

EVALUATING THE LONG-TERM SUSTAINABILITY OF L.O.G.I.C.: THE
STUDENT ORGANIC GARDEN AT SOUTHERN ILLINOIS UNIVERSITY
CARBONDALE

by

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Major Professor: Dr. Leslie A. Duram

Campus sustainability and sustainable food production at universities across the nation are gaining in popularity, and **student led gardens** are an important and distinctive part of this movement. **Student initiatives** at Southern Illinois University Carbondale (SIUC) have led to the creation of a Sustainability Council and Green Fund which has provided a tremendous amount of support for the student led organic garden (LOGIC) on SIUC's campus. The purpose of this research was to provide a thorough, evaluative case study of the **campus garden** at SIUC in order to explore its past, its current structure and resources, and to suggest a model for its future. Through student surveys and qualitative interviews with key experts it was found that a paid garden manger position, consistent funding, more production, more volunteers, more awareness, and a critical look at current goals and practices were needed for LOGIC's continued success.

DEDICATION

I dedicate this project to everyone at Southern Illinois University and in the Carbondale community that helped to create and sustain the LOGIC gardens. Your vision and/ or willingness to help has started a movement that is very important. I hope that we can all go forward with that vision and use the skills we have learned at LOGIC to help continue this movement here and elsewhere.

I also dedicate this project to the farmers in the Lamas, Peru area and Centro Sachamama in Lamas, Peru as well. Your lives and work are what inspired me to pursue graduate school, and although my studies here were not directly connected to your issues- your struggles, stories, and efforts were always with me.

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CHAPTER 1

INTRODUCTION

Introduction and Purpose of Study

Southern Illinois University Carbondale (SIUC), as a dynamic and research based institution, is a much needed leader and innovator in the Southern Illinois region. In spite of recent budget cuts at the university and state level, SIUC is continuing down the path of sustainability thanks to a student led initiative that called for the creation of a Green Fee and Sustainability Council (Southern Illinois University Carbondale 2011). The Green Fee initiative called for a \$10 increase in student fees per semester and was passed by 73% of voting students in a campus wide referendum in 2008. The SIUC Board of Trustees unanimously passed the Green Fee in 2009 and the money this fee generates exceeds \$300,000 annually (Southern Illinois University Carbondale 2011). The money generated by this fee is pooled into one fund (The Green Fund) and then used for projects and research related to sustainability. The money is monitored and distributed by the Sustainability Council, and any student, faculty, or staff member at SIUC can apply for money from the Green Fund to implement a self or group designed project that will contribute to sustainability at SIUC (Southern Illinois University Carbondale 2011). The Green Fund is an important new aspect of the university and offers students, faculty, and staff opportunities to put learning into action, can become a dynamic way for the university to recruit students interested in sustainability fields, and can also help the university become a positive and helpful resource for the surrounding communities. Through innovative projects and research made possible by the Green Fund, the wealth of

knowledge the university holds related to sustainability can create a more sustainable campus, can be disseminated to the wider region and can possibly aid in the development of more integrated and sustainable communities.

One of the projects that has been funded by the Green Fund is the student led organic garden. This garden was given the name, the Local Organic Gardening Initiative of Carbondale and is commonly referred to as LOGIC. The members of LOGIC grow food for the dining halls on SIUC's campus and students are actively involved in all steps of the growing process and management of the garden. LOGIC is also a Registered Student Organization (RSO), and has been hosting several community specialists to join and lead the group in various workshops and projects focused on different aspects of organic gardening and food production. LOGIC has also gained recognition recently within the university and larger community and has been asked to join various groups such as the social justice campus organization, campus health and nutrition fairs, different community gardens, the local Migrant Council, and the University of Illinois Champaign in attending workshops, workdays, various events and field days. LOGIC's garden blog was also featured on the Association for the Advancement of Sustainability in Higher Education's (AASHEA) Sustainability Student Diary Series in 2010 (Association for the Advancement of Sustainability in Higher Education). The garden has been a site for numerous university class tours as well as tours from local schools. As the garden grows not only in food production capabilities but also in community outreach, it is becoming increasingly important for the garden to have a stable structure, which has proved to be quite complicated.

To begin with, students in the Geography and Environmental Resources Department primarily manage the garden and although there are many faculty members in the department who support this project, the department does not have the financial resources to secure a permanent student manager position nor provide the garden with the many resources it needs. Secondly, the garden is physically located on the College of Agriculture's land. This creates confusion as to what can be implemented in the area and what resources at the site can be used. There are also many other resources and programs on SIUC's campus that could be of great help to LOGIC, however no formal assessment has been done to determine what resources are available and how they could be used most effectively. Another large issue the garden faces is the continuously changing student body, which can leave the garden in a perpetual state of flux unless a system is designed to seamlessly manage these transition periods. In addition to this, many of the students at SIUC may not be interested in volunteering their time to manage an organic garden, nor have the basic skills necessary to do so. The garden, being student run, will need a steady flow of interested and knowledgeable participants in order for its continued success. There must be a system set up to train the future leaders not only in gardening techniques but also where to look for and find campus resources to sustain the garden for the long term.

In order to create a system that is sustainable in the long term, especially in an environment that is as dynamic as a university, it is important to evaluate all the components holistically. A systems thinking perspective provides a comprehensive overview of a complex situation, by analyzing all of its parts, and allows connections to be made that ultimately will provide a path for action. (Friedman 2010, Godfrey 2010). Assessing an issue in this manner helps to not only determine what needs to happen at the

systems level but is also useful in identifying and building relationships. A case study of the organic garden at Southern Illinois University Carbondale, using a systems thinking perspective, can help assess the entire situation and draw connections that can ultimately lead to a plan of action. This kind of study is important because it takes an academic exercise and increases its scope by creating locally relevant knowledge that can lead to sustainable change (Rojas et al. 2007). It can also provide a template for other institutions struggling with some of the same issues for how they can either evaluate existing projects or begin designing new ones.

Justification

The issue of food security has become a topic of concern as our food increasingly travels thousands of miles before reaching our plates and we are left at the mercy of global economic markets, distant weather patterns and water resources, and the availability of cheap oil in order to receive one of the most basic necessities of life. In Southern Illinois food can be grown for most of the year, yet 95% of the food in Illinois is imported. Recently, state legislation was passed that calls for state funded institutions to source up to 20% of their food locally by 2020 (Illinois Local and Organic Food and Farm Task Force 2009). SIUC is stepping up to this challenge with many of the key stakeholders involved in the campus food system ready to help produce and purchase as much local food as possible. Not only can SIUC work to close the gap on its food system, but it could also be a leader in this movement, by creating strong ties within the community and working with local organizations and farmers to understand what kind of outreach and research is needed in the area for a more regional food system to be adopted. The University of Illinois has a strong extension agency that works statewide to promote local food production and

distribution by providing farmers, restaurants, consumers, and other relevant community organizations with needed information (University of Illinois Extension 2011). LOGIC, along with other departments at SIUC and interested groups in Southern Illinois, could begin working together to help build more awareness, knowledge, and support for a local food system in the southern part of the state. However, an assessment of where LOGIC stands and how it can grow and exist into the future must first take place.

Scholars have begun addressing the issue of sustainability on campuses and numerous successful projects have been documented through journal articles, university websites, and other forms of mass communication. Projects incorporating horticulture education and environmental awareness through sustainable agriculture have been used in course assignments at various universities through service learning activities, independent studies, outreach activities, and courses tailored to the individual needs and interests of the varying students, faculty, and institutions. These projects have also been successful at adding a component to education that is sometimes lacking- the connection to nature and skills for action (Kobayashi et al. 2010, Coker et al. 2010, Barton et al. 2010, Rojas et al. 2007, Waliczek and Zajicek 2010). These programs have been successful largely because of strong collaborations between partners and a deep understanding of the needs and environments in which these ventures are situated.

SIUC is headed down a path towards a more sustainable campus through innovative projects being implemented by very diverse actors. LOGIC holds potential, and if the garden is evaluated from the beginning and strong alliances are built, the chance for the garden's long-term success will be higher.

As the name suggests, LOGIC will be interested solely in promoting organic agriculture as a sustainable alternative to the conventional farming paradigm that envelops our state and nation. The many benefits of organic agriculture are well documented in the literature, however the different practices on organic farms largely determine their true sustainability. There is a need to educate the new generation of organic farmers and gardeners with the same values and principles that the early organic farmers had in order to ensure the integrity of organic practices (Padel 2008). A functioning educational garden on a university campus seems one of the best places to allow students to experiment with different organic growing techniques and determine which are the most beneficial and productive according to ecological, social, and economic needs. This can not only provide students an opportunity to use their creative capacities to solve real world problems, but can also help students to develop an ethic towards food and its production which can in turn create a more knowledgeable and informed student body and consumer base.

With the growing interest and implementation of organic farms and other sustainable initiatives on campuses across the country and in the larger North American region, literature has been produced chronicling the different approaches taken. From program creation, course design, independent research and study, collaboration between departments, position responsibilities and contributions, understanding the different roles of stakeholders, to university market gardens these activities and successes have been documented and all contribute uniquely to the scholarly discussion taking place. Each campus environment is different as is each region, student body, and larger community therefore the activities taking place on campuses are distinctive. However, they all provide a working model of what can be done. SIUC and the student led initiatives for

sustainability, including LOGIC, are also unique and can contribute to the literature in a way that has yet to be done by documenting the systematic processes taken to create and evaluate a student designed, constructed, and managed garden and how it contributes to the sustainability of the campus food system, provides an educational resource for the student body, faculty, staff, and larger community, and also has helped begin creating a sustainability demonstration site for the university and larger region.

A case study of the student designed and managed garden at SIUC is important for several reasons. As previously mentioned, this particular study can further contribute to the scholarly literature regarding university sustainability and food gardens. By assessing the program and evaluating the key stakeholders, a dialogue that is inclusive and open can begin thereby facilitating constructive relationship building between students, faculty, staff, and administration which can help set a more relevant course towards effective action (Godfrey 2010, Rojas et al. 2007). The study can also help create a more sustainable future for the garden by stating its history and current situation, identifying resources, suggesting a solid structure, and identifying future ways to manage, promote, and evolve the garden and its mission. It will also give SIUC the opportunity to showcase the sustainability efforts it is taking, the unique student involvement that has taken place to enhance these efforts, perhaps provide an incentive for future students to consider SIUC as their college destination, and retain students, faculty, and staff (Dyer 2009). The study can provide a working model for other universities of how a program, if assessed and promoted from the beginning, can provide unique and valuable learning opportunities for students, faculty, staff, and community members. This study, by helping the garden to thrive into the future, can also further fulfill the university's social obligation of being a

model for sustainability and promoting student and public awareness on these critical issues (Allshuwaikhat and Abubakar 2008, Clark 2005). This study can therefore contribute to the scholarly discussion regarding university sustainability and also benefit SIUC, the local community, other universities struggling with implementing sustainability measures in complex and changing environments. This research can also ultimately contribute to the global community by creating an educational resource that can lead to higher numbers of students able to understand and solve fundamental social and environmental problems.

Research Problem

The purpose of this research was to provide a thorough, evaluative case study of LOGIC, the student led organic garden on SIUC's campus, in order to explore its past, its current structure and resources, and to suggest a model for its future. The study first sought to identify the level of awareness and initiative among students of and for participation with the garden. Then, the garden's key experts were assessed using personal interviews to discover the past, current, and possible future directions. The end result of this study was to recommend potential paths of action in order to suggest how to secure a sustainable future for the garden, taking into consideration the present situation and the needs and desires of the students and key experts.

Research Questions

This research will address the following questions:

1. What is the level of SIUC undergraduate students' awareness and initiative to participate with the garden?
2. How and why was the SIUC student led organic garden established?

3. What is the garden's current structure and resource base?
4. What is a progressive, inclusive, and attainable future model for the garden?

CHAPTER 2

LITERATURE REVIEW

Systems Thinking

If we truly wish to achieve sustainability in any undertaking, we must look critically at our goals and actions. These highly determine where our efforts are aimed, and without an understanding and acceptance of what has created the problem in the first place we cannot achieve anything but superficial change (Hill 1998). We must take the time to re-evaluate our goals and determine higher values that are in line with those that can achieve lasting sustainability. It is by taking the time to do this and creating empowered, aware, competent, informed and accountable citizens that we can design systems that work and will contribute to the rehabilitation of ecosystems, communities, and human development (Hill 1998).

Systems thinking is a way of looking at a complex problem, understanding all of its components, identifying their relationships, and making connections in order to begin progress toward appropriate action and successful change. This way of thinking and learning has been given more attention in recent years because it has been recognized that in order to sustain constructive transformation, different viewpoints and frameworks must be assessed and their interactions understood (Friedman 2010, Godfrey 2010). Evaluating issues with a systems thinking framework allows us to assess the different layers of a problem and connect the pieces. This may take more time, but can maintain and produce positive change and set a course for effective action. This increases our chances of success,

but it requires us to value our future, envision it, and create a map of how to get there (Godfrey 2010).

Systems thinking practitioners must provide frameworks for the integration of different perspectives and provide a model for how to integrate these successfully (Godfrey 2010). Any organization or system must also have some kind of order or clarity in order to be effective and efficient, however this order must be given some room for flexibility in order to ensure the mission and work does not become static and continues to provide a space for creativity and innovation (Shumaker 1973). Since a university is both a large-scale organization and system with many diverse components, it makes sense to rationally evaluate and integrate all of the layers through a systems thinking framework. The student managed garden is also an organization with varying layers and issues that must be dealt with holistically in order to create something that continues to function as well as offer space for creative collaboration between parties.

Interdisciplinary collaboration is needed to evaluate a university at the systems level. It requires empowering people to act, planning for long and short-term goal fulfillment, and integrating new ideas effectively (Friedman 2010). If a change is needed, all those involved must be confident, ready, and willing to take the steps required to implement the changes or new systems. Some have suggested that up to half of institutional failures stem from not performing sufficient readiness accounts (Wiener 2009). Readiness accounts take into consideration the collaborative determination of the stakeholders to take action and their physical ability to do so. If change is dependent on various actors this can be hindered by the non-commitment of a few to the change. However, if all involved parties are confident in their ability to make the transformation

and want to do it as well, the possibility of long term, sustainable change is much higher (Wiener 2009). Questions examining the stakeholders' viewpoints on the necessity, importance, and benefits of the change can help to determine the organization's overall readiness for transformation. Following this with assessing the knowledge of what it will take to effectively manage the change, the availability of resources to do so, and the feasibility of doing it within the current situation will further the understanding of the readiness assessment. If this kind of thinking about and planning for change is adopted there is opportunity for new knowledge development and effective implementation (Wiener 2009). It is also noted that if there is a leadership group that provides consistent messages and actions, and a sharing of information of current and past experiences takes place there could be higher sense of willingness for the change among the different stakeholders and it could also promote a sense of commonality (Wiener 2009).

If we are to increase the pace of significant change, understanding change making and its implementation at various levels is important (Friedman 2010). Another important aspect of assessing transformation is the recognition that a leadership group is needed to move forward with the changes called for in the plan (Friedman 2010). This leadership group however, needs to continually assess their work and provide space for reflection and adaption based on the best available data and opportunities of the time (Friedman 2010). It has also been theorized that it is easy for the top levels to give instructions and carry out their creative projects, but it is hard for this freedom to be transferred to other levels. Therefore, it is important to assess all of the activities of the organization and create as many leadership groups as is feasible (Shumaker 1973).

Systems are not linear and therefore cannot be studied in isolation if the goal is to holistically assess what is happening and determine solutions that are anything more than symbolic change (Hill 1998, Friedman 2010). If we do use systems thinking and re-evaluate our goals and values to reflect what we are trying to create, we can produce systems that are sustainable for the long term (Hill 1998). Understanding ecosystems and recognizing how their interrelated parts work together to perform a job is one step in realizing the quest towards sustainability and can guide us as we use systems thinking. Sustainability is complex, and the only true guides of sustainable systems are those found in nature (Clark 2005). We can learn a lot by studying systems that have been in place for millennia and these can help us model and understand our own relations and how they must be transformed in order to achieve change that is lasting and truly sustainable (Godfrey 2010). The systems thinking that guides organic farmers can be a model for other sustainable systems (Clark 2005).

Organic Agriculture

Organic farmers are, by necessity, system thinkers because long-term sustainability loses out when productivity and economic issues are the only factors considered (Clark 2005, Gomiero et al. 2008). Agricultural yields have more than doubled in the last two decades; however one third of arable land has been lost to erosion. This and other unsustainable soil management practices cost around \$44 billion (US) per year (Gomiero et al. 2008). Alteri notes that conventional agriculture is productive, but this is due to costly inputs and environmental damage (1999). Ecological impacts have been noted in water quality testing. In a study by the US Geological Survey “at least one pesticide was found in more than 95% of stream samples” and in over “60% of percent of shallow wells sampled

in agricultural areas” (USGS 2001, 6). Health issues related to agrichemicals are also prevalent among many conventional farmers (Duram 2005). Alteri states that the development of agroecological systems and technologies which emphasize conservation of and regeneration of soil, water, biodiversity, and other resources is needed in order to meet the growing array of socioeconomic and environmental challenges (1999). Many factors contribute to the continuation of chemical intensive agriculture, but switching to organic agriculture on a large scale could provide solutions to the many problems that conventional agriculture poses and if adopted on a wide scale could provide unity to the sustainability movement (Duram 2005).

