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Cover Page Footnote

We would like to thank our fellow STEM grant team members for their support.

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Infusing Service-Learning into Academic ABCs: Awareness, Behavior, and Community Collaboration

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As part of a Science, Technology, Engineering, and Mathematics (STEM) Service-Learning grant, a service-learning project was integrated into two college programs. The overall purpose of this project was to address identified community needs concerning nutrition, health-related issues, food security, and food sustainability. First-year college students developed and implemented a community nutrition survey, and created a list of community resources. These students then shared their survey results and overall impressions of the experience with public health nursing students, who then addressed community needs through a variety of service-learning interventions. Some of these interventions included mobilizing church volunteers to increase the availability of fresh produce to the local food shelf, and providing sweat equity to upgrade and maintain community gardens. Student reflections illustrated an increased awareness of food issues, particularly for low-income families. After the service-learning experience, students expressed a greater interest in serving their community and making a difference. Students strengthened the community's commitment to meet mutual food needs by bringing in additional collaborators to work with their partnering agencies. Students learned not only about food—they learned about themselves, the community, and the results that collaboration can bring.

Keywords: Service-learning, Community collaboration, Nutrition, Food availability

Introduction

Access to food is a basic human need, yet food insecurity, defined as limited or intermittent access to food, affects millions of U.S. households (Holben, 2010). While food insecurity distresses many people, low income populations are disproportionately affected by lack of access to healthful foods. According to Hilmers, Hilmers, and Dave (2012), low income neighborhoods provide greater access to fast-food outlets and convenience stores which promote unhealthful eating habits. Furthermore, urban food deserts, areas with limited access to healthful foods, are more common in locations where income inequalities and racial segregation exist (Hilmers et al. 2012). Since food security is closely linked to poverty levels, it is predicted that with the poor economic conditions in the U.S., food insecurity will continue to be a serious public health issue (Holben, 2010). Negative nutrition-related outcomes linked to food insecurity include inadequate intake of key nutrients, weight gain, and overweight populations. As a result of low food security, infants, toddlers, and preschoolers also face adverse health outcomes and behavioral problems. Additionally, food-insecure teenagers experience more suicidal ideations and depressive disorders (Holben, 2010).

To address the problem of food insecurity, resources such as federal food and nutrition assistance programs and emergency food aid services exist in communities like food pantries, food shelters, and emergency kitchens. However, these resources do not attend to

the causes of food insecurity; initiatives that target causes of food insecurity will decrease hunger in the United States. Hunger can be reduced and nutritional status improved by developing and supporting collaborative efforts to build local food systems (USDA, 2010). Tagtow and Harmon (2008) specify that a sustainable food system should support ecology, promote social justice, and advance economic development. A sustainable local food system has the ability to not only enhance natural resources and ecological resilience but improve the nutritional status of the community (Tagtow & Harmon, 2008).

Currently several successful projects exist that work to strengthen local food systems (USDA, 2010). Key to the success of these projects was the formation of partnerships and coalition building. For example, Florida growers collaborated with public schools, social service agencies, farmers, local businesses and consumers to engage in activities such as farm and farmer market tours; implementation of food and garden school-based curriculum; education on nutrition and food preparation, and a farm apprenticeship program. In another example, partnerships occurred between farmers, the Women Infants and Children (WIC) supplemental nutrition program, community garden programs, and Head Start Centers in a Mississippi initiative. In one final example, collaboration between workfare, education, job training programs, and food systems in both the private and public sectors in New York resulted in a nonprofit cooperative food store accessible to low income residents.

The communities of Douglas County, Wisconsin and St. Louis County, Minnesota would benefit from collaborative partnerships that support local food systems because demographic characteristics of county residents increase their nutritional risks and food insecurity. According to the U.S. Census Bureau (2012), 15.1 % of St. Louis County residents and 11.6% of Douglas County residents fell below the poverty level from 2006-2010. Furthermore, obesity was at epidemic levels in Douglas County; 66% of residents were overweight and 24% were obese (University of Wisconsin Population Health Institute, 2007). These results are not surprising; since, as previously discussed, research has established that low income populations are at increased risk for food insecurity because of lack of access and that lack of access to healthful foods is a risk factor for obesity.

