Mapping Hunger in Maine: A Complex Collaboration

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Abstract

Lewiston, Maine faces many challenges including food insecurity. In response, local educational and community organizations initiated the Local Food for Lewiston project (LFL). Here we report on the collaborations that make up LFL including the community-academy collaborations of the project and an innovative service learning collaboration at one of the LFL colleges which involved students from an Applied Social Policy class and a Geographic Information Systems class working together to assess food availability. LFL can be a model for addressing complex community needs.

Introduction

Lewiston, Maine has much in common with other post-industrial cities in North America. Closed businesses, empty mill buildings, and pawn shops contrast with the vibrant colors of dress and new (for Lewiston, at least) languages of the growing immigrant community. A Somali restaurant sits kiddy-corner from a hot dog stand. French, the language of Lewiston’s immigrants from the last century, is still spoken on the street by elderly residents but is, in all likelihood, not even understood by their grandchildren in the local schools.

Lewiston has never been a rich city. However, the closing of the mills in the 1960s and 70s reduced its industrial base and brought increased unemployment and poverty. Since 2001, the demographics and cultural make-up of Lewiston have changed dramatically with the influx of nearly 4000 migrants from Somalia. The area has also experienced economic expansion driven, at least partially, by the region’s colleges and hospitals.

Since the summer of 2001, in response to obvious social needs and rapid cultural changes, several projects have been launched to address the rapidly changing requirements of Lewiston’s residents. Perhaps of necessity, given the lack of information initially available, these efforts generally began with a limited focus and a uni-dimensional approach. Often they utilized expert derived consultation and analyzed using deficit models. They also tended to be aimed at problem analysis, as opposed to community capacity building. These shortcomings were particularly evident in the immigrant community. The same families were evaluated repeatedly, and most studies reached only those community members sufficiently well stationed, comfortable with Western culture, and familiar with English to be accessible to academics. Further, many interventions followed crisis response models, rather than addressing the community’s long term needs and assets.

Sprouting from this diversity and change, a recently-formed innovative collaborative is joining students and faculty from different disciplines and from local public and private colleges, with community members and non-profit agencies to develop a comprehensive cross-disciplinary assessment and change plan for Lewiston around the issue of food insecurity. The collaborative project, Local Food for Lewiston (LFL), has already begun a comprehensive community assessment of food resources and insecurity.
which views the changing Lewiston area at many levels; involves community members, students and faculty; integrates community organizations as partners; and aims to recognize and evaluate as much of the population as possible. LFL seeks to arrive at long-term, community-derived, community capacity building solutions to the problem of inadequate food access in Lewiston through innovative cross-disciplinary programming, education, and collaboration.

This article discusses the multi-level collaborations that make up LFL. In presenting a model of multilevel collaboration as an ideal model for responding to community needs, we view our experience as an instructive work in progress. We describe the collaboration among academic institutions, community members, and non-profit community organizations that is the foundation of LFL. We also discuss an innovative cross-disciplinary service learning project that contributed to LFL and involved collaboration between the students in a social policy class taught by one of us and those in a geographic information systems (GIS) class taught by the other.

The Setting

Lewiston, Maine: Located on the banks of the Androscoggin River in central Maine, Lewiston has been a mill town since the early 19th century. Textile and shoe mills in Lewiston and sister city Auburn, provided jobs that drew first Irish and later Franco-American immigrants until the mid 20th century. The closure of these mills brought a decline not only in Lewiston’s living standard, but in its population as well. In response to this challenge, beginning in 2001, city leaders encouraged the resettlement into Lewiston of primary and secondary migrants from several African countries, most notably, Somalia. This process, which has not been without its frictions and incidents (CBS News, 2002), has literally changed the complexion of Lewiston so that now over 10% of the city’s population is Somali. Some of the Somalis arriving in Lewiston have required social services including housing and job assistance, healthcare, and English language training. These requirements challenged the city already strained by responding to the social needs of Lewiston’s longer-term residents – 23-40% of residents in Lewiston’s downtown census tracts lived below the poverty level in 2000. It was against this backdrop that the LFL Project was initiated.