This is not to say that organic agriculture left unchecked is sustainable in the long term. There are problems with the organic movement as it exists today including the encroachment of large agri-businesses into organic markets, the lack of long-term land and soil management plans, and using practices that largely go against the sustainable systems of nature (Clark 2005, Duram 2005). Indeed there is money to be made in the organic sector. Organic food has been the “fastest growing segment in the food industry for two decades” (Illinois Local and Organic Food and Farm Task Force 2009). The merging of many large processing companies with organic processing companies has increased and largely gone unnoticed since the adoption of national organic standards, which is progressively following the pattern of putting our food system in the hands of a few very large corporations (Howard 2007). It was also noted by DeLind that organic production practices and marketplaces are increasingly looking conventionalized and meant for large scale producers and produce that has been grown far away (2000). She also notes that the organic certification processes are becoming more like a list of approved and non-

approved substances without a mention of biodiversity. This does not help farmers deal with their local ecosystem nor create a locally relevant, organically managed, biodiverse agriculture systems (DeLind 2000). Alteri notes that organic agriculture should restore “functional biodiversity in the agricultural landscape” (29, 1999). “In agriculture systems biodiversity performs ecosystem services beyond the production of food, fiber fuel, and income”. These services include the “recycling of nutrients, control of the local microclimate, regulation of local hydrological processes, regulation of the abundance of undesirable organisms, and the detoxification of noxious chemicals” (Alteri, 19, 1999). “If the biodiversity components are correctly assembled in time and space they can sponsor their own soil fertility, crop protection, and productivity” (Alteri, 29, 1999). Creating agriculture systems that largely go against the systems of nature, such as leaving soil bare, the dominant use of annual crops, and each year taking the land back to the pioneer stage creates agriculture systems that are unstable and completely reliant on human intervention for their survival (Mollison 1991, Clark 2005).

If we are to achieve sustainability in organic agriculture we need to value small and mid-sized farmers, understand natural systems better and adopt an approach that begins to appreciate and use these lessons as a guide (Clark 2005, Duram 2005, Gomiero et al. 2008). Taking the time to evaluate our practices and learn from nature can provide us a template for productive and sustainable agricultural systems (Francis et al. 2003).

Different farming systems require long term assessments addressing many factors if one is to develop a true understanding of the benefits and drawbacks of each unique system (Francis et al. 2003, Gomiero et al. 2010). Long term studies of various farming systems will be needed in order to fairly assess their production, social, economic, and

ecological capabilities. Organic agriculture that follows the systems of nature and sustainable forest management can build productive, nourishing, lasting food systems and if adopted on a wide scale in combination with sustainable landscape planning can facilitate the building of sustainable communities, connectivity, and a cost effective way to promote biodiversity. However long term, interdisciplinary studies will be needed in order to determine the effectiveness of these land management practices (Duram, 2005, Gomiero et al. 2010).

Researching organic or sustainable agriculture in the way that is necessary is difficult for deeply institutionalized reasons. Duram 2005 notes that faculty doing research on non-conventional agricultural methods have cited biases within the institutions and associations towards agribusinesses as reasons for the lack of information on alternative agricultural research. Francis et al. 2003 also notes that there is a large need for interdisciplinary research, in order for scientific methods to be supplemented with social science processes to understand the entire system; however this is difficult due to the traditional budgets and the autonomous nature of academic departments (2003). Dahlberg furthers this suggesting the traditional reductionist measures taken by some scientists will not properly evaluate regenerative agricultural systems, and an evolutionary, ecological approach is needed (1993). There is also the issue of the lack of training that universities have traditionally offered their students in organic or non- conventional methods of growing (Duram 2005, Gomiero et al. 2008). It has also been found that the research being produced by the USDA-Sustainable Agriculture Research and Education (SARE) program is not meeting the needs of sustainable nor organic farmers and their approach needs to be

modified to make the research being produced relevant to farmers (Duram and Larson 2001).

In addition to changes in research, there is also need for people to begin thinking of food and agriculture differently. There is a need to connect humans to their food source and to nature, and to emphasize the role food plays in the overall health of people and the environment (Shumaker 1973, Francis et al. 2003, Duram 2005, Gomiero et al. 2008). Shumaker argues if the goals of agriculture were expanded to include and value the connection of humans to nature and respect for the land it could provide the food and other materials we require for a satisfying life and also ensure our long-term survival (1973).

One of the reasons organic agriculture has not been adopted on a wider scale is that many people have been raised in cities, are not connected to their food source, want cheap food, and do not understand the issue of food security (Clancy 2004, Duram 2005). If people were to be educated about their food source and its impacts they would likely want more choices. Therefore, if we truly want sustainable agriculture to be adopted on a large scale we must make a commitment to educating people about the connections between environmental and human health and how this relates to food production and consumption (Francis et al. 2003). Organic farming also requires skilled and knowledgeable farmers and until recently agriculture in universities has largely been focused on conventional techniques (Duram 2005, Gomiero et al. 2010).

One of the roles and responsibilities that academia has is that of seeing the big picture, to think, teach, and conduct research holistically and to educate young people and the public about sustainability (Clark 2005, Alshuwaikhat and Abubakar 2008). Shumaker suggests that a great deal of philosophical change must take place before policies regarding

land use will be changed (1973). Starting to educate students of the connections between food and personal and environmental health seems to be a logical place to begin training future leaders and making the necessary, fundamental shifts in thinking that will need to happen for any hope of a sustainable future.

Local Food Systems

A university developing a local food system for its students could be an important way to send a message that this work is important and provides benefits beyond healthy, fresh food. As DeLind noted, the increase of the organic label in the marketplace is creating an environment where people can look at a product, see the organic label, and have no more thought of how the food was produced but automatically think of the product as superior (2000). Michael Pollan also notes that the organic industry has become a \$7.7 billion business, he refers to it as “Industrial Organic” . . . “And now that organic food has established itself as a viable alternative food chain, agribusiness has decided that the best way to deal with that alternative is simply to own it” (30, 2001). Local food systems in contrast, are gaining in popularity and perhaps this movement can help reduce environmental impact from food distribution systems, help people become more connected to food production practices and the growers themselves, and begin taking back ownership of their own food system, arguably a most important system to own.

In a study done by the Leopold Center for Sustainable Agriculture, a Weighted Average Source Distance (WASD) method was used to calculate the single distance figure from production to point of sale on locally produced food verses conventionally produced food for Iowa institutions. It was found that the average WASD distance for locally produced produce to reach an institution was 56 miles versus the WASD distance of 1,494

for the conventional produce to reach the same destination, this is almost 27 times higher than the WASD distance for the locally produced produce (Pirog and Benjamin 2003). It was also found, in this study, that the total WASD distances for the 16 locally produced produce types to reach institutions was 716 miles. The total WASD distances for the 16 conventionally produced produce types was 25,301 miles (Pirog and Benjamin 2003). Conventionally produced broccoli “traveled 90 times further than locally sourced broccoli, while carrots, sweet corn, garlic, onion, and spinach travelled at least 50 times farther than their locally grown counterparts” (Pirog and Benjamin, 5, 2003).

In addition to the environmental benefits of a local food system, a region that begins to produce and buy its own food will increase its economic stability, ownership, and understanding of its food system as well. In a study conducted by the Local Food, Farms, and Jobs State Task Force in Illinois it was found that Illinois residents spend \$48 billion dollars on food, but nearly all of that leaves the state (Illinois Local and Organic Food and Farm Task Force 2009). Illinois is an agriculture state, with 28 million acres of fertile farmland. Indeed Illinois’ farmland contains some of the most fertile soil in the world, however most of the crops produced are for the commodity market and the \$48 billion dollars spent on food are sent to remote places like California, China, and Mexico, (Illinois Local and Organic Food and Farm State Task Force 2009). Making a local food system work however, is complex and there are many different aspects to consider. According to Feenstra, a local food system, in order to work, must take into account the historical reviews of agriculture production in the region, the estimates of the region’s current food production, identify and educate local residents of the seasonality and availability of the food that can be grown and found in their region, the marketing realities that can help

illuminate the “food distribution dynamics, barriers, and opportunities within a specific region” and also the needs of the growers and the consumers, and in large urban areas assess how community and individual gardens, CSA’s, Farmer’s Markets, roadside stands, and U-picks can meet the needs of the diverse residents and the growers themselves (33, 1997). Feenstra also notes that the ways in which a region produces, distributes, and eats its food can “profoundly affect the environmental, social, spiritual, and economic well being of the community” (28, 1997).

Campus Gardens

Implementing a university organic garden is a difficult process but can produce significant rewards. The knowledge and research accumulated at the garden space is largely applied and can be integrated into a wide variety of disciplines through service learning, experiential education, independent study, thesis projects, and many other avenues, and its impacts are measurable through assessing hits on websites, the amount of media attention it receives, the adoption of different practices, and the lives that are changed as a result of the space and its educational opportunities (Albrecht 2010). However, there needs to be an open discussion among administrators over what comprises excellence taking into consideration the needs of undergraduate and graduate students and how the knowledge gained at a garden can be transferred to critical aspects of the university’s mission (Albrecht 2010). Identifying strategic connections are also of vital importance in light of budget cuts and other financial burdens, however many can be found and their contributions can be defined (Scoggins 2010).

The larger community can benefit from the garden through outreach activities such as workshops and conferences and students, faculty, and staff can reap rewards like a

retreat from the stress and pressures of university life, a unique teaching platform, and opportunities for research and other collaborations. These opportunities can prove the garden is a valuable resource and an asset to the community, but the leaders of the garden must be committed to promoting its values and services to administrators in order to achieve, maintain, and increase its relevancy (Scoggins 2010). Different studies have shown that alumni who have worked on garden projects often give back in financial, educational, or material ways and working towards documenting these stakeholders and their importance, roles, and connections can help to solidify the garden's importance and value (Scoggins 2010).

Many universities have implemented courses into the construction and maintenance of a garden. This can be beneficial in numerous ways. At the University of Hawai'i at Manoa the Department of Tropical Plant and Soil Sciences has designed lower and upper division courses that satisfy core curriculum and degree requirements in order to teach students about sustainability, connect and educate them as consumers, and address the need for alternative approaches to education and agriculture (Kobayashi et al. 2010). These courses involve activities such as field trips, virtual field trips, hands on experience, independent research, problem solving, communication skills, decision making, and systems analysis in order to help educate students about organic agriculture systems, how to ensure their sustainability, and how they differ from other systems. The undergraduate class in particular has proven to be popular and successful as the consecutive three-year enrollment numbers were 12, 18, and 24. While it is difficult to design and implement new courses into the curriculum focusing on sustainability, especially at land grant universities, the authors of this article maintain the stance that is correct to do so. These courses have

not only helped to build a university garden but have also given students an opportunity to put their ideas into action, create positive change, and develop practical skills (Kobayashi et al. 2010).

Incorporating pedagogical activities into classes on sustainable food production can also function as a research tool, as has been demonstrated at Ryerson University in Toronto, Canada. Here, design students were challenged with the issue of food production and food security and the thesis projects the students completed proved to be innovative, creative, well thought out, and forward thinking. The students demonstrated not only that community development can be focused on food issues by using vacant land and waste materials, but also that by giving them an opportunity to solve real world problems through academic exercises, innovative solutions can be found and a more rich educational experience is offered (Komisar et al. 2009).

At the University of Toledo in Ohio, multidisciplinary faculty implemented a service-learning project centered on building and maintaining a community garden. The faculty from different disciplines came together to ask the administration for permission to use land for the garden and a steering committee of faculty, advisors, and student representatives was formed and continues to meet to discuss the gardens' goals and overall maintenance. Nursing students used the garden to help further their appreciation of how fresh foods can increase nutrition, especially in low income and homeless individuals and helped build an appreciation of their discipline's history (Ahonen et al. 2012). The Environmental Science department used teaching assistants to organize the garden's activities, which helped to develop a sense of teamwork and cooperation to care for the entirety of the site. The Biology department allowed the use of their greenhouse to start

plants, a separate bulletin board posted regular work-days and pictures of the garden space, and an email list was kept for garden volunteers. The students who worked at the garden reported stress relief and satisfaction in watching their garden grow (Ahohnen et al. 2012). Faculty noted it was nice to mentor students in a more relaxed environment and they felt a stronger personal connection to their students as well after working with them in the garden. Finally, it was noted that service learning is valuable. Faculty noted, “Engagement in service is time well spent. Students gain from working with others toward common goals and reap concrete benefits of a cooperative effort” (Ahohen et al., 87, 2012).

If course design and implementation is not a feasible approach, it has also been shown that independent study and service-based learning activities are valuable tools for promoting sustainability projects on university campuses. Two students at the University of Delaware (UD) took their independent study project to the next level by putting in a sustainable landscape area at their university. They cleared out invasive species, replaced them with native plants, and interpreted the space so that visitors could be educated on sustainable practices they could incorporate at their own homes (Barton et al. 2010). One student facilitated the removal of the invasive species and implementation of native landscaping while the other made interpretive signs and developed a well constructed and educational website that drew national attention. These projects not only provided the campus with an added sustainable, educational, and aesthetic benefit, but also gave the students an opportunity to learn how to design and complete a project and taught them skills for effective collaboration with colleagues (Barton et al. 2010).

Because the main work force for many university gardens and farms are volunteers, the recruitment and management of these resources are very important. By integrating a

service-learning component into courses or other university requirements the garden can be supplied with a steady workforce, and volunteers can be provided with a valuable experience. In a study done by Waliczek and Zajicek service-learning benefits were measured and it was found that service-learning is more effective if there is time for reflection and a chance to see design plans or projects through to completion; however, overall students found their learning experience valuable and noted it helped them to learn the course material (2010). When alumni were surveyed, it was found they had a higher response rate to the benefits of the activity noting that the experience helped them acquire real world skills (Waliczek and Zajicek 2010).

University garden projects can also be used for outreach and developing educational programs for young people in the community. In Louisiana, a nursery program for the restoration of native coastal plants and habitat is based at the state university, but it has been adopted by 38 public and private secondary and elementary schools in the southern Louisiana region as well (Coker et al. 2010). Many different educational objectives can be reached using the nursery program such as plant care, local ecological awareness and appreciation, how to carry out restoration projects, physical science, GPS skills, and life lessons. The role that Louisiana State University plays in this collaboration is that of resource managers and constructors of the nurseries, however the local teachers and students are in charge of the daily operations and maintenance (Coker et al. 2010). The collaboration between the university and local schools has been beneficial for developing an awareness and appreciation for local resources and ecology among students and has provided a base on which a new, similar program in southern Mississippi was developed.

While these projects are complicated to begin and require dedication and long term funding, the benefits and opportunities far outweigh the difficulties (Coker et al. 2010).

Outreach activities undertaken at university gardens can also reach the adult population. Through workshops, volunteer opportunities, and other educational programs the larger community can become involved with the garden and see and appreciate its benefits. It has been shown that community garden participants find the activities performed at the gardens to be beneficial to overall health and wellbeing, a networking opportunity, and a chance for skill development (Wills et al. 2009). Also by showcasing growing systems at an educational food garden that can be adopted on a wide scale, the university can function as a resource for community food security and provide opportunities for social investment (Wills et al. 2009, McCullum et al. 2005). Agriculture partnerships and participatory community food security strategies can promote a holistic approach to health, expansion of green spaces, attention to unemployment issues, lowering of crime rates, a planning framework, and the mobilization of community action around food system issues. These benefits can be achieved by conducting multi-stakeholder workshops that provide a space for those with divergent interests to come together and create a common vision (McCullum et al. 2005).

Researching the future and assessing an organic garden's resources on a university campus can be done in a multitude of ways, but in order for the study to be grounded in practical action there are certain aspects that need to be addressed. The University of British Columbia (UBC) has provided a comprehensive overview of how their food system was assessed, a garden was implemented, and continues to be successful, productive, and a large contributor to many sustainability initiatives on the campus. Rojas et al. used

community based action research as a guiding principle when investigating their food system and offers its benefits as those that empower people to take action by exploring problems holistically and being able to present influential and refined descriptions of the issue at hand (2007). This approach to research must involve multiple actors and commit to open communication, participation, inclusion, and relationship and capacity building in order to help those who may have competing interests come to an agreement (Rojas et al. 2007).

University Sustainability

Approaching sustainability on university campuses is a complex problem, but must be done because the institutions are comparable to major hospitals and hotels in their resource consumption and waste production (Alshuwaikhat and Abubakar 2008).