Absence of a local sustainable food system is a contributing factor to food insecurity in the Western Lake Region. On average, it was estimated that fresh produce traveled over 1,500 miles before it reached consumers in the Midwest region of the United States (Pirog & Rasmussen (2008) as cited in Giovannucci, Barham, & Pirog, 2009). Farming contributes significantly to the local economy in the Western Lake Superior Region of St. Louis County, Minnesota, and Douglas County, Wisconsin with 2007 total revenue of \$19.6 million from livestock and crops (USDA, 2008); yet in 2008, \$1.26 billion was spent on food, with nearly all of the purchases made outside of the Western Lake Superior region (Meyer, 2010).

At the authors' Institution of higher education (IHE), the College's mission and vision statements underscore the need to prepare students for responsible leadership and commitment to the community through active citizenship, both components of the process of engagement. Even though collaborative learning is an establishing trend in nursing, findings from one study suggested that nursing students and other health science majors scored lower in collaborative learning than their peers, and that freshmen felt less involved in collaborative learning than upper-class students (Popkess & McDaniel, 2011).

Science, Technology, Engineering and Mathematics (STEM) grants in service learning seek to utilize skills and knowledge to solve community problems, promote collaboration

with the community in setting and achieving goals, and develop skills useful in both the work environment and in civic affairs (National Service Learning Clearinghouse, 2010). A Science, Technology, Engineering and Mathematics (STEM) grant was awarded to the Wisconsin Campus Compact to address these issues of food security, food sustainability, and nutritional and health related concerns in the Twin Ports community, consisting primarily of Douglas and St. Louis Counties. The partnership for this STEM grant was unique because it included three area institutions of higher education (IHEs). These IHEs collaborated with the Institute for a Sustainable Future (ISF) and Douglas County Health and Human Services Department (DCHHS). The overall goals of this STEM grant project partnership were to “ 1) increase the number of STEM courses that utilize service-learning pedagogy; 2) increase student interest and intention to enroll in more STEM courses; 3) increase students’ awareness and interest in local and regional food issues; 4) strengthen and sustain the community commitment to the production, distribution, and consumption of regional and local products; and, 5) increase the amount of nutritious foods individuals consume to reduce the Body Mass Index(BMI) of those in the region that are overweight and obese” (Meyer, 2010, p.1). Given the complexity of the STEM grant goals, grant partners focused on different goals. For example, the service-learning coordinators for the three IHEs attended to the achievement of the second goal. A partnership between DCHHS and the IHE in Douglas County, Wisconsin addressed the fifth goal and is not reported in this article. At the authors’ IHE, the focus was on goals number one, three, and four because of faculty interest, area of expertise, and course availability.

There were two components to the service-learning integration: one course section in the *Dignitas* program, and a post-baccalaureate nursing clinical course. Both courses were taught independently by each of the two authors. Each author selected a course for grant implementation based on faculty teaching assignment and fit with STEM grant goal to support local food systems. A course in both the *Dignitas* Program and post-baccalaureate nursing program were identified for initiating service learning experiences that promote food security, food sustainability, and local food systems. The *Dignitas* Program provides a common experience for first year students to develop a foundation for intellectual, personal and social integration and is designed to incorporate the values of community, reflection, intellectual challenge, and social justice. The service-learning component was incorporated into the *Dignitas* course to provide students the opportunity to explore these values in a local community setting. The post-baccalaureate nursing program is an intensive 15-month program that prepares graduates in other fields for a career in nursing. The post-baccalaureate nursing course provides clinical experience in the area of public health through working with community health resources, and implementing a community project based on the identified needs of the population/community. The service-learning component occurred as part of the community based needs assessment project. *The Academic Service-Learning Standards for Quality Practice* were utilized to infuse the elements of service-learning into the authors’ courses and to provide indicators for assessment purposes. These standards include: meaningful service, link to curriculum, reflection, diversity, student voice, partnership, progress monitoring, and duration and intensity (National Youth Leadership Council, 2009).

The purpose of this paper is to describe the execution of these two sequential components of the STEM grant at the authors’ IHE in order to offer a framework for other IHEs interested in similar collaborative efforts.