The Local Food For Lewiston (LFL) project: Although only in its nascent stages, LFL is a multi-institutional, interdisciplinary service learning project already demonstrating the power of collaboration to cross disciplinary boundaries, cultivate community capacity, enhance student learning, and reinforce community-college relationships. LFL is a project of the Downtown Educational Collaborative (DEC), a collaboration of the four institutions of higher education in the L-A area, The University of Southern Maine at Lewiston Auburn (USM/L-A), Bates College, Central Maine Community College, and Andover College, as well as several community organization partners and Maine Campus Compact. DEC was initiated in the fall of 2005 at a North East regional Campus Compact conference dedicated to fostering such partnerships, and has been actively developing cooperative civic engagement projects since then. At a critical stage of DEC’s maturation, The Sisters of Charity Health Systems (SOCHS), the parent organization of several health related entities in the Lewiston-Auburn area, approached DEC with an interest in assessing and responding to the complex nutritional needs of the Lewiston area. Lots to Gardens (LTG), a subsidiary of SOCHS that promotes community gardens, nutrition education, and youth programs had particular interest in conducting an extensive asset and needs survey of the Lewiston area, focused on promoting community capacity and responding through community centered creative solutions. Parallel to these discussions at the DEC collaborative, significant related community engaged action research was taking place at USM/L-A. This work complemented the mission and interests of the budding LFL project.

The University of Southern Maine at Lewiston-Auburn: USM/L-A is a community-based campus of the University of Southern Maine. Founded in 1988 in response to local
demand, it has developed to meet the needs of its community and region. USM/L-A offers four interdisciplinary undergraduate majors including Social and Behavioral Sciences (SBS) and Natural and Applied Sciences (NAS) programs, as well as several graduate degrees, and programs extended to USM/L-A from other USM campuses. Situated in Lewiston, the campus serves 1250 students, all commuters. In addition to being “non-traditional” in age (average age is 30), most of USM/L-A’s students are female, first-generation college students. Many are also single parents. USM/L-A students routinely juggle college classes, employment, and family obligations. Consequently, it is paramount to the college’s mission that the curriculum be relevant to the lives of its students and to their needs in developing skills and knowledge necessary to succeed in the community. USM/L-A also prides itself on being a leader in community-engaged action research. A substantial community-based internship is required of all students, numerous pivotal classes afford extensive opportunities for service learning, and civic engagement is recognized in the tenure and promotion process for faculty.

Two Courses and Their Collaboration
Although there are numerous opportunities for service learning at USM/L-A, the project we describe here, which is part of LFL, is unique because it involves collaboration among students and faculty from two very different classes. These classes are the Applied Social Policy (ASP) class required in the SBS major, and the Geographic Information Systems (GIS) Applications course, extended to USM/L-A from the Geography/Anthropology Department in the USM College of Arts and Sciences and required of the Environmental Issues concentration of the NAS major.

**Applied Social Policy:** ASP is an upper level course that immerses students in civic engagement projects. These projects are defined by small student groups under the auspices of a community agency and are “aimed at positive community change.” Students are guided to view the community via its own definitions of issues and from a strengths perspective; work from an awareness of the community’s history and culture; reflect on the role that their knowledge brings to their perceptions; and be flexible, collaborative, and realistic when formulating solutions. Students typically work 10 – 20 hours a week on their ASP projects, which culminate with a group paper discussing their community work in the context of principles of applied social policy and the current literature in the field.

Two cohorts of ASP students have been involved with the LFL project thus far. In fall 2006, students found that in Lewiston: 1) the people most vulnerable to food insecurity lived in specific downtown census tracks and public housing projects; 2) full grocery stores were not located in the general areas where Lewiston’s most vulnerable residents lived; and 3) public transportation was spatially and temporally limited. The next step in the service learning contribution of ASP students to the LFL Project took place during spring 2007. Students were asked to develop an assessment of the location and nature of Lewiston’s food resources, as well as of the location and number of people with varying nutritional needs. To identify and locate the food resources in the Lewiston area, a team of ASP students located all the major food resources in Lewiston, noting the street addresses of these locations (for GIS mapping), and completing a survey about the resource. This survey included information about availability and prices of foods, including produce and cultural foods.