Managing these issues requires a holistic and systemic approach because many universities have been built on unsustainable practices. A beneficial model for how to approach this is by incorporating and emphasizing social responsibility, public participation, and teaching and research that incorporate sustainability. This can be an example to the community, send the message that it matters, and provide alumni with skills to take their learning elsewhere (Alshuwaikhat and Abubakar 2008). University sustainability requires recognition of the long-term effects of the daily campus activities and the interconnectedness and cooperation needed among the different stakeholders to effectively implement sustainable projects (Alshuwaikhat and Abubakar 2008). Although difficult, university sustainability can be achieved and participation and partnerships can be fostered between the university and other organizations through research, development, workshops, and conferences. The way in which universities carry out their day to day

business sends a message to the public, and if they were to adopt sustainability on a large scale it could demonstrate to the larger community the ways in which institutions and people can work together to achieve environmentally responsible lifestyles and an ethic of accountability (Alshuwaikhat and Abubakar 2008).

The University of British Columbia (UBC) started their adoption of sustainable practices slowly by adopting basic green campus initiatives. This has led to a flourishing community of faculty, students, and operational experts that have come together to “develop courses, partnerships and research, transform the campus’ physical infrastructure, and foster a culture of sustainability at UBC and the wider world”. They have also used their campus as a living laboratory and an agent of change to stimulate interdisciplinary research, instruction, education, and partnerships with communities and the public, private, and non-profit sectors regarding sustainability (University of British Columbia 2010).

Southern Illinois University Carbondale is beginning to work with a sustainability plan. This plan, uniquely student designed, calls for academic programs to rise to the challenge of integrating sustainability into the curriculum, the creation of a sustainability coordinator position, the assessment of various areas of the university for their sustainability or lack thereof, the development of goal and action plans, and the involvement of students in the implementation of the plan and sustainability projects (Dyer 2009). Embedded in these goals is the potential for SIUC to reach the level of UBC and its focus on sustainability. Taking into consideration the serious financial and student retention problems SIUC is currently facing, a unique calling card that would attract and

retain students, faculty, staff, and innovative research dollars could be an important turning point for the university and the region.

Documenting the processes taken to evaluate and sustain the organic garden at SIUC and the connections made in the process are beneficial in that they can contribute to the scholarly literature on the importance and evolution of university gardens, and also continue to secure vital sources of future funding and resources for the garden. This can all fall within the parameters of the SIUC sustainability plan and provide the university with a working model of how to achieve a sustainable, progressive student led garden that will contribute to the academic mission of the university, create opportunities for relationship and capacity building, and provide an invaluable resource to its students, faculty, staff and larger community.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

The purpose of this study was to thoroughly evaluate the student led organic garden to describe its history, current situation, and to suggest a future course of action for the long-term success of the project. This study was also undertaken in order to contribute to the literature that has begun to document the steps taken on college campuses across North America to help implement campus gardens and/ or increase their sustainability. This study specifically focused on garden projects, within the context of campus sustainability. Literature reviews were used to understand what has been taking place at other universities, and surveying undergraduate students and qualitative interviews with key stakeholders were used to understand what has happened to implement and sustain the LOGIC gardens on SIUC's campus thus far.

In order to conduct the research, surveys and qualitative interviews were used to provide an in-depth case study analysis of the student garden. Student surveys were used because LOGIC relies on a student, largely volunteer base for its workforce. In order to investigate whether this is a good structure, it was logical to assess students' attitudes and willingness to work at a garden that grows produce for the campus dining halls. As Weisberg and Bowen suggest, "It is often advantageous to know what people are thinking . . . Ask them" (2, 1977). Surveys are a tool for collecting information and one of the categories of information that can be derived from surveys are "attitudes toward more basic topics," (Weisberg and Bowen, 4, 1977) which was the purpose of this survey.

The next goal of this study was to discover the process behind creating the student garden, understand what its current structure and resource base was, and to determine a possible future model for the garden. Qualitative interviews provide “well-grounded, rich descriptions, and explanations of processes identifiable in local contexts,” (Miles and Huberman, 1994, 1) thus qualitative interviews with key garden experts are the most accurate way to discover these processes and situations. Qualitative research can also help to understand the interrelationships and multiple dimensions of a particular study (Stake 1995). Because a large part of this study sought to determine and understand the relationships between the past, the current situation and resources, and possible future directions, a qualitative interview structure was the best way to conduct this research.

In order to carry out this research, a mixed-methods, sequential exploratory strategy was used. First, surveys were distributed in order to assess the level of awareness about the garden and the initiative to participate with it among undergraduate students. Then, personal interviews were conducted with key experts and relevant participants in order to explore the past, present structure and resources, and future paths of action for the garden. The data from both the surveys and the interviews were given equal weight and were merged together when interpreting the entire analysis and suggesting a future course of action (Creswell 2009).

Survey Phase

The purpose of this phase of the research was to answer the first research question.

1. What is the level of SIUC undergraduate student’s awareness and initiative to participate with the garden?

The first step for this research was started in the spring of 2011 by creating informational flyers that were to be set out on Lentz Dining Hall's tables. The SIUC Dining Hall Assessment Committee approved the flyers to be set out for one month. The flyers were then placed on Lentz Dining Hall's dinner tables in order to educate students about the garden and generate interest. Lentz Dining Hall was chosen because the food that LOGIC produces is sold and served in that particular dining hall and so it was logical to form a connection between the garden and the place where the food is eaten.

The second phase of the research included designing surveys, getting them approved by SIUC's Human Subjects Committee (see Appendix 1), and distributing them in Lentz Dining Hall. The surveys were designed to be clear and brief so students would be able to complete them in a matter of minutes while eating their meals. During the final week of regular classes of the 2011 spring semester, the surveys were distributed during peak lunch and dinner hours. The students were given two sheets of paper. The first was a cover statement identifying the purpose of the project and the students' rights as participants, which they could keep for their records if they wished. The second sheet was the actual survey, which consisted of eight closed-ended questions (see Appendix 2). Students were approached by the researcher and her assistant and were asked for voluntary compliance to complete the survey. If students agreed to participate in the survey, a brief introduction was given in order to inform them of the basic structure of the cover statement and survey. The survey instructed them to circle yes or no to seven questions and fill in their hometown zip code. There was also a space left so interested students could leave their email addresses. Email addresses were not used for any identification purposes, but were added to LOGIC's email contact list. The students

completed the surveys while eating and the researcher and assistant walked around picking up the completed surveys and distributing new ones. This process lasted until 350 surveys were completed. Lentz Dining Hall swipes, on average, 1,800 student identification cards a day, which means that an average of 1,800 students pass through the Dining Hall doors daily. However, many of these students are repeat visitors and it was stated there is no way to get an accurate number of how many individual students are served per day (Smyth 2011).

Survey Analysis

The survey questions were first analyzed using GIS methods. The survey answers were all transferred to an Excel Spread Sheet, and then any survey answer from an international or graduate student was dismissed because this study was primarily looking at undergraduate student's interest in the garden and where in the United States these students had grown up. In total there were 344 surveys that were analyzed, out of 350 answered surveys. The home zip codes were then geo-coded using the website GPS Visualizer (Geocoding). This website turned all of the zip codes into latitude and longitude coordinates. Arc 10 was used to plot the latitude and longitude coordinates onto a United States shape file and then Missouri and Illinois shape files. Various tools were used in Arc 10 to manipulate the data, add graduated colors, and use the information given in the surveys to create various maps showing the spatial distribution of the survey results.

Next, the surveys were analyzed using Excel Spreadsheets and basic statistics. Excel was used to group the survey responses based on class rank and major. Then, Excel was used count the number of times each survey respondent answered yes or no to each question, based on both their class rank and their major. Questions one and two were

analyzed by looking at the spread. Questions four through eight were analyzed using simple statistical measures in order to determine the basic tendency of the sampled group.

The research question, “What is the level of SIUC’s undergraduate student’s awareness and initiative to participate with the garden?” was answered by looking at the overall average of the percentages of surveyed students’ awareness of the garden and interest in volunteering, interning, and learning more about LOGIC. Percentages between 0-25% were classified as low, 25-50% were classified as low to medium, 50-75% were medium to high, and 75%-100% were classified as high. The purpose of this part of the research was to determine if there is enough interest among undergraduate students to maintain a garden that relies primarily on volunteer hours for its workforce.

Qualitative Interview Phase

The second phase of the research was to answer the final three research questions.

2. How and why was the SIUC student led organic garden established?
3. What is the garden’s current structure and resource base?
4. What is a progressive, inclusive, and attainable future model for the garden?

This part of the study took place during the summer of 2011 and consisted of qualitative interviews with key garden experts and relevant participants. These were semi-structured interviews, consisting of open-ended questions that were formulated in order to answer the research questions and to gain perspective on the participant’s educational and gardening background. The participants were contacted via email and were asked to participate in a personal interview that would last for no longer than one hour. The participants were selected based on their work with the garden, their knowledge of its past,

present, and/ or future state, and/ or their relevant ties to future aspects of the garden
(Table 1).

Table 1. Interview participants and their relationship to LOGIC

| Title | Relationship to LOGIC |
|--------------|---|
| SIUC Staff | Involved in Dining Services, Involved in the beginning and current garden |
| SIUC Staff | Involved in Fraternity and Sorority life on campus |
| SIUC Faculty | Involved in the work at the Vermicomposting Center and Sustainable Farm |
| SIUC Faculty | Involved in the beginning and current garden |
| SIUC Alum | Involved in the beginning garden |
| SIUC Alum | Involved in the beginning garden |
| SIUC Student | Involved in the current garden |
| SIUC Student | Involved in the work at the Vermicomposting Center and Sustainable Farm |
| SIUC Student | Involved in the SIUC Sustainability Council and Green Fund |

The participant choices and interview questions were critiqued, expanded upon, and edited by the researcher, the researcher’s advisor, and colleagues. The interviews were taped using a digital recorder and were then transcribed onto a personal computer. Notes were also taken during the interviews in case of technical failure.

A common procedure took place during each interview. The researcher first sat down with the participant and established rapport. This time was also used to ask the participant to read and sign the cover statement (see Appendix 2) which required the participant to answer yes or no to participating and being tape recorded or not, and if the participant could be quoted in the research project. During the interview the researcher allowed the participant to elaborate on certain topics he/ she felt was important and in

some cases asked for further explanation. When the researcher was finished with her questions, she asked the participant if there was anything else she had forgotten that the participant felt was important. In some cases, the answers she received were rich with information and ideas.

Interview Analysis

In order to analyze the interview portion of this research, several steps were taken. First, general ideas of codes were discovered from the literature and considered before the interviews. As the expert interviews were transcribed these primary codes evolved into the first set of themes, questions, problems, and suggestions. Upon reading the interviews, these themes, questions, and problems were written in the margins of the transcribed interviews. The themes were all given their separate Microsoft Word Document and pieces of each interview that fit the theme were inserted in the document with the names of the participant in each heading. After these documents were thoroughly assessed and coded, memos were developed which served to connect and organize statements, draw conceptual and theoretical coherence, and form constructs which pulled ideas together to form an integrated description of the garden's historical and current situation and began to offer suggestions for the future (Creswell 2009, Miles and Huberman 1994). The researcher then arranged the data in both paragraph and table form in order to better understand what had been found (Miles and Huberman 1994).

CHAPTER 4

RESEARCH RESULTS

Survey Results: SIUC Students Who Eat in Dining Halls

The surveys garnered extensive information that is useful in understanding students' initiative to participate in the garden. Students who ate in the dining halls were targeted for this study. There were 344 valid surveys that could be used for analysis. A diverse group of students from different class ranks and various SIUC colleges and programs were surveyed. Most of the students that were surveyed were Freshmen and Sophomores (**Figure 1**).

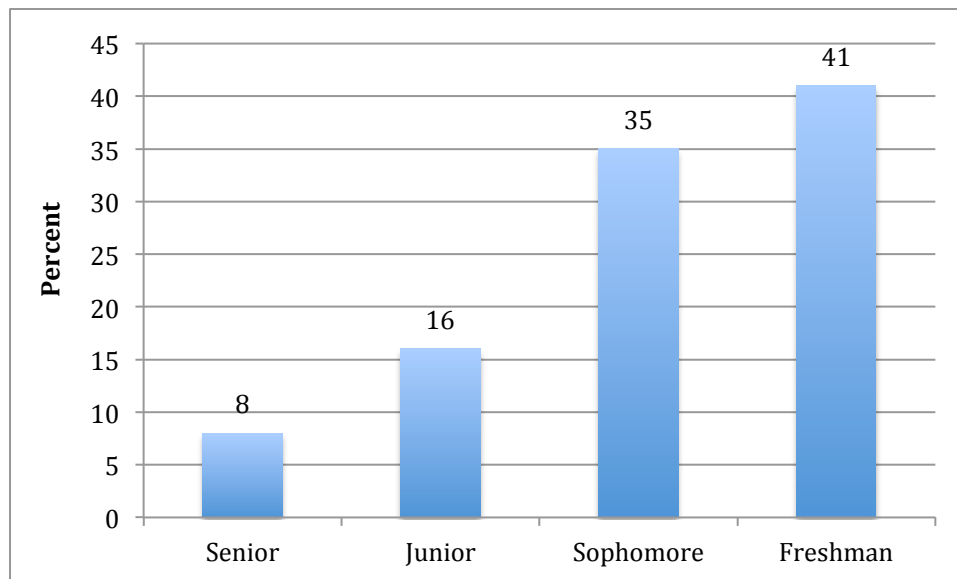


Figure 1. Percent of students surveyed by class rank

The surveyed students came from an array of colleges and programs at Southern Illinois University; in fact each undergraduate college at the university was represented by this survey (**Table 2**).

Table 2. Colleges or Programs of Surveyed Students

| College or Program | Referred to in text as |
|-----------------------------------|-------------------------------|
| Agricultural Sciences | Agriculture |
| Applied Science and Art | Applied Science |
| Aviation | Aviation |
| Business | Business |
| Center for Academic Success | Academic Success |
| Education and Health Services | Education |
| Engineering | Engineering |
| Liberal Arts | Liberal Arts |
| Mass Communication and Media Arts | Mass Communication |
| Pre Major | Pre Major |
| Science | Science |

Over three fourths of the students surveyed were from Engineering, Science, Agriculture, Liberal Arts, and Mass Communication (**Figure 2**).

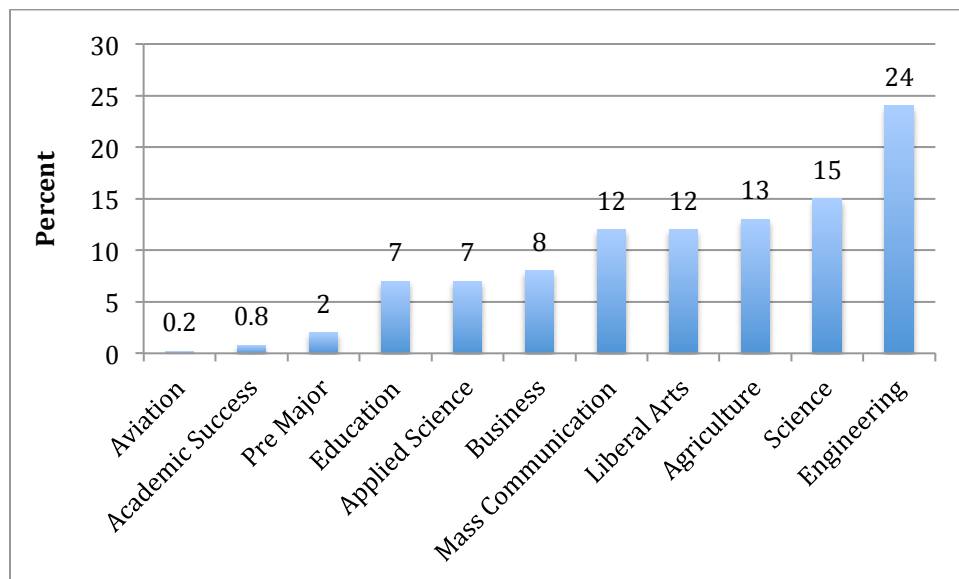


Figure 2. Percent of surveyed students by academic college/ program

As the table shows, surveyed students in the Departments of Aviation, Academic Success, and Pre Major were a very small portion of the total. They are therefore discarded in order to reduce errors in the analysis.

The next question investigated the spatial distribution of the surveyed students' home zip codes. This information was used to create simple maps to understand where the students had grown up and how this may or may not have related to their interest and experience with organic gardening. **Figure 3** shows where students' home zip codes were and whether they had experience with organic gardening.