Methodology

Dignitas Course: Global Health and Social Justice

The *Dignitas* course, Global Health and Social Justice, spanned two academic semesters and met two hours a week, but the grant activities were carried out only during spring semester. Class topics covered in fall semester included content primarily at the global level, such as the relationship of global health and social justice, inequities in health, and the Millennium Development Goals (United Nations, 2010). During spring semester background information about the service-learning project was provided to 20 students, along with class discussion on what service-learning involved, how to carry out a community assessment, the role of nutrition as one of the social determinants of health, food security, sustainability, and the concept of food deserts. Each student was expected to complete 30 hours of service-learning activities. At the conclusion of the course they were asked to participate in the Midwest Campus Compact STEM Consortium Survey to monitor project goals.

At the beginning of the project, to reinforce student-centered learning, students self-selected into three groups based on personal area of interest and project needs. One group defined the community of interest at the local level; the second group explored community assets related to nutrition and other basic needs; and the third group created a nutrition survey. Group development and inter-connections were emphasized throughout the planning and implementation stages. For example, one key aspect that was continuously reinforced was the fact that even though each group had a specific task to accomplish, all members of the class were to be involved in the actual data collection and assessment processes.

The first group of students defined the community of interest by exploring traditional boundaries in the downtown area and accessing a city map of the Central Hillside neighborhood. This area was selected because it is considered a low income neighborhood and fits the definition of an urban food desert. The Central Hillside neighborhood has a population of approximately 7,050, of which 81% are White, 9% are Native American, and 6.2% are African American. The area is predominantly urban residential and consists of single family homes and multiple family buildings and is an area of higher rental and lower home ownership than other parts of Duluth. The unemployment rate is approximately 8.1%; the highest when compared to other Duluth neighborhoods. The percentage of Central Hillside residents living below the poverty line is 36.6% with the majority of population earning less than \$15,000 annually (LHB, 2007).

Once students determined the area of interest, they created a PowerPoint presentation with photos depicting the neighborhood schools, churches, housing, hospitals, and stores, particularly its grocery and convenience stores. They presented this to their classmates to give them a current perspective of the neighborhood before the rest of the students carried out the other two aspects of the project.

The second group compiled a list of community resources focused primarily in the community of interest, but some which extended beyond the smaller geographic area and encompassed other resources for meeting basic needs other than nutrition. The students identified a list of agencies that provided services for low income populations. Students were then asked to contact at least two of these resources through direct visit, telephone, or electronic means; their final product was a resource booklet that identified agency mission,

hours of operation, location, services provided, and eligibility criteria.

The third student group was given the task of developing a nutrition survey. They reviewed other nutrition surveys and consulted with a registered dietitian during the designing of the nutrition survey; the survey addressed the project's purpose, focusing on perceived overall nutrition-related needs, availability of stores for groceries, and transportation for grocery shopping. Prior to survey administration, the entire class examined the survey, which led to discussion about its readability level, socioeconomic biases, and gender perspectives. Each student in the class located five potential survey participants from a specific locale, such as area community programs and local food purveyors, and administered the surveys at these sites.

Throughout the weekly scheduled class times, students were asked to reflect on their learning, involvement, and connection with the community using the academic service-learning standards. Students also wrote reflective papers using the "What? So what? Now what?" model (Connors & Seifer, 2005) to examine their attitudes and preconceptions about the issues of poverty, homelessness, and nutrition. Classroom discussions focused on recognizing their own stereotypes about the community and its residents in particular geographic areas. Students also participated in a tour of one local community agency that provides services to people of lower socioeconomic status, including a soup kitchen for adults and a Kids Café, giving them an opportunity to see first-hand how the community is striving to meet some of its needs.

The work of the three groups was designed to help students visualize the link between poverty and issues of food security on the local level, to examine their assumptions and preconceptions about these issues, and then to explore the connections between poverty and social justice. The collected information was then shared with the public health nursing students so they could expand the project and carry out specific food-related activities.

Nursing Course: Community As Client

While students in the *Dignitas* course defined the community of interest, explored community assets, and delineated nutrition needs, the public health nursing students developed plans to address community needs around the issues of food security, food accessibility, and local food systems. Additional background preparation and supportive resources prepared these nursing students for the second component of the STEM grant project. Students were required to complete a course in general nutrition prior to admission to the post-baccalaureate nursing program. Furthermore, the clinical nursing faculty coordinating this course is a registered dietitian and served as a nutrition expert resource for the students. Students had also completed a community health theory course that addressed key concepts of public health nursing. Students involved in the *Dignitas* service-learning project shared their nutrition survey results and overall impressions of the experience with the nursing students. A food co-op marketing representative, with many years of experience with the organic farming industry, provided the nursing students with information on food availability, sustainable food practices, and organic foods in the region. The college's service-learning coordinator shared information on the concept of service-learning which gave students the opportunity to reflect on how the concept fits with public health nursing. In order to generate excitement for potential opportunities, the students toured the perennial garden at one of the community sites. Since project funding was available from the STEM grant, students received training on the budget request process for their projects.