Following a plan of their own design, the ASP students identified every store, restaurant, variety, deli, soup kitchen and food pantry in the city. In so doing, they acquired knowledge about the available food in Lewiston and the factors which affect accessibility to food. As expected, few of the small stores downtown have much variety in fresh produce or culturally appropriate food. Of those that do, the prices of the produce are usually high and the choices limited. What seemed to be unexpected to the students was the various ways that accessibility could be compromised. During the winter months, students found access to stores obstructed by snow. There were also instances where the atmosphere surrounding the store made students uncomfortable.

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GIS Applications: GIS are digital systems that permit the simultaneous overlay and display of multiple spatial data sets and the integrated analysis of the information they contain. GIS is becoming increasingly popular as a tool in social science research where it can be used to analyze the spatial relationships among various aspects of the built environment (e.g., population distribution, public transportation routes, and locations of food availability).

The GIS Applications course taught at USM/LA is an introductory course, the purpose of which is to introduce students to basic GIS techniques and to teach important concepts of spatial thinking (National Research Council, 2006). Students undertake two class projects. The first project involves data symbolization and display, using datasets that the instructor provides to the students. The second project involves data analysis and requires that the students find or generate some of their own datasets. Both projects are based on questions pertaining to Lewiston. This has the effect of allowing students to learn about their community as they acquire GIS skills. Students generally enjoy working with local datasets and find the results they obtain more meaningful because they are familiar with the area.

In their second class project, GIS Applications students were tasked with collaborating with ASP students to display and analyze the information that the ASP students collected about food availability and insecurity in Lewiston. The instructor provided some data sets and help with problem solving, but did not specifically dictate the direction of the work. At the end of the semester, students presented their results in the form of an electronic slideshow to the two instructors and to the ASP students. They also submitted their project in a format readable with the GIS software and presented a project journal outlining the specific steps they took to complete the project.

Student participation in collaborations: Students from both courses met multiple times to coordinate activities and map out a strategy for integrating their efforts. Students visited each others' classes, and both met in person and communicated electronically outside of class. Both faculty and students were present for the final presentations made in the collaborating class. Students also attended and participated vigorously in LFL meetings, for many, providing their first experience in working with a community organization of this type.

Completing this project required students to collaborate with others in their class and with students in the partner class. The GIS students turned the ASP students' data into mapped locations and the ASP students used these maps for social policy analysis. These sorts of collaborations mimic real-world projects — people with GIS expertise frequently interact with others who have no background in GIS, but desire to see it used as a tool in a project of interest (Suárez-Balcazar et al., 2006). Similarly, social policy analysts and advocates are frequently called upon to use technical data for policy planning. The LFL project also illustrates the use of GIS to address social justice issues (Hammar et al., 2002). Utilization of such vivid maps as GIS affords as a tool of public policy advocacy may be one of the most powerful results of this collaborative project.

The differences in perspectives of the GIS Applications and ASP students closely approximated those seen in collaborative real-world projects that include a GIS component. GIS Applications students readily accepted and used 2000 census data for Lewiston because it is available, robust, and authoritative. They were cognizant of the amount of recent change in the city but understanding the technical limitations on other data sources, generally found the older data acceptable. Perhaps because they had a greater knowledge of the importance of the demographic changes that Lewiston has recently undergone, but less understanding of the technical aspects of the census data that make it attractive for GIS mapping, ASP students were less ready to accept 2000 census data. On the other hand, both groups of students were very excited when seeing the food venue information collected by the ASP students mapped by the GIS Applications students. ASP students were most pleased to see a visual representation of their work and drew conclusions from this visualization that they had not previously appreciated. GIS Applications students, by contrast, focused more on the technical aspects of the mapping work.

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The GIS professor’s assessment of the final project was mixed. Students did an excellent job of defining and displaying Lewiston’s public transportation system, displaying the final venues identified by the ASP students, and determining which stores were within walking distance of public transportation. They did not make as much progress on analysis of the proximity of Lewiston’s vulnerable population to stores and public transportation. This probably reflects the fact that students were working with datasets that they found or developed themselves. The extra time that they expended on overcoming the inevitable (with GIS) technical problems associated with data format, meant that they had less time to perform analysis. This did, however, give students a very realistic experience in working with real-world data sets, and several students remarked that they understood the value of this experience.