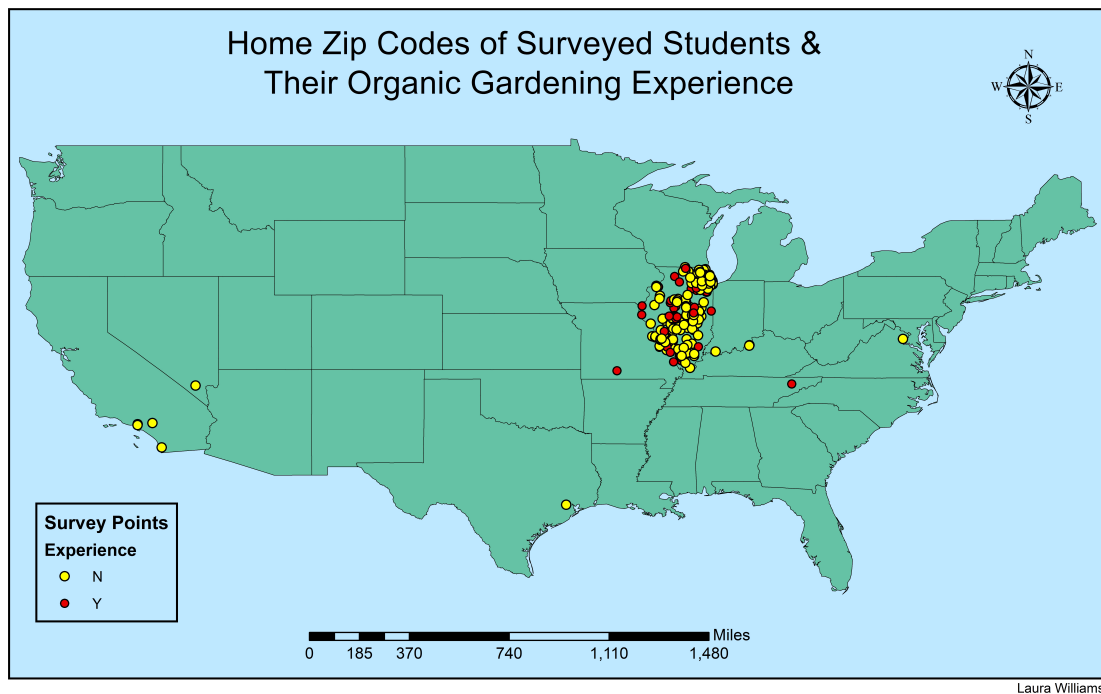


Figure 3.

Many of the students who were surveyed gave home zip codes from Illinois and Missouri, therefore another map was made to see more detail on where students were from in those particular states (**Figure 4**).

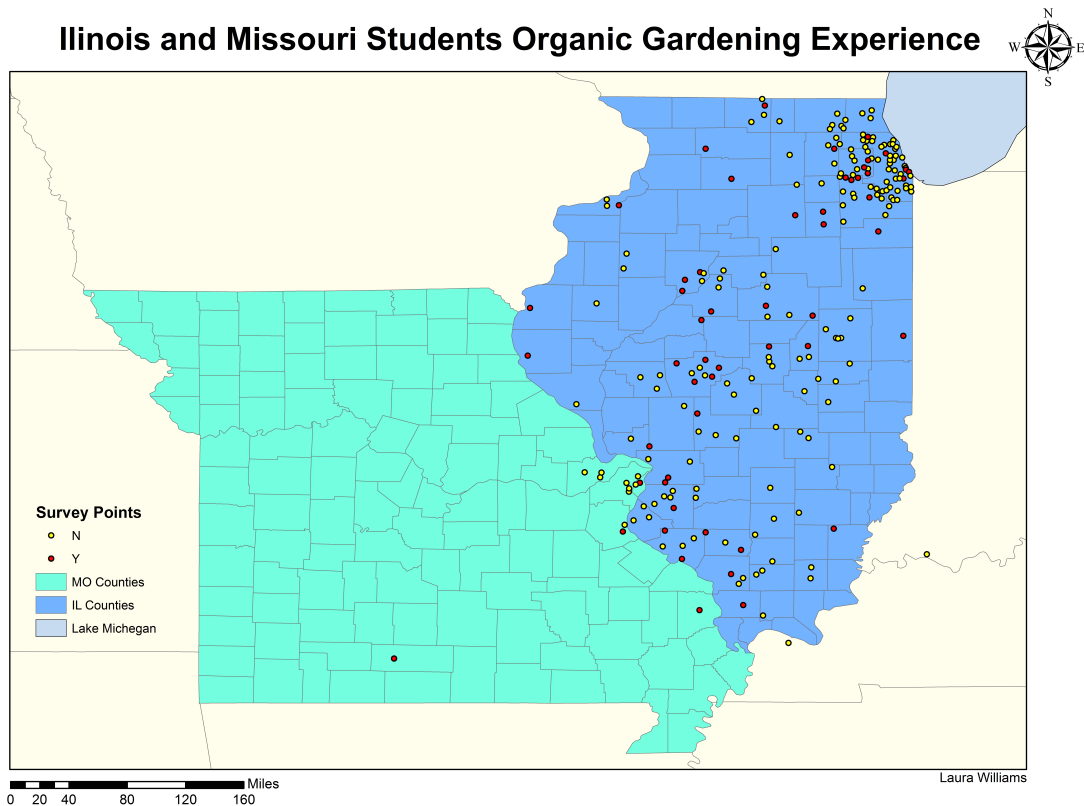


Figure 4.

The next set of questions sought information regarding the student's experience with organic gardening and if they knew the LOGIC gardens on SIUC's campus existed. The highest surveyed students who had experience with organic gardening were from Applied Science, Engineering, Science, and Agriculture and the lowest were Business (**Figure 5**).

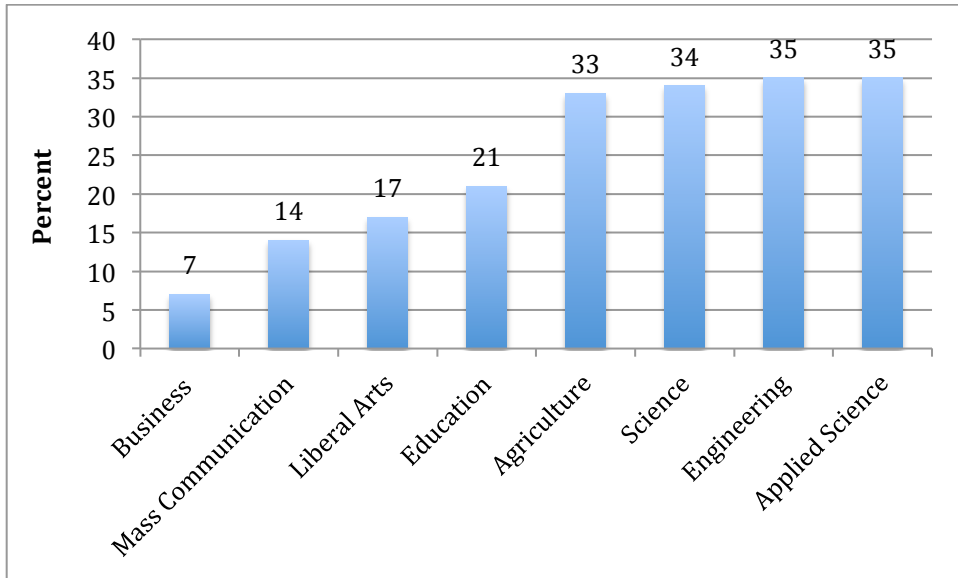


Figure 5. Surveyed students experience with organic gardening, by college

The highest group of surveyed students, by class rank, to have experience with organic gardening were Seniors and the lowest were Freshmen (**Figure 6**).

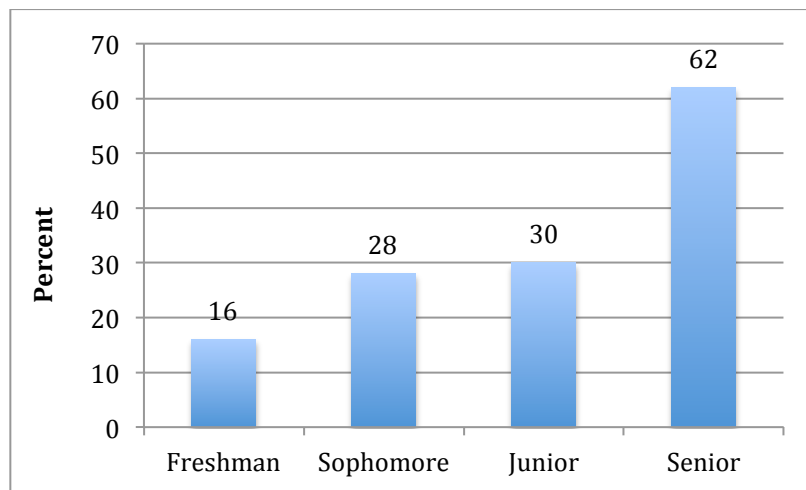


Figure 6. Surveyed students experience with organic gardening, by class rank

Agriculture was the most numerous group of surveyed students to know of LOGIC's existence. The lowest group of surveyed students to know of LOGIC's existence was Mass Communication students (**Figure 7**).

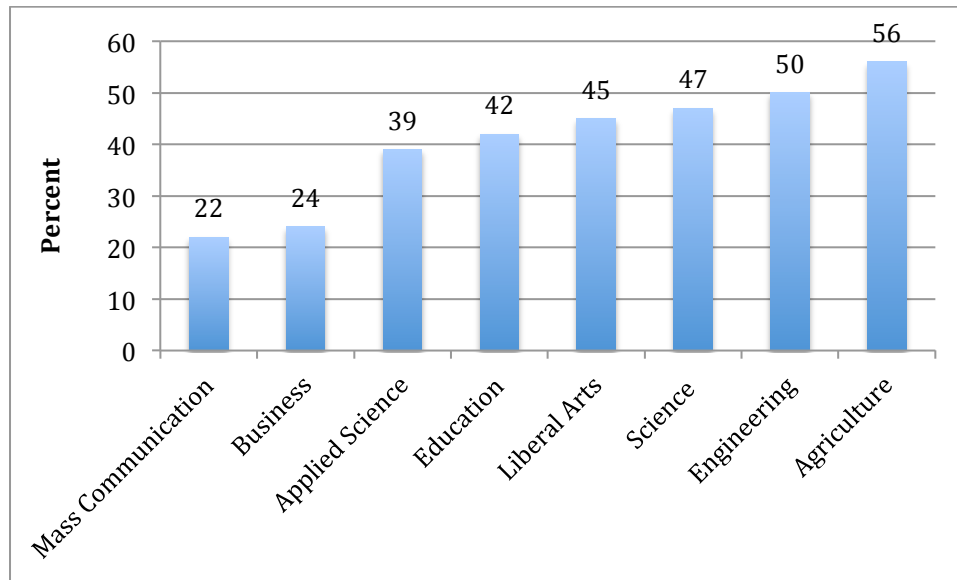


Figure 7. Surveyed students knowledge of LOGIC's existence, by college

The highest group of students, by class rank, to know of LOGIC's existence were Seniors and the lowest were Freshman (**Figure 8**). The higher numbers of students to know of LOGIC's existence may be attributed to the informational fliers set on the dining hall tables.

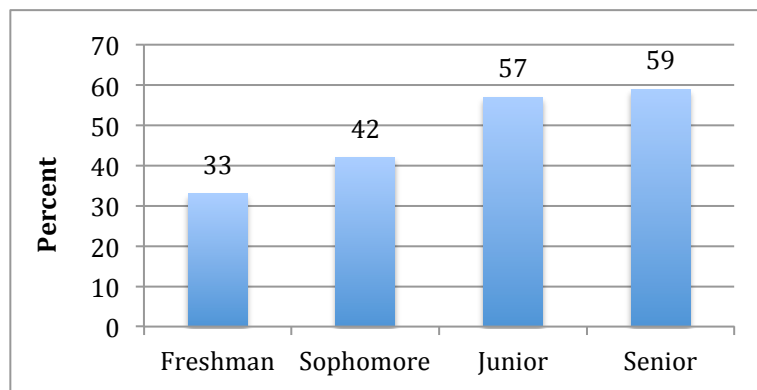


Figure 8. Surveyed students knowledge of LOGIC's existence, by class rank

Agriculture and Science students had the highest percentage of surveyed students expressing interest in volunteering at the garden (**Figure 9**).

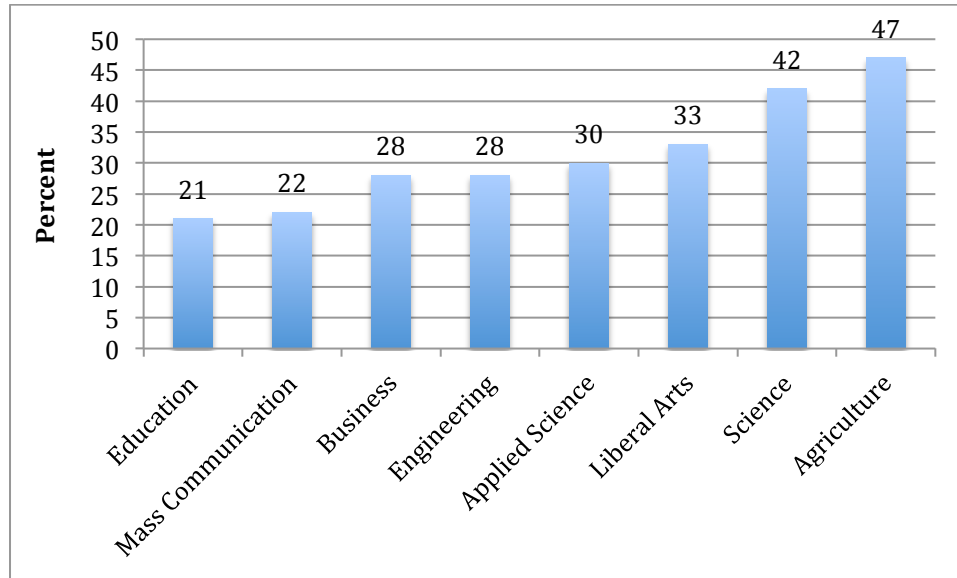


Figure 9. Surveyed students' interest in volunteering at LOGIC, by college

Sophomores were the highest group of students to say they were willing to volunteer at LOGIC and Seniors had the least interest in volunteering at LOGIC (**Figure 10**).

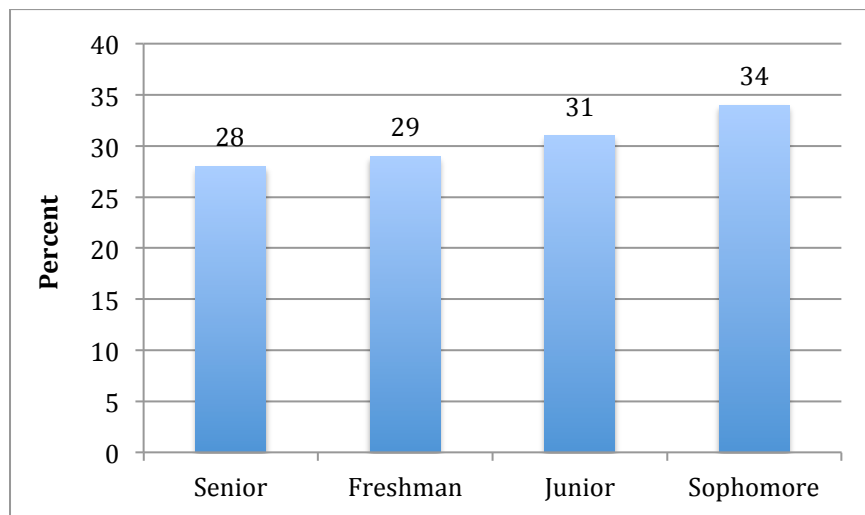


Figure 10. Surveyed students' interest in volunteering at LOGIC, by class rank

The highest group of students to suggest they were willing to intern at LOGIC came from Agriculture and the lowest were from Liberal Arts (**Figure 11**).

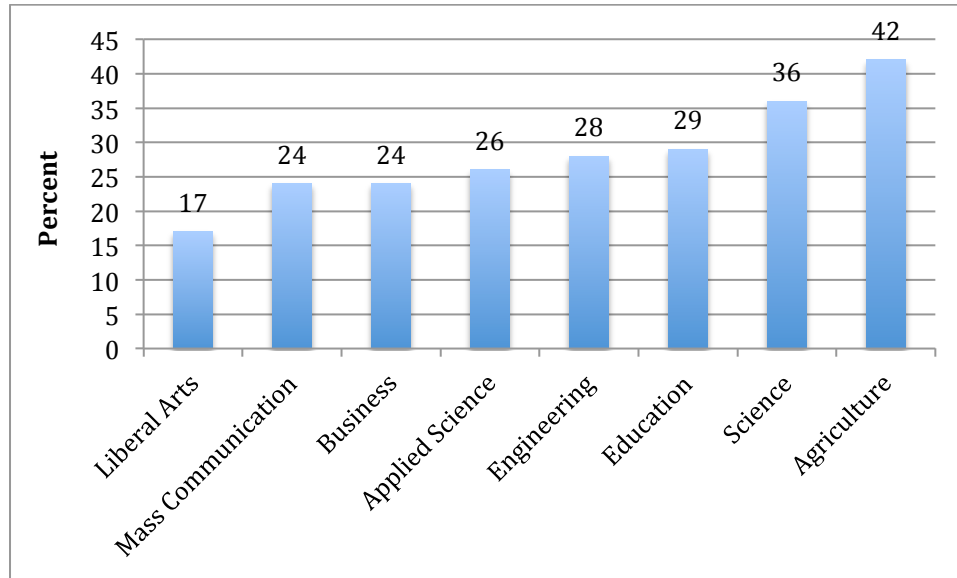


Figure 11. Surveyed students' interested in interning at LOGIC, by college

The highest group of students to say they were willing to intern at LOGIC, by class rank were Freshmen and the lowest were Juniors (**Figure 12**).