After the thirty-five students were provided with background project preparation and expectations, they were given the opportunity to self-select one of the six identified community collaboration sites predetermined by clinical faculty (see Table 1). Six students were involved at each of the sites with the exception of the local food shelf site which had five students. In the first step of the community project, student groups conducted an assessment of their community of interest. This community assessment served as the awareness element for the service-learning that occurred during this project; students were able to not only identify the problems, issues and needs but also the strengths of the community in regard to nutrition and health-related issues, food availability, and food sustainability issues. Once the issues were identified, students then implemented specific interventions to address these needs. They had to consider the sustainability of the projects, particularly those agricultural in nature, since the conclusion of the course was at the beginning of the growing season in the region. Each group conducted an evaluation of their project at the completion of the six week course. Students were required to spend a total of 45 hours on the service-learning component over the six-week course time frame. Scheduled hours of service were negotiated at each of the sites dependent upon site/agency needs. Student hours spent at their sites were disproportionately heavier the first several weeks and the last week of the course. During the first two weeks, they assessed their community, negotiated mutual goals, and developed their plans. The last week they implemented their interventions and shared their findings/results with their designated site staff and peers.

Each of the two community health nursing faculty supervised three of the six projects. Three of the projects were carried out at an assisted living facility, a Healing Garden, and a hospital sponsored babysitting clinic. Major interventions for the group that collaborated with an independent- and assisted-living facility included designing and building a raised planting bed and preparing designated gardening areas for seasonal planting. The Healing Garden community group carried out several interventions, including maintaining and repairing the existing garden; addressing the issue of garden accessibility; and researching, purchasing, and planting of native species including herbs. The identification of appropriate herbs was done in collaboration with an executive chef for a local healthcare institution. The third group partnered with an area hospital for its babysitting clinic. This group of students provided the babysitters with education on healthful snack options and food safety; and served nutritious snacks that included kid-friendly recipes of healthful snacks.

The other three projects involved a low-income gardening initiative, a local food shelf, and a Kid's Café/ community garden program. Students working with the gardening initiative provided sweat equity in preparing seasonal gardens; developed an educational brochure relating to the program and the nutritional value of local produce; and implemented a community survey to assess program user needs and interests in obtaining shares of local produce. The group working with the local food shelf identified a lack of the availability of fresh produce as one of its issues. They partnered with local churches to increase member awareness of donating excess garden produce to the food shelf and developed social marketing strategies for increasing local gardeners' and community awareness of the need for fresh produce donations to the food shelf. In addition, this group created educational brochures for food shelf recipients on storage and preparation of select fresh vegetables. The last group worked collaboratively with two agencies, both the Kid's Café and the community garden program. This group provided community garden staff with a literature

review on the benefits of community gardens, assisted in the preparation of a community garden at the Kid's Café site and designed gardening/growing educational curricula for a variety of ages with the inclusion of supplies to support curriculum implementation.

Table 1
Community Partnerships

Name of Community Agency	Description of Agency Services
Westwood Apartment for Seniors Benedictine Health System	This agency provides independent and assisted living options for Seniors.
Essentia Health Healing Garden	This garden is funded by the Essentia Health Foundation. The purpose of the garden is to make available an area for reflection and relaxation as part of holistic care. In addition, the garden is a source of herbs used in recipes for the hospital food service.
St. Luke's Hospital Babysitting Clinic	This one day clinic is offered to low income kids over the age of 12 to prepare these babysitters on important aspects of child care including: first aid, holding of baby, diapering, implementing age appropriate activities, and promoting good nutrition.
Seeds of Success (SOS) Program	This agency is part of Community Action Duluth urban gardens. The program goals are to provide transitional employment and job skills to low income individuals, offer volunteers a share of the harvest, increase availability of local produce, and create neighborhood green space.
Churches United in Ministry (CHUM) Food Shelf	The Food Shelf seeks to meet the local community need for access to food by providing food orders; or resources to buy food; and connecting people to other needed community resources such as shelter, medical care, clothing, and employment.
Kid's Café	As an affiliate of Feeding America, the café provides nutrition education and nutritious meals and snacks to low income children during after school hours and during the summer.
Duluth Community Garden Program	The purpose of the program is to provide community access to food production and preservation resources while promoting sustainable gardening practices. The kid's garden program offers weekly gardening activities on site at Kid's Café.