The ASP parameters of this project also exhibited strengths and challenges. The students did a marvelous job of locating and assessing the food resources in Lewiston. They enthusiastically evaluated the quality of these resources and developed comprehensive analyses of the many facets of accessibility. However, where data were less clear and required extrapolation, students were less able to overcome obstacles. This hurdle too reflects real world challenges of working with limited information and dated assessments. It is hoped that in the continuing work of this project and the continuing development of information afforded through the cross-disciplinary analysis, these issues will also be innovatively addressed.

Discussion

Service learning, collaboration, democracy and interdisciplinarity: Service learning, along with its relatives action research and civic engagement, is increasingly recognized as a valuable instrument for pedagogy (Ziolkowski, 2002); source of academic institutional enhancement (Reardon, 2006); and avenue for self expansion for students (Brody and Wright, 2004) and faculty (Hodge et al., 2001) alike. Utilizing tools of reflection, journaling, supervised intervention and analysis of group processes; instructors in such fields as social work (Anderson and Harris, 2005; Bronstein and Kelly, 1998), psychology (Reifstech, 2002), public health (Blumenthal, Jones and McNeal, 2001), and occupational therapy (Mosekowitz et al., 2006) have found that the incorporation of community practices in their teaching enhances students’ understanding of policy and theory (Anderson and Harris, 2005) and practical clinical skills (Bronstein and Kelly, 1998). Service learning also presents opportunities for students to learn team building, interdisciplinary communication, group dynamics, collective problem solving, cooperative leadership (Anderson and Harris, 2005; Goodrow, Scherzer and Florence, 2004), and community organizing (Hamel, 2001).

The positive effects of service learning are seen in improved campus morale, student camaraderie, faculty unity, and sense of effectiveness (Hodge et al., 2001). The collaborative work generated by service learning projects can also provide a powerful buoy to faculty and community partners who may feel frustration, isolation, or disillusionment (Hodge et al., 2001) under the conditions of high workload and insufficient resources in which they work. For example, a recent collaborative service learning project conducted between USM/L-A and a local elementary school district allowed the sharing of resources and staff while fostering student energy and community engagement (Baskett et al., 2005). These facets are vital in this time of limited budgets in public education, particularly in low-income areas. Recognizing this reality, the LFL project aims to share resources among partner institutions and maximize innovative problem solving approaches by utilizing student energy in evaluating and addressing Lewiston’s nutrition needs.

As opposed to more traditional pedagogical methods that rely on static academic resources, service learning projects present a fluid community as “text” (Blank, Johnson and Shah, 2003) where students learn and directly apply their skills. These projects not only deploy university resources to maximize community motivation (Goodrow, Scherzer and Florence, 2004), but also act as vehicles of community empowerment. Thus, because of their organic derivation from the community, collaborative service learning projects exemplify the academy as an agent of democracy (Campus Compact, 1999) and are consistent with Boyer’s (1996) “Scholarship of Engagement” philosophy, which highlights academic-community collaborations that build...
community capacity and foster reciprocal learning (Reardon, 2006). True collaborations of mutuality, across disciplines and in partnership with community members, are critical to the role of service learning in the democratic processes (Hodge et al., 2001) because they recognize the impact of service learning work on the locale and its people as valuable and meriting evaluation.

Interdisciplinarity may also be vital to successful collaborative service-learning projects. Indeed, collaborative projects that reach across societal and cultural boundaries are inherently cross-disciplinary. These projects are particularly valuable from the perspective of the academy because they allow diverse learning styles to be accessed (Kohl, 1984), multiple competencies to be utilized, and creative approaches to be maximized. As most social problems, including hunger, derive from complex interactions of systems, multi-level interdisciplinary collaborations also make sense from a community perspective given the goal of viable and sustainable solutions (Moskowitz et al., 2006). The issue of hunger in Lewiston derives from problems with poverty, public health, mental health, immigration, urban development, civic development, social welfare, public education, resource availability and social policy. It follows that only a comprehensive collaborative, community based project, which assesses the issue through all these lenses and addresses it from multiple angles has any chance of success. The LFL project, having been initiated by the community and functioning through established community partners (the DEC collaborative), fits this interdisciplinary model and holds every promise of fulfilling these theoretical ideals.