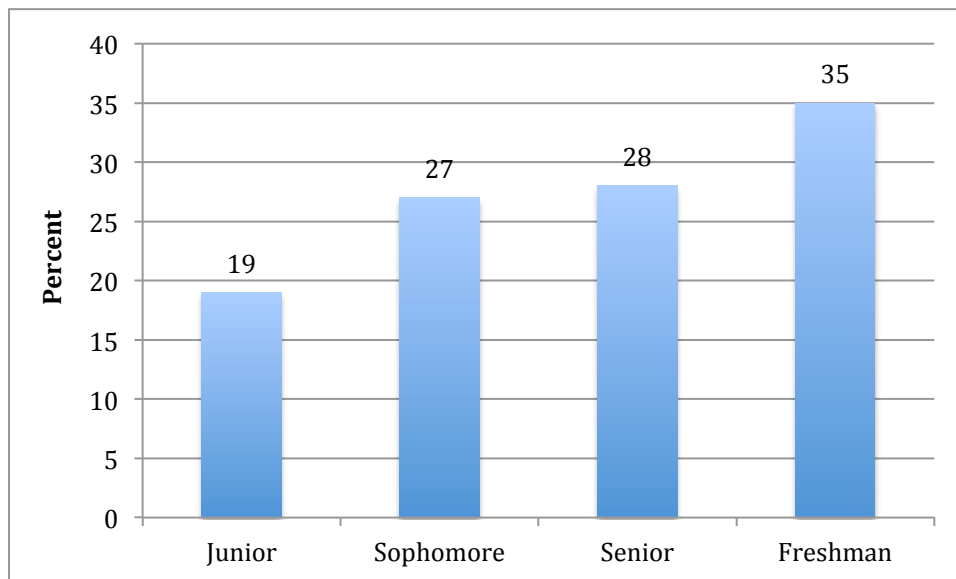


Figure 12. Surveyed students' interest in interning at LOGIC, by class rank

Finally, information was collected to understand how many students were interested in learning more about SIUC's student organic garden; this information was used to build the LOGIC email list, as interested students could leave their email addresses. Science, Agriculture, and Liberal Arts surveyed students were the most numerous group to say they would like to learn more about LOGIC and Education students were the least numerous group to express interest in learning more (**Figure 13**).

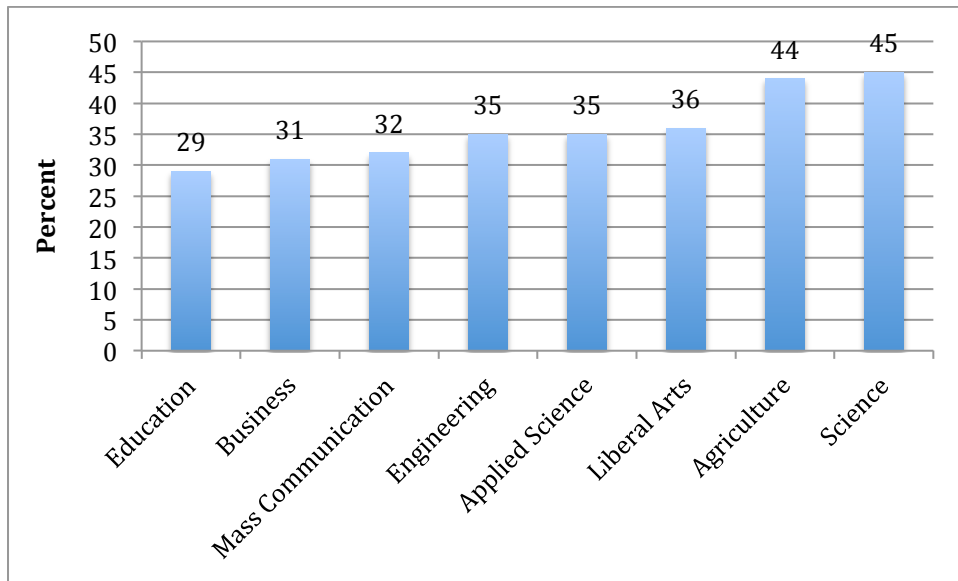


Figure 13. Students that wish to learn more about LOGIC, by college

Seniors were the most numerous group of surveyed students to say they would like to learn more about LOGIC and Freshmen were the least interested group in learning more about LOGIC (**Figure 14**).

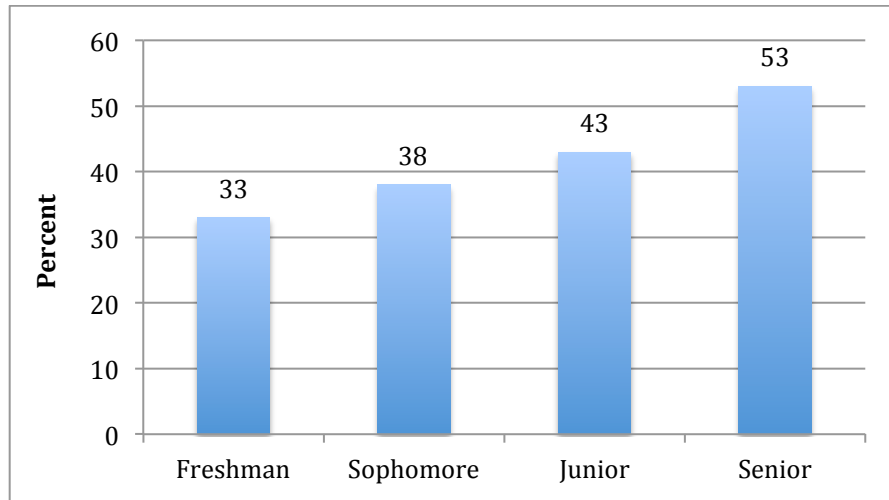


Figure 14. Students that wish to learn more about LOGIC, by class rank

The survey data helps to assess LOGIC, and to understand if the arrangement of the garden being student managed and maintained is a good structure. It also gives good insight into which colleges and class ranks should be targeted when doing public relation campaigns on campus. The interview results give more information on how the campus garden was started, what the current structure is, and with the survey results will help to structure an attainable future model.

Interview Results: Campus Experts

As previously mentioned, the key experts interviewed for this study were chosen because of their participation with LOGIC in the past, currently, and/ or because they could offer suggestions for the future growth of LOGIC (see **Table 1**). All of the participants had also been involved in agriculture and/ or gardening at some point in their lives, some more than others. Most of the participants came from agricultural or gardening families and so

were introduced and felt a connection to growing food from that, as well as their current efforts toward growing food (Participant 2, 3, 4, 5, 6, 7, 8, and 9, 2011). Current gardeners or farmers had interesting comments on growing food and what it means to them. The one common theme that ran throughout this part of the interviews was that growing food is hard work (Participant 1, 4, and 6, 2011).

Establishment of LOGIC

Key Steps

The expert interviews first highlighted how the LOGIC gardens were initiated on SIUC's campus (**Table 3**).

Table 3. Key steps, goals, and people in initiating LOGIC

| Key steps in establishing LOGIC | By whom |
|---|--|
| Student desire to produce food for the university | Student Environmental Center/ Geography and Environmental Resources Students |
| Geography Field Methods Class – Proposal made | Geography and Environmental Resources Students |
| Christenson Award for Sustainability - \$500 | Geography and Environmental Resources Students |
| Relationship building | Students/ Staff/ Faculty |
| Permission to build the garden | Dr. Brian Klubeck |
| Original Goals | Reason |
| Organic, local food to the dining halls | Decrease carbon footprint of the university |
| Education | Demonstrate the benefits of growing food organically and locally |
| Sustainable | Education of sustainable systems |
| Community Oriented | Involve the local organic community and student community |
| Key people in establishing LOGIC | Title |
| Melissa Brandt | SIUC Alumn |
| Bill Connors | SIUC Dining Staff |
| Peggy Connors | SIUC Housing Staff |
| Dr. Leslie Duram | SIUC Faculty |
| Jon Dyer | SIUC Alumn |
| Phil Gatton | Plant and Service Operations |
| Dr. Brian Klubeck | SIUC Faculty |
| Neighborhood Co-op | Community Business |
| Leah May | SIUC Alumn |
| Patrick Sweeney | Community Farmer |
| Dr. Matthew Therrell | SIUC Faculty |
| Bruce Tipps | SIUC Alumn |
| Andilee Warner | Recycling Coordinator |

Participant 1, 2, and 4 all stated that the campus gardens were started by students' desires to have a garden on campus that grew food for the school (2011). Participant 1 and 2 stated that the campus group, the Student Environmental Center, later re-named the Eco Dawgs, began the process of initiating the garden in the Fall of 2008, with students expressing a desire for this project to come to fruition. This process was later taken over by students in the Geography Department (2011). Participant 2, 3, and 4 all stated that the Geography Field Methods class, Geography 433, was a catalyst for the "coherent, strategic plan" that was finally put together to get the LOGIC gardens started (Participant 2, 2011).

In Geography 433, a group of students "mapped out where the project would be, how they would build it, and what they needed to do to get it started" (Participant 3, 2011). Through this process, they were able to submit a professional project that was entered into an awards ceremony that the Geography Department holds each spring. The students who entered the LOGIC gardens project proposal won the Christenson Award for Sustainability, which awards \$500. According to participant, 2, 3, and 4 this money was the key to getting the garden started. The students donated the \$500 to the project and this went towards buying the products such as wood, linseed oil, and other necessary items to build the initial four raised beds that began the LOGIC gardens (2011).

The interviews also illuminated the process of determining where the garden would be physically located. Participant 4 stated the students interested in the project had to go through the bureaucratic levels of the university in order to get the correct approvals for permission to establish the garden. With the help of a few key people and the professional proposal drawn up in the Geography 433 class they were able to obtain permission for the garden provided it was functional, looked nice, and "fit a specific purpose which was to

deliver food to the dining hall” (2011). Participant 2 also confirmed this process but provided a little more insight. This participant stated a key ally in the process was the recycling coordinator at the time, who knew of the grounds near the Vermicomposting Facility, which was a little off campus. The students had initially wanted the garden to be on campus, to “have high visibility for the local produce being grown” but the Plant and Service Operations Director did not want the garden to be on the main campus. The recycling coordinator’s boss was the Plant and Service Operations Director and with time, the Vermicomposting Facility’s grounds were suggested for the garden’s site. The students then realized this could be a great spot for the garden. Participant 2 stated,

We started thinking about it and realized that actually . . . this is a great spot for the garden to be because . . . it is right next to the vermicomposting . . . we could do this . . . closed loop system in theory, although at the time the Vermicomposting Center really wasn’t taking much food waste at all, but . . . the potential was there (2011).

Along with the relationships built with the Plant and Service Operations and Recycling coordinator, there were also important ties being made with the Agriculture Department, whose land the garden would be located on, the Dining Services staff, and the Geography and Environmental Resources Department at SIUC, all whom provided the needed support for the initial gardens to be built (Participant 2, 2011)

Original Goals

Interview data also focused on the original goals of LOGIC. The first goal that was identified in a number of the interviews was that the garden would be organic and would provide local produce to the dining halls. Participant 4 stated that the primary goal for the garden was to produce organically grown food because another Geography class, the Geography of Local and Organic Food (Geog 429) had taught her that organic farming was the “most beneficial form of farming” and was also the method that the group agreed would

be the most sustainable (2011). Participant 2 echoed this statement and also mentioned producing local food for the dining halls and trying to reduce the university's carbon footprint was important as well. He stated,

The original goals were really simple . . . to provide local produce to the dining halls was the original goal in my mind . . . so there is an acknowledgment of our far flung food distribution system so in that there is the intention to reduce our carbon footprint associated with food and all the other resource inputs therein . . . so there's a localization component and then there's the organic component . . . we want to provide local food to reduce our footprint (carbon footprint) . . . but there was also the desire to . . . reduce all the other hazards associated with food production through growing organic (2011).

Participant 1 also stated that the original goals included trying to “educate the students on the benefits of growing vegetables organically” (2011). Along with growing food locally and organically, the interviewees also described other goals as well.

Other goals of LOGIC were to be sustainable and community oriented (Participant 4, 2011). This participant stated that demonstrating a closed loop system, through eventually using the Vermicompost being made on site with post consumer food waste from the dining halls, was an important goal to create a “sustainable cycle” (2011). This cycle was also mentioned in Participant 2's interview when speaking about where the garden would be located (2011). Participant 4 also mentioned the original goals were to incorporate the local organic farming community and the student body community. This participant stated, “Incorporating the student body community, getting the students involved, seeing what they're interested in, and if the student body would want to come out and start producing some of the food for the student body so again helping to complete that circle” (2011).

Key People

The interviews also asked who the key people involved in the original garden were. It was noted, by Participant 1 and 3, that the two key students getting the garden started

were Jon Dyer and Leah May (2011). These two students were studying Geography and Environmental Resources at SIUC, and according to Participant 4, Jon “knew a lot about the school politics and . . . was able to help us really organize our thoughts” (2011). Other key students involved were Melissa Brandt and Bruce Tipps (Participant 2 and 4, 2011). There was also support given by Peggy Connors and Bill Connors of the Housing Department (Participant 2 and 3, 2011). Phil Gatton and Andliee Warner of Plant and Service Operations helped to secure the land for the garden and Dr. Brian Klubek from the Plant and Soil Science Department gave the final approval for the garden (Participant 2, 2011). There was also support in the Geography and Environmental Resources Department given by Dr. Matthew Therrell and Dr. Leslie Duram (Participant 2). Community support was given by the late organic farmer Patrick Sweeny, in the way of plants and guidance, the Neighborhood Co-Op which sold materials at cost to the students, and Food Works Directors, Dayna Conner and Jerry Bradley offered a small amount of guidance as well (Participant 2, 2011).

Current Operations and Resources

The current goals of LOGIC were also discussed in the interviews (**Table 4**).

| Current goals of LOGIC | Current Key people | Current resources |
|---|---------------------------|--------------------------|
| Educate students how to grow food organically | Garden Manager | Housing Department |
| Economic Development | Members of the RSO | Green Fund |
| Increase production | Volunteers | Students |
| Increase student involvement | Chef Bill Connors | |

Table 4. Current goals, key people, and resources of LOGIC

Participant 1 and 5 stated that currently a goal of LOGIC is the education of students about organic gardening (2011). Participant 5 went on to say that LOGIC “should focus

more on the outreach and education part, just a place for students to come and learn . . . and get volunteer hours and service learning” (2011). Participant 3 stated additional current goals of LOGIC are economic development and increasing production and student involvement (2011).

The current key people were also defined in the interviews. It was stated that the current garden manager, members of the LOGIC RSO (Registered Student Organization), and volunteers are the key players for LOGIC currently (Participant 1, 3, and 5, 2011). Another key player in the student garden, Chef Bill Connors, the head chef for the Residence Halls on campus, was mentioned as well. Participant 3 stated, “He’s a big champion. He always has been too . . . he helped them out a lot, he gave them a lot of money in the beginning and so I would say he’s champion more than anyone really” (2011). Participant 2 had mentioned this in his interview as well stating, “Here’s the thing, Chef Bill was involved way back then. He was a part of those early discussions. He was one of the first staff people we brought in because we knew he was interested” (2011).

The current operations were defined as a garden manager who oversees all of the operations and gets paid for the work. The other workers are volunteers, but the entire workforce comes from students (Participant 1, 3, and 5, 2011). The economic resources come from the Housing Department and the Green Fund (Participant 1, 3, and 5, 2011). It was stated that Housing provides “the seed, the tools . . . and general support” (Participant 1, 2011). Participant 3 outlined the Green Fund’s importance,

The number one resource is the Green Fund . . . they’re paying for your assistantship . . . and they paid for the work that you did before . . . they paid for the hoop house . . . that’s certainly the biggest resource . . . at least economically . . . the most important resource is students . . . You can throw money at it all day but . . . you wouldn’t get a very good result if people weren’t . . . working out there and sweating and making it . . . a labor of love (2011)

Future

Logistics

Another focus of the interviews was LOGIC's future (Table 5).

