe community mapping needs so these tasks can be matched with students—potentially from several disciplines—with the skills to complete these digitally supported service projects.

Reflecting on these activities compels us to think about the larger context for place in service-learning-inspired philosophy and pedagogy. Against the backdrop of increasing globalization and the international emphasis of our work, it is important for the field to reconsider the meaning of the local and a sense of place. Because they are often perceived as “placeless,” global electronic networks and technology available through the internet may be an arena that

can accommodate such examination. In view of Clark and Young's (2005) perspective that the transformation of place over time is the ultimate litmus test for the efficacy of service-learning, rather than the transactional effects on individuals involved, the field may need to identify new ways to assess the long-term impact of online service-learning and traditional service-learning on localities.

One cannot be certain what John Dewey might have thought about forms of service-learning that are not situated in "real" places involving face-to-face interactions with others. We know that he "acknowledged (and lamented) the demise of local community" (Giles & Eyster, 1994, p. 81) and was aware of the growing impulse to escape the confines of local "territorial associations" through the use of technology. Dewey (1927/1946) expressed hope that the benefits of distant interactions and work experiences could enliven and "flow back into local life, keeping it flexible" (p. 116) but stressed that distant experiences and relationships *on their own* are no substitute for local face-to-face interactions, writing:

It is said, and said truly, that for the world's peace it is necessary that we understand the peoples of foreign lands. How well do we understand, I wonder, our next door neighbors? . . . The chances of regard for distant peoples being effective as long as there is no close neighborhood experience to bring with it insight and understanding of neighbors do not seem better. . . . Democracy must begin at home, and its home is the neighborly community. (p. 113)

With this in mind, perhaps we should strive for a better balance between the flexibility that new platforms for service-learning offer and a sense of the local. This could mean invoking a more intentional sense of place and an emphasis on "the local" for online learners by relying more on virtual tools such as collaborative online mapping for traditional face-to-face classes to enrich the sense of place for our students. There is no definitive path for how to get there, however. Like the service-learning pioneers who "made their road by walking," we may need to revisit some of our founding values and principles as guides, even if, as Butin (2013) notes, the "traditional models and norms no longer apply so easily or thoroughly" (*para. 24*) for service-learning in the digital age.

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