GIS, food insecurity, and social justice: Food insecurity is associated with poor diet and thus with poor health, particularly for people burdened by low socio-economic status. However, despite its importance, food insecurity remains difficult to measure (Webb et al., 2006). Lack of accessibility to food in general, and healthy food in particular, seem logical contributors to food insecurity. GIS is certainly an excellent tool to study some aspects of food accessibility. However, simplistic measures of food accessibility such as distance or travel time to the closest store do not always impact dietary choices (Pearson et al., 2005). This suggests the necessity to develop more complete measures of food accessibility that use GIS to consider other factors including store type (Block and Koubek, 2006), the availability of both unhealthy and healthy food (Pearce et al., 2007), and even season (Nord and Kantor, 2006).

In this project we asked social policy students to investigate a range of factors about food venues. We then asked GIS students to map this information and to begin the process of analyzing it relative to population demographics and availability of public transportation. Thus, by working together, these two groups of students were taking the first steps toward creating what we hope will become a realistic model of food accessibility in Lewiston, Maine. We also had a larger educational agenda for this project. We sought to teach basic concepts about geography and social justice. GIS is recognized as a valuable tool to teach fundamental skills in spatial thinking (National Research Council, 2006). However, because of its reliance on complex software and proprietary datasets, GIS is sometimes viewed as inherently elitist. By contrast, the technology is increasingly being used in what is referred to as participatory GIS (PPGIS) to study social justice issues and advance social justice agendas (Warren, 2004). The goal of this work is to reverse the historical reality that landscapes have often been defined by the powerful to their own advantage (Mitchell, 2003) and to institute what some have called urban environmental justice (Harner et al., 2002).

The use of GIS to study social justice issues and advance social justice agendas commonly occurs in an interdisciplinary, collaborative setting that includes university-community partnerships (Suarez-Balcazar et al., 2006). Because these projects involve real-world problem solving and critical thinking, they represent particularly valuable learning experiences for students (Eismar, Gelbster, and Morales, 2001). The project on which we report here models these uses of GIS in that the technology was applied as part of an interdisciplinary collaborative project that was directly connected to community social justice work and made use of student-generated real-world datasets. The end product was not as technically complex a GIS project as it might have been if the students had been using simulated data supplied by the instructor. However, this deficiency was more than compensated for by the fact that students had the experience of

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working in an interdisciplinary group, generating original data, and working with the real-world data sets that they generated.

Conclusion
Collaborations are partnerships - relationships. They bring together strengths and knowledge in a unique manner and with a resounding balance that mutually enriches the partners. A true collaboration is inherently democratic, for to be thus effective, it must be mutually derived, guided, led and evaluated. At their best, community-college collaborative projects rely on institutional, organizational, and social support; an integration of values; and shared cooperative decision making (Kezar, 2005). Thus, for a true collaboration to be formed, multiple opportunities must be provided and allowed for diverse individuals to come together and to share informally their ideals, their projects, and their missions. At USM/L-A the encounter of a scientist showing a social worker a vivid GIS map was not happenstance, but one of many discussions these colleagues had in the conducive environment of their college (Kezar, 2005). Similarly, the fruitful confluence of aspirations amongst academic leaders and community partners to initially form the DEC collaborative was not kismet, but the timely emergence of common ideas coupled with the deliberate dedication of resources afforded by Campus Compact.

The LFL project is a collaborative project, initiated by community action, designed through community-college collaboration, and carried out through community partners. It is through these cooperative, integrated partnerships that we hope to arrive at community based solutions to the problem of food insecurity. In our increasingly diverse community, and in the progressively challenging world of resource constraint and institutional frailty, such cross discipline, multi-level collaborations provide the models we can turn to for innovation and sustainability - of our institutions as well as of our communities. If this is the case, then promotion and support of these collaborations as the "wave of the future" in higher education is critical to the academy’s continued relevance as a vital social institution (Boyer, 1996), as well as to the maintenance of its integral place in our democracy (Zlotkowski, 2002).

References