In order to assess student interest and motivation to provide public service, the public health nursing students voluntarily completed the Public Service Motivation Scale (PSMS) (Perry, 1996) prior to and at the conclusion of their service-learning experience. The Public Service Motivation Scale uses 24 Likert-type items to measure four dimensions associated with public service, which include *Attraction to Public Policy Making; Compassion; Self-Sacrifice; and Commitment to Public Interest* (Perry, 1996). Reported statistics on validity include *t*-values for parameter estimates significant ($p=.05$) with factor loadings ranging from 0.49 to 0.78. Two indicators for overall fit: goodness of fit (0.88) and adjusted goodness of fit (0.86) were reported in acceptable ranges. Internal consistency among items in the scale was reported as coefficient *alpha* 0.90. Coefficient *alphas* for the four dimensions ranged from 0.69 to 0.74 (Perry, 1996).

Results

As mentioned previously, the overall goals of this STEM grant project partnership at the authors' IHE were to: 1) increase the number of STEM courses that utilize service-learning pedagogy; 2) increase student interest and intention to enroll in more STEM courses; 3) increase students' awareness and interest in local and regional food issues; and 4) strengthen and sustain the community commitment to the production, distribution, and consumption of regional and local products.

At the completion of their project, students in the *Dignitas* course completed the Midwest Campus Compact STEM Consortium survey with a response rate of 80% ($n=16$). Overall survey data for the STEM grant also included responses from three students enrolled in another STEM course. At the authors' IHE, the first goal was met; over 55 students were enrolled in one of the three additional courses with service-learning pedagogy. Results for the second goal indicate that 89.5% of students plan to enroll in at least one additional college-level STEM course.

Dignitas students identified their awareness of and interest in food and nutrition issues before and after enrolling in the course (goal number three). Results indicate that on a scale of 1 (very low) to 10 (very high), students' awareness ($M = 8.1$, $SD = 1.48$) and interest ($M = 7.1$, $SD = 1.95$) increased at the end of the course. Most students (95%) noted that the use of service-learning enhanced their understanding of issues related to food and nutrition; only one student reported that the use of service-learning had no impact on understanding of the topic. Almost 53% of students stated that they plan to remain involved in community service activities related to food and nutrition issues, while 37% were not sure of this commitment.

Student awareness of food and nutrition issues was increased (goal number three) based on their analysis of the results of the sixty-one surveys they administered in the community. They were enlightened on a variety of issues affecting participants' access to nutritious food. Half of the survey participants reported that they had access to an automobile for obtaining food. The students became aware that food stamps were used by one third of survey participants to purchase groceries and fifty percent of survey participants consider buying groceries a financial burden. These students discovered that over half of the participants had no education on cooking and nutrition yet were interested in changing their diet; these participants felt that vegetables and fruits were missing from their daily intake. Moreover, students recognized the need for additional nutritious food sources with over half of the survey participants desiring a community garden and one-third wanting a grocery store in their neighborhood. Student awareness and understanding of societal issues around local food systems and basic human needs emerged during self-reflection relating the service-learning project with the *Dignitas* course outcomes. They frequently mentioned the value of human dignity, and how their attitudes toward other people changed as a result of the project. Two representative statements, as a reflection on a person's feelings when they can't meet the family's basic need for food, include: "It is really easy to lose one's dignity," and "You should have dignity not in your wealth but who you are as a person, and in your children." One student noted, "It made me realize how fortunate I am and privileged; I should take more time to appreciate the things I am fortunate enough to have." Several students also observed how it took a community effort of volunteers and agencies to meet the needs of the underserved: "those who donate food, time, money, and clothes are saving lives" (personal communication, students in the *Dignitas* course).