Table 5. The Future of LOGIC

LOGIC's Future

Logistics

Increase production

Work with Plant and Soil Science Department

Work with Vermicomposting Center to increase production and/ or understand better what compost can be used

Permanent garden manager position

Student workers for peak times

Raise student awareness and participation

Involve fraternities and sororities

Decide where food will go-Dining halls or to another venue

Resources

Funding

Workforce

University Support

Community Support

Networking/ Linkages

Agriculture Department

Academic Community – faculty, students, alumni

Community – organizations, schools, organic growers, businesses

Courses of Action

Decide on using the term “organic”

Expansion

Train workforce

Track profitability

Decide on LOGIC's structure: garden, farm, or help develop a farm

Help develop sustainability center

Mission

Produce food for dining halls, sell it through another venue, or let volunteers have it

One aspect of LOGIC that was stated needed to change in order to successfully exist into the future was that the garden needed to produce more food (Participant 2 and 6, 2011). Participant 6 stated, “I think one of the main things you need to do . . . if that thing is

going to work for you, is to . . . do a little more production” (2011). This participant noted that working with the SIUC Plant and Soil Science Department’s part of the local food production on campus would be beneficial. He stated, “There’s things in there that we can kind of focus on, together. I think if we work together, that’s how we’re going to have to, how things are going to kind of have to work and pull together” (2011). He also stated that upper administration needs to commit to this work as well, “We’re trying to do this grass roots thing, start from the bottom, but . . . we’ve got to have money coming in from somewhere to . . . start the whole process” (Participant 6, 2011).

Another issue that ran through this part of the interviews was the Vermicomposting Center and how the work there can help LOGIC grow. Participant 2 stated that better communication between the Plant and Soil Science Researchers and the LOGIC gardeners about the vermicompost itself would be helpful (2011).

“There was always some uncertainty or lack of clarity on . . . how much we could have . . . Better lines of communication between what type of research is being done, what their needs are, what our needs are, and how they can both be met . . . Simultaneously” (Participant 2, 2011).

Another part of the discussions about the Vermicomposting Center during the interviews focused on the Center itself running more smoothly and efficiently. Participant 2 stated if the center ran more efficiently, the LOGIC gardens could demonstrate the closed loop system they had wanted to accomplish in their original goals (2011). Participant 4 and 9 also echoed this statement. Participant 4 stated the Vermicomposting Center is a wonderful facility and “should be operating at a high rate” (2011). Participant 9 stated it would be wonderful for LOGIC if it was able to use the vermicompost (2011), however all of these participants also stated it is an entire other issue to get the facility to be more productive. Participant 8 highlighted the fact that LOGIC volunteers giving their time to

help clean up the facility was beneficial and also if they could spend more time there volunteering and gaining more knowledge it could help LOGIC become a more sustainable group (2011).

Other issues brought up during this part of the interview focused on the garden's workforce, which revolved around different themes. The first idea mentioned was the need to make the current garden manager position a permanent, student position funded possibly by the Housing Department, and also to make this position remain in the Geography Department. Along with this, it was mentioned there could possibly be student workers paid to help the manager get through peak times (Participant 1, 2011). It was stated that volunteers are good because they are free, (Participant 3, 2011) however Participant 6 noted that volunteers are less reliable than paid workers and many do not want to work during peak times (2011).

The other themes centered around encouraging students to participate and raising awareness on campus. Participant 4 also said raising awareness and getting more people involved is important, "emails, blogs, . . . fliers on campus" are all important pieces of creating awareness on campus. One participant noted that the dining halls do a good job of labeling what food is grown at SIUC, and if you could "connect it back" and let people know they can volunteer and help with the growing process it could help generate interest and expand the garden (Participant 7, 2011). Other participants stated that it was important for people to see we are committed to this work and getting it publicized more either through blogs or websites so people can learn about what is going on is also important (Participant 6 and 8, 2011). Another participant stated it is important to let people know of

the “potential of a certain system . . . in this case the Local Organic Gardening Initiative of Carbondale” (Participant 4, 2011).

Participant 7 gave many leads on how to involve the fraternities and sororities, including attending the Inter-Greek Council Meetings that includes 28 fraternities and sororities and around 780 students. This participant stated “they have meetings, and you are welcome . . . to come and talk to them” and describe what LOGIC does and that they can earn service hours there, “people will sign up,” he stated (2011). This participant also offered to pass out fliers in the Inter-Greek Council office through the fraternity and sorority mailboxes (2011).

Finally, the interviews focused on the actual workings of LOGIC and how it was meeting the needs of the different groups involved. Participant 2 stated in the beginning, the process of growing food for the dining halls was relatively simple and easy. “It just . . . worked,” he stated (Participant 2, 2011). However, a different, more current volunteer relayed another sentiment. Participant 5 stated,

It doesn't seem like the amount of food that we grow is doing enough to make a difference in the dining halls . . . so it would be nicer if we could perhaps keep the food, or have something to go and show their friends, you know, I grew this . . . it would bring more people in. And secondly, if we could perhaps . . . sell it at Farmer's Markets or even on campus . . . raise money for . . . the club . . . and we could put that towards more activities and then bring more people in . . . I think it would make the garden's operations, the whole thing run a lot smoother (2011).

Resources

Some major themes regarding resources that the interview participants found to be important emerged during the interviews as well. Funding, workforce, university and community support, and an awareness the garden exists were found to be the most common resources mentioned. Funding and a reliable workforce was a major theme

mentioned by three of the participants as a needed resource in order to keep LOGIC functioning. Participant 8 stated that funding always keeps things “running more smoothly” (2011). In the same way, Participant 3 noted,

You have to have money to do anything . . . I don't think any students are going to do all that for nothing . . . for free completely. And I don't really even think you want . . . a complete volunteer force . . . I think you need a paid manager. Because . . . if it's something that somebody's not getting paid for, then they really don't have any responsibility for it . . . I think the manager position needs to be paid . . . and so . . . there's always going to be money in this equation (2011).

Participant 6 also thought funding was needed for a workforce, “Manpower is important. We have to have funds to pay people, for sure” (2011). Along the same lines, Participant 5 said, “Resources are definitely just people and proper management” (2011). Participant 1 noted the most important resource for LOGIC was the garden manager position. He also stated, “It can't just be any person . . . It's gotta be a person that's . . . highly committed to trying to . . . grow things organically . . . and with it the background mission being to educate the students about the benefits of growing organically” (2011).

Next, it became apparent that university support and community support were very important resources for LOGIC's future as well. Participant 2 indicated the relationships the students had built on campus were the most important resources LOGIC had when trying to establish the garden. He stated, “Here's the thing. If one of those people hadn't been supportive . . . we'd have issues everywhere . . . relationships with key stakeholders were definitely the biggest resources. Hands down” (2011). Participant 3 suggested that university support was important as well, especially coming from upper administration. It was said, “If we had real strong administration support we could probably . . . have the money” (2011). Participant 6 also noted administration support was important. “They have to make a commitment for the Sustainability Center to work. And it has to come from

upper administration” (2011). Support from the larger community was also mentioned as a potentially important part of LOGIC’s future.

And community support would be really good too because that would equal more volunteers and potentially more money. And so you just really need buy in from the community, both the . . . campus community and the larger community . . . So I think just the support of the various communities is . . . really important . . . because that’s where the money comes from . . . the support of some community (Participant 3, 2011).

Networking/ Linkages

Next, the interviews sought to understand what networks or linkages were needed for LOGIC’s continuation. The first linkage that was seen as important was the link with the Agriculture Department. Participant 8 said, “I think there is a bridge between the two (LOGIC and Agriculture Department) and I think that we should use that as much as possible” (2011). Participant 1 also noted,

I really like the idea of working with the Agriculture Department to accomplish this goal. I think that the two highly different departments in the university working together to raise food for the students, to make the students aware of where their food comes from and how it’s grown . . . is just a really good educational opportunity for the university (2011).

Participant 4 also mentioned the Agriculture Department link was important. Participant 4 stated, “I think it’s wonderful that you’re working with the Agriculture Department . . . having that relationship is invaluable” (2011).

The next theme that emerged was networking with the larger academic community at SIUC, through various routes. Participant 9 had this to say about networking with faculty,

Make contacts with . . . other departments . . . There are faculty in other departments who are very interested in supporting what is going on and would be happy to be a hub to whatever degree for students who have similar interests (2011).

Participant 2 also said networking with faculty to try and identify classes that would be relevant for a tour of the LOGIC gardens would be beneficial (2011). Participant 7 suggested getting an email out on the faculty list serve may be a good way to contact a large number of faculty members at one time (2011). Participant 4 stated, “SIUC is a very ecologically based school in a way, with such a great Forestry program and Agriculture program as well, and I do think that the students . . . if they knew more, they would be willing . . . to be involved” (2011).

Participant 7 and 9 also offered ideas on how networking with students in other departments, perhaps not traditional ecologically based departments, could be important. They stated Public Relations students could do PR campaigns for LOGIC, Marketing students could help come up with marketing strategies, Business students could help with business proposals and/ or plans, and Advertising students could also help. It was suggested this could go through different RSO’s that are dedicated to those various kinds of work, or classes where students could do their projects focused on some aspect of LOGIC that could use some assistance (2011). It was also stated that LOGIC needs PR because the gardens are not on the main campus and people “just do not know about it” (Participant 9, 2011).

Networking with students in general was also a popular idea. Participant 1 stated, “Networking with students . . . being . . . known in the student areas . . . so that the students know this is going on” is important (2011). Participant 3 further suggested this avenue,

Students are probably the most important community to interact with. Because that could help in a lot of ways . . . Volunteers . . . I don’t think the garden is going to make any student think they don’t like this place (SIUC). And I think it could make a lot of them feel really good about this place. And that helps in lots of ways . . . With recruitment, retention, alumni donations (2011).

Participant 7 gave ideas on how to network with not only the current student population but alumni as well. Tailgating with the SIUC Alumni Association at home football games was mentioned as a way to gain notoriety with a larger audience. This participant stated that the homecoming tailgate is a free event, and perhaps by participating with the Alumni Association, LOGIC “might find a huge ally” (2011). It was also mentioned that during the beginning of each school year there are events, which draw in a lot of students and parents, at which LOGIC could set up a table at and perhaps gain support and new student interest as well (Participant 7, 2011).

The last theme suggested was networking with the community, also through various avenues. Different community organizations were suggested to network with including Food Works, a local non-profit working towards building the local food system (Participant 2 and 8, 2011). It was also mentioned that networking with local schools for garden education projects could be very rewarding (Participant 9, 2011). The fact that the Carbondale area has growing support for organic growers at this time was also mentioned. The local food Co-op, the Farmer’s Market, and local farmers were all mentioned as networking opportunities (Participant 1, 3, 7, and 9, 2011).

Courses of Action

One important issue highlighted in the interviews was the use of the term “organic” by LOGIC. Participant six stated,

The organic term . . . We probably should try to stay away from it, as much as we can, and come up with some other term. I still don’t like the term pesticide free, that doesn’t tell us what we’re doing . . . maybe something dealing with sustainability . . . instead of being organic . . . we can say we’re growing sustainably grown vegetables . . . using organic techniques, even though it’s not certified organic (2011).

It is important that LOGIC abides by the organic laws, and future leaders of the organization should look into either what are the appropriate uses of the term “organic” when an operation is not certified organic and/ or changing the name of the group so that organic is not necessarily a forefront description of the group.

Other future courses of action mentioned were expansion, training the workforce, and begin tracking the profitability of LOGIC. Participant 7 said expansion will come by networking with other “businesses and organizations within the Carbondale community, including SIUC” (2011). Another participant noted that LOGIC needs to reach the potential of its area but in order to do that, the workforce needs more training, equipment, and support for Graduate Assistants. It was mentioned that Dayna Conner, the executive director of Food Works, was highly knowledgeable and could offer training support as well as the Master Gardeners in the area. It was also suggested that maybe one thing LOGIC funds is the Graduate Assistant for LOGIC taking at least levels one and two of the Master Gardener courses (Participant 9, 2011). Participant 9 stated support for a permanent Graduate Assistantship, funded by the administration, would require LOGIC showing that the dining halls are saving money by buying produce locally rather than shipping it in, and over the course of a few years someone would need to be tracking expenditures and gathering data to show the profitability of the work that LOGIC does (2011).

Many of the participants stated they thought LOGIC should become a full-fledged farm, or at least help develop a farm. Participant 2 stated,

There was a lot of ambition from a lot of the people that founded it. We wanted to start localizing food, we wanted to maximize . . . that effort and so eventually having a farm, a campus farm with . . . a farm manager . . . that was paid salary . . . was commonly discussed . . . this idea of a large scale operation . . . that was the vision, to really, truly make a dent into the percentage of local food . . . coming into the dining halls (2011).

This participant also stated that the vision for a farm had student involvement as well with “a full-time paid staff . . . with several graduate assistants . . . heavy student involvement . . . but eventually a . . . farm” (2011). Participant 3 shared this vision of a farm, supplying a large amount of the campus’ food as well. It was stated his vision was always that a large amount of food for the campus could come from the site and eventually a large farm would develop (2011). Another participant stated collaborating with the Plant and Soil Science Department to develop the acre they have started in production could be an avenue for LOGIC to grow.

Participant 8 stated,

I think helping developing that acre back there for the kitchens . . . we (the Plant and Soil Science department) are trying to do it organic . . . but we’re going to have to be good about weed pulling . . . we’d like for the farm to work, but also to maybe think about expansion. We have really good feedback from the kitchens and we’re lucky for that . . . everyone seems really open, it seems like the time is ripe for this, so if we can . . . get some more collaboration, get some more people out there then we could really keep this organic and keep it functioning and keep it productive (2011).

Another popular theme was that LOGIC should help develop the Vermicomposting Center as SIUC’s Sustainability Center. Participant 6 noted, “I want it to . . . be a sustainability center where we can . . . show that the university is using . . . the resources out there . . . Putting together a lot of little things out there relating to sustainability . . . something that . . . people can actually relate to . . . We need to make sure that people can relate to it. I think that’s how you make something grow” (Participant 6, 2011).

Participant 4 stated that LOGIC’s overall goal should be sustainability and demonstrating the closed loop cycle that was hoped for in the beginning. This participant also stated, “if SIUC’s LOGIC program can help raise awareness about sustainability I think it’s just a wonderful thing” (2011).

LOGIC's Mission

LOGIC's overall mission from its inception was to produce food for the dining halls. However, it was suggested in the interviews that this mission may or may not be meeting the needs of its participants and its funders. It was stated that LOGIC should become a place where students could get service learning hours and education. Participant 5 noted that LOGIC should focus on outreach by offering students hours for service learning through environmental education opportunities. The participant stated, "it should be geared more towards service learning" (2011).

Another participant noted that LOGIC's current mission of providing food for the dining halls is huge and if LOGIC was close to meeting that goal it would be a giant farm, have several Graduate Assistants and student workers, and a tractor (Participant 9, 2011).

Participant 3 perhaps had the most to say on this subject.

I think you need to grow to maintain your mission . . . I think if you don't grow it'll be very difficult to sustain the mission because . . . I don't know that there will be ongoing . . . economic support from the university for a project that's not pretty far reaching in terms of students . . . if you have hundreds of students involved then that's pretty good, but if it's only a few dozen . . . that's going to be tough to maintain . . . healthy operation that way . . . so I think growth is probably necessary . . . I mean, all you need is room . . . and we have plenty of that (2011).

One participant stated keeping the mission that LOGIC had started with, growing food for the dining halls and working to localize the campus food source was a key part of LOGIC's future (Participant 2, 2011).

Keeping the dialogue going about . . . a grand vision . . . keep pressing on . . . until the idea gets traction . . . growing will involve . . . more time, more money . . . a staff position . . . more graduate assistants . . . I think that also doing well for what is there is also going to be key, to demonstrate the viability of growing" (Participant 2, 2011).

Participant 2 followed up his statement on keeping LOGIC's mission the same by stating that students who want to take produce home or sell it through another venue should do that, but perhaps should do it at another place besides LOGIC, because that is not what LOGIC is for. He also noted that explaining to students up front about LOGIC's mission is important and perhaps a community building, social event would be helpful to continue to build support for using the food for the dining halls. He suggested inviting the Housing staff, especially Chef Bill Connors, and have them meet the students and give the students an explanation of how LOGIC works, what it's purpose is, and how Housing supports LOGIC could be important (Participant 2, 2011).

Another participant thought that in order for LOGIC to grow, its mission should change. She stated, "If we were able to potentially . . . use . . . or take our crops that we grow . . . instead of sending them out to the dining halls, I think that . . . we would see . . . a lot more people involved, and more people getting excited about it, it would just give a more concrete presence of LOGIC" (Participant 5, 2011).

Research Question One Findings

Surveys were used in order to answer the first research question in this study. The first research question was, "What is the level of SIUC undergraduate student's awareness of and initiative to participate with the garden?" The first part of this question, "What is the level of SIUC undergraduate student's awareness" of the garden can be answered by looking at the survey responses to question number 5, "Did you know there is a student-led organic garden on campus that grows food for Lentz Dining Hall?". By looking at **Figure 7** we can see that the high end of awareness of LOGIC is Agriculture surveyed students at 56% and the low end is Mass Communication at 22%. The average percentage of surveyed

students to know that LOGIC exists is 40.625%. This suggests that the overall awareness of LOGIC on SIUC's campus is low to medium, however surveyed students from Agriculture and Engineering had a medium to high awareness of LOGIC and Business and Mass Communication students had a low awareness of LOGIC.