Table 2

Public Service Motivation Scale (PSMS) Results (select items from 24- item scale)

PSMS Item	Pre-Test Mean/(SD) n=29	Post-Test Mean/(SD) n=27	Perry (1996) Mean/(SD) n= 376
1. Making a difference in society means more to me than personal achievements.	4.17/(1.00)	4.62/(.84)	3.49/(1.08)
2. I am rarely moved by the plight of the underprivileged	2.07/(.53)	2.18/(1.0)	4.18/(.99)
3. Most social programs are too vital to do without.	3.7/(1.14)	4.55/(0.80)	3.2/(1.20)
4. It is difficult for me to contain my feelings when I see people in distress.	3.24/(1.15)	4/(1.07)	3.46/(1.09)
6. Doing well financially is definitely more important to me than doing good deeds.	2.68/(.89)	2.48/(0.98)	3.79/(1.01)
7. To me, patriotism includes seeing to the welfare of others.	4.62/(1.05)	4.59/(1.01)	2.57/(1.13)
9. I seldom think about the welfare of people whom I don't know personally.	2.5/(1.06)	2.07/(1.21)	3.6/(1.08)
10. Politics is a dirty word.	3.17/(1.37)	3.74/(1.56)	3.77/(1.12)
11. Serving citizens would give me a good feeling even if no one paid me for it.	5.1/(.90)	5.51/(0.51)	3.13/(1.32)
13. It is hard to get me genuinely interested in what is going on in my community	2.65/(.94)	2.25/(0.76)	3.73/(1.11)

Note: 1= Strongly Agree; 2= Disagree; 3= Slightly Disagree; 4= Slightly Agree; 5= Agree; 6= Strongly Agree

Nursing students in the public health clinical course completed the Public Service Motivation Scale (PSMS) survey both prior to and at the conclusion of their service learning project, and results were compared. There was no statistically significant difference ($p < .05$) in student interest and motivation to provide public service when a comparison was made between mean pre-test scores and mean post-test scores, although there were some notable observations made on select PSMS scale items (see Table 2). As a result of the service-learning experience, student survey responses reflected an increased awareness of and interest in local food issues (goal number three). These nursing students reported an increased importance in “making a personal difference in society” more so than their own personal achievements (item 1). This experience also increased their empathy toward others who are less fortunate, as exemplified by their increased agreement with an inability “to contain their feelings” for distressed people (item 4). After the service-learning experience, nursing students reported an increase in “thinking about the welfare of unknown people” and a “genuine interest” in community happenings (items 9 and 13). Furthermore, nursing students more strongly agreed at the conclusion of the service-learning experience that social programs are “too vital to do without” (item 3). However, at the conclusion of the service learning, these same nursing students increased their agreement with the statement that “politics is a dirty word” (item 10).

The fourth goal of the STEM Grant project, to strengthen and sustain the community commitment to regional and local products, was met through a variety of ways. The nursing

PRISM: A Journal of Regional Engagement

student service-learning projects strengthened community commitment to local products by providing physical labor involved in gardening, surveying interest in purchasing local foods, developing gardening curriculum, integrating nutrition education into the babysitting clinic curriculum, mobilizing church volunteers to increase access to local produce; identifying native plant species, and developing education materials on the nutritional value and preparation of local fresh produce. In addition, data from the community nutrition survey administered by the *Dignitas* students were used by the director of a local community agency to strengthen support for a grant proposal to increase urban access to local produce.

Nursing students strengthened the community's commitment to meet mutual food needs by bringing in additional collaborators to work with their partnering agencies. Collaborations with other groups and individuals who contributed to the success of their projects included local landscapers, healing garden volunteers, senior living center advisory board, hospital executive chef, local graphic artist, local hospital program services coordinator, babysitting clinic participants, local food co-op, church affiliate volunteers, family members, and local food shelf volunteers. These students also discovered that numerous partners or agencies brought different skills sets to the table which served as valuable resources. For example, one group utilized the expertise of a family member with construction experience in helping them design and construct their accessible planting box after their first attempt was deemed structurally unsound. As students worked to strengthen and sustain community commitment, they found it necessary to adapt and be flexible because they experienced delays due to weather, seasonal program transitions, and bureaucratic procedures. The STEM grant budget allowed these nursing students to purchase equipment and lesson plan supplies, such as lumber, garden pots, seed packets, and a power drill that would sustain partnering agency efforts to address ongoing needs, maintain several of their programs, and support efforts to promote a local sustainable food system.

Discussion

The authors' aim was to engage students in issues of food security in the local region, incorporating service-learning pedagogy to guide their learning and to encourage community involvement. Overall, students in the *Dignitas* class felt they learned a great deal of knowledge about the community of interest and what some of its needs were, particularly in relation to issues of food security. Students felt that their service was meaningful, realizing the issue of food security is both a societal and local concern. The project helped students understand the topics of diversity and poverty among the city's residents, and developed their interpersonal skills in group planning, decision-making and active participation. The students gained an appreciation for the variety of services in the area, and noted particularly the importance of available and accessible transportation in order to utilize many of these resources. After visiting the community center, students stated they had a greater understanding of the needs of those less fortunate, since this was their first experience of seeing and hearing about the city's poverty firsthand.

Students' initial discomfort in actually visiting the community under study became evident during the pictorial presentation by the first group of students. They felt so uncomfortable in this part of town that the photos were all taken from their vehicle. This disclosure led to class discussion and further reflection on several topics, including privilege, prejudice and bias, dignity of persons, and how to overcome fear. After further reflection, students stated they felt more comfortable approaching potential survey participants in the

neighborhood or at various community sites and were able to satisfactorily complete their other group assignments.

As a result of the service-learning experience, public health nursing students valued the opportunity of engaging in meaningful service that addressed food availability and food sustainability issues in their community, as reflected in their PSMS survey results. It was however interesting to note that these nursing students also reported an increase in negative attitude regarding politics after their service-learning experience. It is likely as these students became involved with agencies, some of their delays with progression and changes in their project focus related to internal policies and bureaucracy. Perhaps the students' frustration with delays was reflected in their reported increase in negative perception of politics in comparison to their perception at the beginning of the service-learning project.

Conclusions and Recommendations

The overall goals addressed in these two academic courses were to utilize service-learning pedagogy; to increase student awareness and interest in local and regional food issues; and to strengthen and sustain the community commitment to local and regional foods. As a result of the authors' participation in the grant, 55 students engaged in service-learning on our campus. Because of its initial success, greater student involvement in the community has been included in the *Dignitas* course. Student reflections illustrate an increased awareness of food issues, particularly for low-income families. After the service-learning experience, students expressed a greater interest in serving their community and making a difference. Students strengthened the community's commitment to meet mutual food needs by bringing in additional collaborators to work with their partnering agencies. The grant budget allowed students to purchase equipment and supplies that would sustain partnering agency efforts to address ongoing needs, maintain several of their programs, and support efforts to promote a local sustainable food system.

The main purpose of this service-learning project was to address identified community needs concerning nutrition, health-related issues, food security, and food sustainability. Students in the *Dignitas* course identified community needs such as the availability of, and access to healthful food; the financial burden affiliated with eating healthy; and education on cooking and eating nutritious foods. Students in the public health nursing course validated several needs identified by the *Dignitas* students: the increased accessibility and availability of healthful food, and the community's intense interest in learning how to prepare and select nutritious foods. Nursing students also identified the need to increase the community's appreciation for, and commitment to community urban gardens; and the need for physical labor to upgrade and maintain the existing gardens.

Overall, the authors felt that the standards for quality practice in academic service-learning were integrated throughout the project. Students in both courses found the project meaningful and relevant, and there was a direct link to the course topics on human dignity and community health. Students were able to participate with area residents from diverse backgrounds, which provided them the opportunity to recognize and overcome some of their stereotypes. In both courses, the service-learning engaged students in generating ideas and carrying out individualized projects. Recommendations for further incorporation of service-learning standards focus on four main areas: intensity and duration, partnerships, progress monitoring, and reflection. Because of the academic calendar restraints and the

accelerated post-baccalaureate program structure, the duration of the service-learning experiences were brief. More time is needed to give students further opportunity for reflection and engagement in service, which could impact their evaluation of the experience, including the measure of their motivation and commitment to public service as elements of engaged citizenship. In order to assess the impact of the service-learning project on community participants and agencies, a survey could be administered to measure or gauge progress toward agency goals and service-learning assistance in providing resources (time and people) to meet their goals. It would also be important to gather further demographic data on program participants in order to identify which characteristics are linked to success. The evaluation process could be improved by using common evaluation tools for all students, to allow for comparison between student groups and to measure growth in their commitment to service-learning throughout their college experience. Almost 90% of these students indicated they will take another STEM course, which is an expected result since many of these students are pursuing a college degree in a STEM-related field of study. Further opportunities for reflection may encourage students to realize the importance of experiential learning outside the classroom and to understand the need to actively contribute their professional skills to the broader community as engaged citizens. Since this service learning occurred during the students' college experience, it would be valuable to assess whether students intend to continue service-learning and their commitment to community upon graduation. A survey tool such as the PSMS (Perry, 1996) could be administered to the graduating students to assess their level of civic commitment.