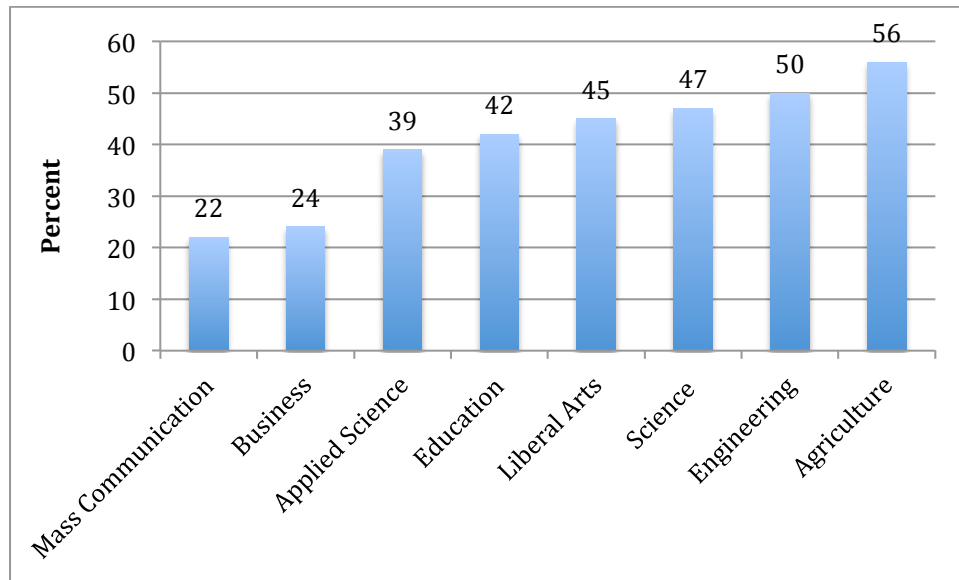


Figure 7. Surveyed students knowledge of LOGIC's existence, by college

The second part of this question, "What is the level of SIU undergraduate students' initiative to participate with the garden" was answered by survey questions six, seven, and eight, "Would you be interested in volunteering at the organic garden?", "Would you be interested in internships for credit that allow you to work with the organic garden?", and "Would you like to learn more?". By looking at **Figure 9** we can see that almost half of surveyed Agriculture students said they would be interested in volunteering with LOGIC. We can also see that the lowest group willing to volunteer with LOGIC was Education surveyed students at 21%.

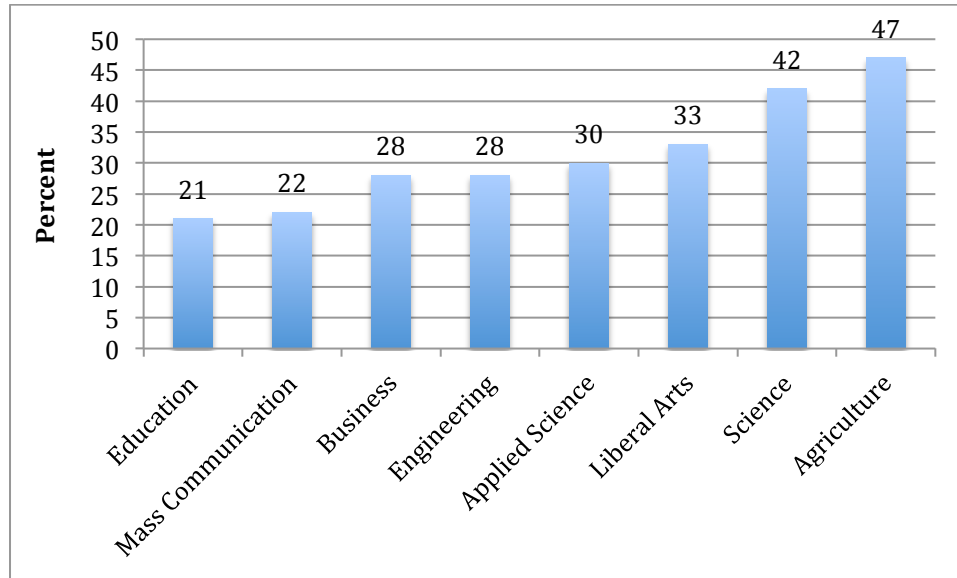


Figure 9. Surveyed students' interest in volunteering at LOGIC, by college

Student's initiative to participate with the garden in the form of internships is shown by

Figure 11.

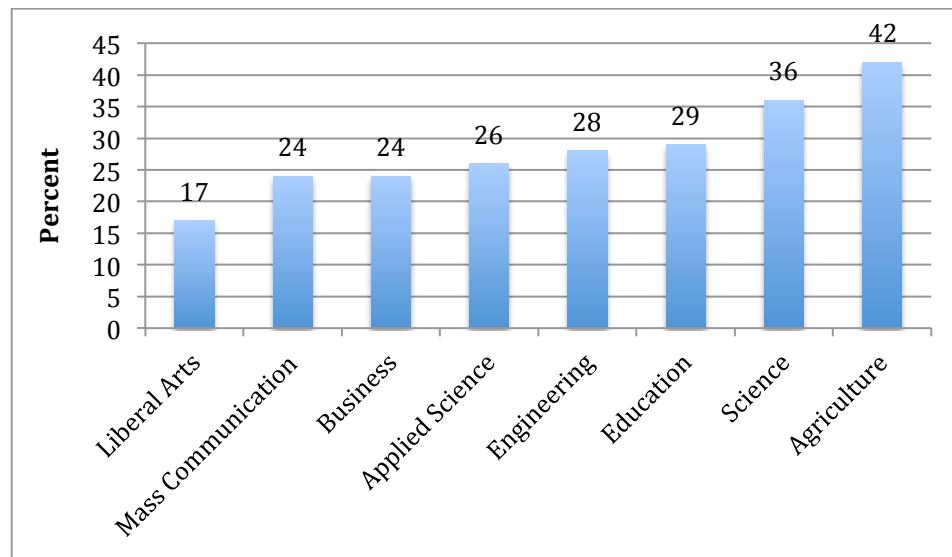


Figure 11. Surveyed students' interest in interning at LOGIC, by college

Again, Agriculture surveyed students led the way with 42% saying they would be interested in internships. The lowest group of interested students was Liberal Art students with 17% saying they would be interested in internships at the garden.

Finally, we must look at which students responded to the question, “Do you want to learn more?”. Almost half of Science and Agriculture surveyed students said they did want to learn more, and the lowest group to say they wanted to learn more was Education surveyed students at 29% (**Figure 13**).

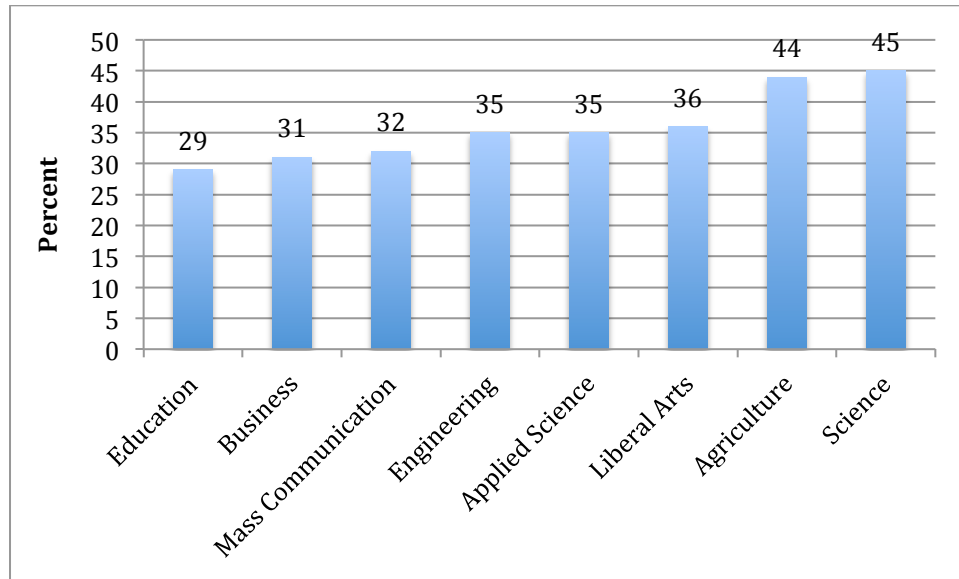


Figure 13. Students that wish to learn more about LOGIC, by college

The average percentage of surveyed students to be interested in volunteering at LOGIC was 28.25%, the average percentage to be interested in interning was 28.375%, and the average percentage to wish to learn more about LOGIC was 35.5%. These numbers show that the overall willingness of students to participate with the garden is low to medium. However, Mass Communication surveyed students had a low initiative to participate with the garden in both the volunteering and interning questions and Science and Agriculture surveyed students scored on the high end in both the interest in volunteering and interning questions.

The research indicates that there is not currently enough interest to maintain a garden that relies primarily on volunteers for its workforce, especially if we consider the

fact the numbers are what students are willing to check yes to on a questionnaire. The actual numbers of students coming to volunteer and/ or intern at the garden would be even lower than the research results indicate. However, this does give the university and specific departments an opportunity to market the LOGIC gardens and bring in students who are specifically interested in projects such as these and choose to come to SIUC in order to pursue these interests. If the garden needs to expand its production in order to succeed into the future, it will need a larger amount of volunteers to help maintain the space and/ or paid, permanent manager and student worker positions.

Research Question Two Findings

Interviews were used to answer the remaining three research questions. Research question two reads, “How and why was the SIUC student led organic garden established?” Participants 1, 2, 3, and 4 were the only interviewees that could answer questions two, three, and four during the interview. These questions asked how the garden was created, what were the original goals, and who were the key people involved in starting the garden (Table 5).

Table 5. How and why SIUC’s student led organic garden was started

| How SIUC’s student led organic garden was started | Why the garden was started |
|--|---|
| Geography Field Methods class, (GEOG 433), professional proposal for the garden made | Student desire to produce food for the university |
| Christenson Award for Sustainability, \$500 award goes toward building the garden | Localize the food source on campus |
| Building strategic allies across campus | Reduce carbon footprint of the campus |
| Permission to build the garden | To be the beginning of a full fledged farm |
| | Showcase organic, local food production and its benefits |
| | Showcase a sustainable cycle: food produced, food prepared and eaten, food creates compost, compost used to produce more food |
| | Connect the community of students to each other and to the process of growing food and to local, organic growers |

It was found that the garden was started because a group of students had decided that they wanted to create a garden on campus that grew food for the school (Participant 1, 2, 3, and 4, 2011) The students also wanted to look towards localizing the food on campus in a large way, so they wanted this garden to be the start of a larger vision of a full fledged

farm on campus that grew food for the school (Participant 2 and 2) . They wanted this farm to be staffed by a permanent staff member, graduate assistants, and other student workers and volunteers (Participant 1 and 2). The original goals were stated to be that the garden was to be organic, sustainable, community oriented, and to provide local produce to the dining halls (Participant 2, 3, and 4).

The goals of starting to produce food for the university, starting to localize the food source on campus, and for LOGIC to be the beginning of full-fledged farm have been partially realized. Although LOGIC itself has not become a farm, the Plant and Soil Science Department currently has a little over an acre in production. The food this acre produces all goes to the dining halls and will have a paid staff manager position. With LOGIC's gardens, the Plant and Soil Science Department's acre, and other surrounding farms, the food source on campus has begun to be more localized. This is all helping to showcase organic, local food production in the area. The sustainable cycle hoped for in the beginning has yet to be realized, because currently not enough compost is being made on site and many outside resources are brought in for added fertility. In addition, the students that are participating with the food production on campus are definitely becoming more connected to each other, the process of growing food, and to local, organic growers, however this is a small number of students and in order for the garden to have a large impact more students need to be involved in the work.

Finally, the original structure of how the garden was actually started was illuminated through the interview process. Participants 2, 3, and 4 stated that the Geography Field Methods class (GEOG 433) was a catalyst for the students creating the professional plan for garden which eventually earned them the necessary approval for the

garden to be built. These participants also stated that this plan won the Christenson Award for Sustainability for \$500 which gave them the funds to actually build the garden (2011). It was also found that strategic allies were built on campus which gave them insight and help for where the garden could be built. These allies were made with the Plant and Service Operations, the Agriculture Department, Dining and Housing Services, the Geography and Environmental Resources Department, and with different community organizations, businesses, and farmers (Participant 2, 3, and 4 2011). Finally, it was stated that Jon Dyer and Leah May, both Geography students, were the key students involved in starting the garden (Participant 1, 2, 3, and 4 2011).

Research Question Three Findings

Research question three, “What is the garden’s current structure and resource base” was also defined through the interviews. It was stated that the garden manager, members of the RSO LOGIC, and other student volunteers are the current workforce for LOGIC (Table 6).

Table 6. LOGIC’s Current Structure and Resource Base

LOGIC’s Current Structure

| |
|--|
| Garden Manager - overseer of operations, paid position |
| Members of RSO - workforce for garden |
| Other volunteers - workforce for garden |

LOGIC’s Current Resource Base

| |
|-------------------------------------|
| Housing – economic |
| Green Fund – economic |
| Students – workforce |
| Garden Manager Position - workforce |

It was found that the garden manager oversees all operations while members of the RSO and other volunteers help to complete the tasks (Participant 1, 3, and 5 2011). The

economic resource for LOGIC comes from Housing and the Green Fund, however students were defined as the most important resource for the garden (Participant 1 and 3, 2011). It was also stated the garden manager position was a resource as well, because it provides proper management for the gardens and a specifies a person who has responsibility for the site (Participant 2, 3, and 5).

Research Question Four Findings

Research question four, “What is a progressive, inclusive, and attainable future model for the garden” while more complicated to answer, was illuminated by the interviews as well, and are shown below in order from most important to least important (Table 7).

Table 7. Progressive, Inclusive, Attainable Future Model for LOGIC

| Future Goals | Actions for meeting goals |
|---|---|
| Long-term source of funding | <ul style="list-style-type: none"> • Look for outside grants • Continue to seek funding from the Green Fund • Build relationships on campus and in the community • Gain support of the administration |
| Decide on LOGIC's primary mission and where the food goes | <ul style="list-style-type: none"> • Have a visioning meeting where all primary stakeholders discuss the mission for LOGIC and what is needed to evolve the organization |
| Productive garden with a trained workforce | <ul style="list-style-type: none"> • Paid, permanent garden manager position • Involve community experts for workshops • GA's for LOGIC take Master Gardener courses |
| High visibility on campus | <ul style="list-style-type: none"> • Public relation campaigns • Contact faculty for involvement in classes |
| High student involvement | <ul style="list-style-type: none"> • Network with fraternities and sororities, student organizations, and strategic departments • Create student initiatives and rewards for participation with LOGIC • Faculty designed classes that use the site |
| Help develop the Sustainable Farm and Sustainability Center | <ul style="list-style-type: none"> • Collaborative work between the Geography and Plant and Soil Science Departments at the site to help develop the farm and center |
| Demonstrate a closed-loop sustainable cycle | <ul style="list-style-type: none"> • Collaborative work between LOGIC members and the Plant and Soil Science Department to help make the Vermicomposting Facility more productive |

It was determined that LOGIC needs funding in order to be successful, (Participant 3, 6, and 8, 2011) and therefore needs to find a reliable source of economic support in order

to accomplish any of their goals. Determining LOGIC's primary mission and structure for where the food goes is also important in order for the participants to move forward and feel good about their projects (Participant 4 and 5, 2011). This could be accomplished by having a visioning meeting where all the key stakeholders discuss LOGIC and what the group needs to do in order to evolve to the next level. It was also stated that the garden manager was an indispensable position and someone needed to be paid for the work done at the garden, therefore making this a permanent position was important (Participant 1 and 3, 2011) Next, it was discovered that LOGIC needs to increase production (Participant 2, 3, and 6, 2011), however in order to do this the workforce needs more training which can be offered by community experts and Master Gardening Courses (Participant 9, 2011). It was also found that LOGIC needs to increase its visibility on campus, garner more student involvement, gain administration and faculty support, network within the university, and increase awareness and support within the larger community as well, and many different avenues for this were suggested (Participant 3, 4, 7, and 9, 2011). Helping to develop the Sustainable Farm the Plant and Soil Science Department has started was noted as an important part of developing the local food system on campus and getting the attention of the administration, and helping to build the Sustainability Center was also mentioned as an important role for LOGIC to play as well (Participant 6 and 8, 2011). Finally, it was found that helping to make the Vermicomposting Facility be more productive was important in order to help LOGIC grow and meet one of its original goals, to demonstrate a closed-loop sustainable cycle (Participant 2, 4, 6, 8, and 9, 2011).

CHAPTER 5

DISCUSSION AND CONCLUSION

Discussion

This research presented an in-depth case study of LOGIC, the Local Organic Gardening Initiative of Carbondale, the student led organic garden at Southern Illinois University Carbondale in order to assess students' awareness of the garden and initiative to participate with it. This research further described the background of LOGIC, its current structure and resources, and suggested a future course of action (**Table 8**). The study used a systems thinking framework in order to integrate multiple perspectives and viewpoints and to provide an integrated assessment (Godfrey 2010).

Table 8. Key Overall Findings

Student Participation and Awareness

Low to Medium overall awareness and initiative to participate with LOGIC
Overall, Agriculture and Science surveyed students were more interested in participating with the garden

Key steps in the establishment of LOGIC

Geography Field Methods Class (GEOG 433), professional proposal
Christenson Award for Sustainability, \$500 goes toward the garden
Relationships built on campus led to permission to build the garden

Key Current Position and Resources

Garden Manager

Students

Green Fund

Housing

Key Future Courses of Action

Find a secure source of funding

Decide on LOGIC's mission and the use of the term "organic"

Increase production

Increase awareness and visibility on campus

Increase student involvement

Help to develop the Sustainability Center and Sustainable Farm

Gain attention of administration

Student Awareness

It was found that students in the dining halls had an overall low to medium awareness that LOGIC exists. The informational flyers set out on the tables of Lentz's dining hall may have had an impact on the awareness of the garden, but students studying Agriculture had an overall higher awareness of the garden, which made practical sense. The other students' awareness, because of the lack of a large Public Relations campaign on campus for the garden, were most likely informed of the garden by the informational flyers. However, for the garden to exist into the future and to generate enough interest to sustain it, more students will need to be aware of the garden. There are several actions to take in order for this to happen. LOGIC Graduate Assistants or RSO officers could attend Inter Greek Council meetings, put flyers in their mailboxes, attend Alumni tailgating events, set up tables during the annual Welcome Week festivities, reach out to faculty to promote their organization and work, and network with other RSO's that may be able to join in their gardening efforts. It was found that students are the most important resource for LOGIC's continued success so if the leaders of this garden are serious about seeing this organization exist into the future, using the ideas generated by this research would be a good place to start increasing awareness of the garden.

Establishment of LOGIC

The establishment of LOGIC's gardens was found to be quite unique in its student involvement. For one, the Green Fund and Sustainability Council being student initiatives and large supporters and resources for the garden was a distinctive component to this garden's history and current structure. No other literature described a garden that was initiated in this manner. The use of class projects and lessons in helping to solidify ideas

and proposals for the garden were found to be important as well. Other campus gardens had also used classes to develop and sustain campus gardens as well (Kobayashi et al. 2010 and Rojas et al. 2007). Finally, creating ties across a diverse campus to implement a garden was a theme found in gardening projects and was mentioned as being a beneficial learning opportunity for the students involved (Barton et al. 2010).

Current Structure and Resources

The structure of LOGIC's gardens has a garden manager (a Graduate Assistant position) as the primary overseer of all operations. Volunteers are the main work force for the garden. The LOGIC garden was stated to be a completely student designed and managed project (Participants 1, 3, and 5, 2011). In the literature, some similar and different structures of how campus gardens were established and maintained were discussed. Barton et al. (2010) discussed how two students in independent study courses started their campus garden at the University of Delaware. Kobayashi et al. 2010 discussed how the implementation of university courses at the University of Hawaii at Manoa was used to help maintain the campus gardens. These courses fulfilled university curriculum requirements and the undergraduate course especially had been successful and had grown from the time when it was implemented. At the University of Toledo faculty started the community garden that they wanted their students to use for service learning projects, however it was Environmental Science teaching assistants, the steering committee that consisted of faculty, administrators, and students, and student volunteers who led and maintained the garden after it had begun (Ahonen et al., 2012).

While LOGIC does not have classes that use the gardens specifically for classes, different class tours and service learning components in classes have helped gain

recognition and volunteers for the gardens. Kobayashi et al. stated that while it is hard to develop courses that will use the garden, it is important to do so, and it is also important to develop these courses so that they meet university required curriculum (2010). The discussion on how learning at the garden can meet critical aspects of the university's mission is important (Albrecht 2010) and perhaps by developing courses that use the garden as a living laboratory the discussion will begin.

The resources at the LOGIC gardens were stated to be students primarily and financial resources came from Housing and Dining Services and the Green Fund (Participants 1, 3, and 5). Not much literature documented how the different garden projects were funded, however Coket et al. stated that long term funding was needed for completion of complicated projects (2010). University gardens are a complicated venture and therefore need long term funding in order to get off their feet. Participant 6 noted this in his interview stating that although we are trying to build the Sustainability Center and the gardens from the ground up, money has to be coming in from somewhere to start the process (2011).

Future Course of Action

Many different things were suggested in order to secure LOGIC's successful future. Expansion, helping the Vermicomposting Center to expand its production, increasing awareness and visibility on campus, garnering more student involvement and faculty and administration support, networking within the university and the larger communities, finding a secure source of funding, and discussing present goals and purposes were all mentioned as important parts of developing LOGIC for the future (Participants 1, 2, 3, 4, 5, 6, 7, 8, and 9, 2011).

As the garden is integrated into the university and service learning, experiential education, independent studies, and theses are written documenting different processes at the garden, it is important to track the amount of attention the garden receives, the adoption of different practices, and the lives that are changed because of the space. It has been stated that this is part of a university garden director's job responsibilities (Albrecht 2010). The leaders must also continually promote the garden and its benefits, which can help the garden gain relevancy within the university (Scoggins 2010). Building an alumni network for the garden may also be an important part of its future in order to keep track of the people who have been involved. It has been shown that these people often give back to the garden in the future whether through a financial, material, or educational manner (Scoggins 2010). In the future, it may be relevant to design courses that use the garden. These can involve a diverse set of disciplines and incorporate service learning components into the course work (Komisar et al. 2008, Kobayahshi et al. 2010, Ahonen et al. 2012). If service learning is incorporated into the classes, a time to see the project through to completion or a reflection period has proved to make the service learning component more effective for students (Waliczek and Zajicek 2010).

In addition, to accomplish these goals perhaps a readiness account, in an informal fashion, could be undertaken. Wiener suggests that in order to effectively implement change, stakeholders must be able to voice their opinions on the necessity, importance, and benefits of the change in addition to acknowledging what it will take to manage the change and the availability of the resources to do so (2009). There also must be a recognition that a leadership group is needed to move forward with the changes that are called for in the plan (Friedman 2010). Within this leadership group however, there must be room for

other leadership as well in order to create space for creativity (Shumaker 1973). In the case of LOGIC, these leadership groups would include the Graduate Assistants and garden managers, the members and officers of the RSO, and faculty and staff associated with the project.

Conclusion

One of the biggest reasons to implement a campus garden is for the sustainable education it can have on the students who participate with it, to help them understand the benefits of local food production, and to help them learn the many lessons behind growing food organically. One interview participant noted that working at LOGIC had taught her a lot about new gardening techniques and what it takes to grow a garden (Participant 5, 2011). Another said, “I think education and awareness is where it’s all leading towards . . . to help us all gain a higher awareness of our food and where it comes from and why it’s important to know these things” (Participant 4, 2011). Participant three said that growing food could help boost economies, as we always need a way to employ people and growing food is a good way to do that. He also stated that localizing food is good because it can help people to understand where food comes from. “That’s just too important of a human endeavor for people to have no connection to . . . that’s why I’m pro-local food” (Participant 3, 2011). Participant 9 perhaps had the most philosophical take on the act and art of growing food organically, fighting squash bugs and front yard melon thieves.

I was having this panic that was so intense because it was my experience with growing food . . . it’s like everything . . . becomes hostile. Everything threatens . . . And it’s like no wonder we drop napalm on our crops to keep the bugs away . . . I understood why people are so insane about it because they’re so terrified of going without . . . it’s the weird thing because in our society we’re terrified of death . . . I mean if your food doesn’t grow ultimately that’s the end point that you’re dealing with . . . I live five minutes from Kroger, I’m not going to die, but still it’s my little

experiment with farming and I was failing and that spells death . . . it was so intense . . . It was this fascinating exploration of it's mine, not yours, whether you are a bug or a person . . . So I'm engaging in this praxis . . . of what it means to engage with the earth, and I'm doing it when I'm gardening. I'm doing it in a way that is like, you will bend to my will . . . I'm not really listening. I am telling. And everyone who talks about gardening as this wonderful little relaxing thing and it tunes you into nature and everybody I know who gardens for food . . . they're more likely to be stressed out about it . . . so I think this work is intense . . . logically, emotionally, culturally, it's massive (2011).

Higher education institutions have a social responsibility for public participation and teaching and research that incorporate sustainability into the university's mission (Alshuwaikhat and Abubakar 2008). SIUC is currently situated in a position of needing a unique calling card to attract students to its university. By expanding the campus garden and sustainable farm and increasing the local food production and opportunities for experiential education on sustainable food production, SIUC can set itself apart from many other universities in Illinois and the country. In addition, by a university adopting sustainability on a large scale it can send an example to the community that sustainability matters, the ways in which we conduct our day to day business matters, and it can provide alumni with the skills to take their learning elsewhere (Alshuwaikhat and Abubakar 2008).

University gardens can also help to network and link the larger community. They can develop opportunities for adult and young people alike to learn how to produce food sustainably and become more active participants in their community (McCullum et al. 2005, Coker et al. 2010). By showcasing growing systems at an educational food garden that can be adopted on a wide scale, the university can function as a resource for community food security and provide opportunities for social investment (McCullum et al. 2005, Wills et al. 2009). Food security and sustainability are large topics of concern, and

SIUC investing in this key issue can only help the university become more attractive and useful for students, faculty, staff, and the larger community.

SIUC has the infrastructure, key people, and knowledge to make the Sustainability Center and LOGIC work. With the systematic approach taken by this research, relevant components have been evaluated and integrated and it has been outlined how LOGIC was established, what its current structure and resources are, and the key steps that need to be taken in order for its successful and sustainable future. By acting on this, the university would be given a great resource to attract students, faculty, and staff and would be helping to fulfill its social obligation of being a model for sustainability and promoting student and public awareness on these critical issues (Clark 2005, Alshuwaikhat and Abubakar 2008).

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APPENDICES

Appendix A

Survey Cover Statement

My name is Laura Williams and I am a graduate student in the Geography and Environmental Resources Department at Southern Illinois University Carbondale.

This survey will be used for research purposes and to complete my master's thesis. The purpose of this research is to evaluate the student led organic garden on SIUC's campus and to suggest possible future directions by assessing the garden's key stakeholders. This study seeks to understand awareness of the garden among students, students' previous organic gardening experience, and their willingness to participate with the garden. The study also seeks to understand if students from certain departments on campus are more interested in the garden, have more experience with organic gardening, and whether a rural or urban upbringing has any connection to students' interest and experience with organic gardening.

Please fill out your home zip code and circle the best answer to the survey questions. If you are interested in learning more about the garden, please write your email address in the space at the bottom. This survey should only take two to three minutes of your time.

Any students present who are willing to voluntarily fill out the survey can be used in this study. Completion and return of this survey indicates voluntary consent to participate in this study.

I will take all reasonable steps to protect your identity. If your email address is provided, it will not be used for the research purposes but will be added to an email list so that you can receive updates about the garden and learn ways to be involved.

If you have any questions about this research or would like to know the results, you can contact me at 618-516-2351 or llw2954@SIUC.edu. My advisor, Dr. Leslie A. Duram in the Geography and Environmental Resources Department can be reached at 453-6084, Faner Hall, Room 4524.

Thank you very much for your time.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, Southern Illinois University, Carbondale, IL, 62901-4709. Phone (618) 453-4533. Email SIUCChsc@SIUC.edu.

Survey Questions

What do you know about the student led organic garden (LOGIC: Local Organic Gardening Initiative of Carbondale)?

Please circle the best response:

1. What is your student classification (year)?

FR SO JR SR

2. With which SIUC college are you associated?

Agriculture Sciences Applied Sciences and Arts
Business Education and Health Services Engineering
Liberal Arts Mass Communication and Media Arts
School of Medicine Science Pre Major
Center for Academic Success

3. What is your home zip code? _____

4. Do you have any experience with organic gardening?

YES NO

5. Did you know there is a student-led organic garden on campus that grows food for Lentz Dining Hall?

YES NO

6. Would you be interested in volunteering at the organic garden?

YES NO

7. Would you be interested in internships for credit that allow you to work with the organic garden?

YES NO

8. Would you like to learn more?

YES NO

**If yes, please provide email address: _____

Appendix B

EMAIL SOLICITATION REQUEST

From: Laura Williams

Subject: Research Request

Dear _____:

I am a student in the Department of Geography and Environmental Resources Department at Southern Illinois University Carbondale.

Your email address was obtained from the Southern Illinois University website or my previous conversations with you.

The purpose of this research is to evaluate and assess the organic garden at SIUC. You were selected to participate in this study because of your involvement in the garden and/ or your unique situation at the university that could possibly provide the garden with a resource that has yet to be considered.

I would like to ask if you would be willing to participate in a personal interview. I would be conducting this interview and will be tape-recording it. This should take around 30 minutes to 1 hour. The attached cover letter explains the project in more detail and has three questions regarding your willingness to be recorded and/ or directly quoted in my thesis. I will bring two copies of the cover letter to the interview so that you can sign and state whether you are willing to be taped and/ or quoted. One copy I will keep and the other will be for your records. Only people directly involved in this project will have access to the taped interviews. If you do not wish to be taped, but will participate in the interview, please state this in your return email. In this case, I will be recording the interviews by hand written notes. This may increase the length of the interview.

If you could please respond to this email to let me know if you are willing to participate in the interview, I would greatly appreciate it. You can also state in your return email where and when you would like the interview to take place. If you do not have a preference, I will conduct them in the Geography Department in Faner Hall at SIUC during the months of July and August. If you do not wish to participate in this study, please return the email stating this and I will no longer contact you.

If you do not respond to this email or return the opt-out message, you will be contacted again with this request 3 times during the next 3 weeks.

Questions about this study can be directed to my supervising professor, Dr. Leslie Duram, Department of Geography and Environmental Resources, SIUC, Carbondale, IL, 62901, 618-453-6084 or myself at 618-516-2351.

Thank you for taking the time to assist me in this research.

Sincerely,
Laura Williams
618-516-2351
llw2954@SIUC.edu

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, Southern Illinois University, Carbondale, IL, 62901-4709. Phone (618) 453-4533. Email SIUChsc@SIUC.edu.

Interview Cover Statement

My name is Laura Williams and I am a graduate student at Southern Illinois University Carbondale in the Geography and Environmental Resources Department. This study is a research project with the purposes of fulfilling a requirement for my Master's Degree and also to assess and evaluate the past, current, and future of the student led organic garden on SIUC's campus.

I will be choosing from 13 questions to ask each research participant and the only questions left out will be those not applicable to the particular participant and/ or if the participant has already answered the question during a previous statement. This interview should take between 30 minutes to 1 hour.

You were chosen to be a participant in this research because of your unique affiliation with the garden and/ or the possibility of you being able to provide a resource to the garden that has yet to be considered. Your participation in this study is voluntary. Agreeing to and completing the interview indicates voluntary consent to participate in this study.

I will be tape-recording these interviews for the purposes of accurate analysis and records. The tapes will be kept at my home and upon request you may access your interview tape. Only people directly involved in this study will be allowed access to the tapes. Upon the completion of the study, the tapes will be destroyed. If you do not wish to be tape-recorded you may indicate this at the bottom of the page. The process of recording the interviews in this scenario will be hand written notes. This may increase the time span of the interview.

Your job title may be revealed in this study because of the nature of the project. If you can provide a unique resource or viewpoint for the garden, it is possible that your job title will be disclosed in the thesis. Any and all statements made disclosing your job title will only be those that involve the garden and the possible resources or ideas you have for its future. The statements will also be those that you agree can be published.

If you have any questions regarding this research, you can contact me at llw2954@SIUC.edu or 618-516-2351. My research advisor, Dr. Leslie Duram, can be reached at duram@SIUC.edu or 453-6084.

Thank you very much for your time.

YES NO I agree to participate in this research project and understand that my responses will be tape-recorded.

YES NO I agree to participate in this study but do not wish to be tape-recorded.

YES NO I agree that Laura Williams may quote me directly in her thesis.

Research Participant Printed Name

Signed

Date

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, Southern Illinois University, Carbondale, IL, 62901-4709. Phone (618) 453-4533. Email SIUCHsc@SIUC.edu.

Interview Questions

- 1) Will you please state your name, title and educational background?
- 2) Can you please describe to me how the organic garden at SIUC (LOGIC) began?
- 3) Can you talk about the original goals for LOGIC?
- 4) Who were the key people involved in the original garden?
- 5) Can you tell me about the present goals of LOGIC?
- 6) Who are the current key people involved in the garden? What are their roles?
- 7) Can you describe to me how LOGIC currently operates? Where do the resources come from?
- 8) Do you have any recommendations for how LOGIC can operate more efficiently/ sustainably in the future?
- 9) What resources do you see as the most important in order to keep LOGIC going?
- 10) Who do you feel LOGIC should network with? What linkages do you see that we need? Which would be the most important in your opinion?
- 11) What do you see as the overall goal/ vision for LOGIC?
- 12) How can LOGIC grow while maintaining its mission?
- 13) Can you please tell me a little about your personal experience with gardening?