Since completion of service learning projects, several related initiatives have taken place in the community reflecting the community's responsiveness to its food security needs. Local groups have held community forums to garner support from the general public on building local, sustainable food systems, and expanding the availability of nutritious foods. For example, a local dietitian is opening a grocery store in a neighborhood currently viewed as a food desert, and an old orchard and garden space have been revitalized and expanded to supply local produce. While student service-learning projects were not the impetus for these ongoing community efforts, their projects do validate their recognition of community needs in the areas of food security and local food sustainability. Students have the opportunity to see that their involvement enriched these community efforts. These service-learning opportunities provided a win-win opportunity for both students and the community they served. Students were able to increase their awareness of local food security and food sustainability and reflect upon how their service met community needs. The community was able to meet immediate food security needs and begin to build the foundation necessary for a sustainable local food system.

References

- Connors, K., & Seifer, S. D. (2005). Reflection in higher education service-learning. *Community-Campus Partnerships for Health*, September. Retrieved from http://www.servicelearning.org/instant_info/fact_sheets/he_facts/he_reflection/
- Giovannucci, D., Barham, E., & Pirog. (2009). Defining and marketing "local" foods: Geographical indications for US products. *The Journal of World Intellectual Property*, 13 (2), p. 94-120. Doi: 10.1111/j.1747-1796.2009.00370.x
- Hilmers, A., Hilmers, D., & Dave, J. (2012). Neighborhood disparities in access to healthy foods and their effects on environmental justice. *American Journal of Public*

- Health*, 102 (9), p. 1644-1654.
- Holben, D. (2010). Position of the American Dietetic Association: Food insecurity in the United States. *Journal of the American Dietetic Association*, 110 (9), p. 1368-1377. Doi: 10.1016/j.jada.2010.07.015
- LHB, Inc. (2007). *Neighborhood revitalization plan*. Central hillside community. Retrieved from <http://duluthlisc.org/Plans/CHplan.pdf>
- Meyer, J. (2010). *Twin Ports service-learning STEM grant*. Executive summary.
- National Service Learning Clearinghouse. (2010). *STEM (Science Technology Engineering Math) education and service-learning*. Retrieved from <http://www.service-learning.org/stem-science-technology-engineering-math-education-and-service-learning>
- National Youth Leadership Council (2009). *K-12 service-learning standards for quality practice*. Retrieved from http://www.nylc.org/sites/nylc.org/files/files/Standards_Oct2009-web.pdf
- Perry, J. L. (1996). Measuring public service motivation: An assessment of construct reliability and validity. *Journal of Public Administration Research and Theory*, 6(1), p. 5-22.
- Popkess, A., & McDaniel, D. (2011). Are nursing students engaged in learning? A secondary analysis of data from the national survey of student engagement. *Nursing Education Perspectives*, 32(2), 89-94.
- Tagtow, A., & Harmon, A. (2008). Healthy land, healthy food & healthy eaters. *Institute for Agriculture and Trade Policy*. Retrieved from: <http://www.iatp.org/documents/healthy-land-healthy-food-healthy-eaters>
- United Nations. (2010). *Millennium development goals*. Retrieved from <http://www.un.org/millenniumgoals/bkgd.shtml>
- United States Department of Agriculture (USDA). (2008). *2007 census publications*. Retrieved from http://www.agcensus.usda.gov/Publications/2007/Full_Report/Census_by_State/Minnesota/
- United States Department of Agriculture (USDA).(2010). Building sustainable farms, ranches and communities. *Community food security initiative*. Retrieved from https://attra.ncat.org/guide/a_m/cfsi.html
- United States Census Bureau. (2012). *State and county quick facts*. St. Louis County, Minnesota. Retrieved from: <http://quickfacts.census.gov/qfd/states/27/27137.html>
- University of Wisconsin Population Health Institute. (2007) *Wisconsin county health rankings: Full report*. Retrieved from <http://uwphi.pophealth.wisc.edu/programs/match/wchr/2007/rankings.pdf>

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PRISM: A Journal of Regional Engagement

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