

SERVICE-LEARNING AND URBAN AGRICULTURE IN DESIGN STUDIOS

C. Taze Fulford III¹, Sadik Artunc²

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Abstract: A design studio in a department of Landscape Architecture in the rural South Eastern portion of the United States of America set out to collaborate with community non-profits, policy makers, and design professionals to provide students opportunities to work with clients in the field. Students were asked to inventory and analyze conditions of multiple sites in multiple rural communities to assess possible sites for community markets and shared public spaces. From these early studies, students went through the design process to develop strategies for communities to develop sites and provide marketing drawings. Discussions from local historians, economic developers, politicians, and citizens helped form a more integrated view of how these conditions could exist within traditional agricultural regions. Real sites with real clients motivated students to find innovative solutions to issues such as obesity, heat island mortality, passive and active recreation, and bridging the gap between groups with cultural, economic, and societal differences. This study focuses on identifying local opportunities for service learning projects and the opportunities to lessen the effects of food deserts in rural areas. A discussion of the advantages and disadvantages of the process, place creation, and health benefits is developed for those wanting to utilize a service-learning pedagogy in the classroom for planning and designing ecologically sensitive sites. Community, student, and team reflection on the projects will also be discussed giving insight to the process from multiple points of view.

1. Introduction

Service-learning is one of the pedagogical vehicles that offer one of the best opportunities to accomplish both 'service' and 'learning' objectives without compromising the primary objectives of either goal. It offers the opportunity for today's young people and tomorrow's leaders to learn, while addressing local and regional needs. Today, the term "service-learning" has been used to characterize a wide array of experiential education endeavors, from volunteer and community service projects to field studies. Service-learning is not a new concept and there are an accumulating number of scholarly endeavors studying its uses, pedagogical and community benefits, but there seems to be fewer scholarly endeavors studying its applications in landscape architectural curricula (Artunç & Sabaz, 2009; Artunç & Kurtaslan, 2011; Artunç, Fulford, Gallo & Hesliet, 2014).

Since the mid-1990's, service-learning has spread rapidly throughout communities, K-12 institutions, and colleges and universities in the U.S.A (The National Service-Learning Clearinghouse, 1994 & NCSL, 2002). A report, entitled "*Learning in Deed*" from the National Commission on Service-Learning (Fiske, 2001) quoted National Center for Education Statistics (NCES) estimates that in the 2000-2001 academic year, more than 13 million school students were involved in service and service-learning. NCES also found that between 1984 and 1997, the number of K-12 students involved in service-learning programs rose from 900,000 to over 12.6 million while the proportion of high school students participating in service-learning grew from 2 percent to 25 percent during the same time

¹Mississippi State University, tfulford@lalc.msstate.edu

²Mississippi State University, sartunc@lalc.msstate.edu

period. A similar increase has also been observed with the service-learning in the colleges and universities in the U.S.A.

Although the curricula in landscape architecture programs have always had projects and case studies in their communities, the most of these studies were not organized and/or recognized as service-learning efforts both for pedagogical and organizational reasons. Lack of an organized public participation though identification of a community partner, and service-learning pedagogy oriented course syllabus and requirements of project statements including but not limited to not having a reflective component as a part of course or project were among some of the reasons for not earning the recognition of service and outreach efforts as service-learning contributions. However, more landscape architecture programs taking advantage of the service-learning opportunities and support provided by their universities as service-learning has become an important factor in assessment of academic and scholarly productivity and effectiveness of the programs as well as faculty in the U.S.A.

Service-learning in developing countries has another important dimension. Especially in countries where landscape architectural education is relatively new, and therefore; there are not sufficient numbers of professionals to contribute utilizing students in landscape architecture to provide community service for their communities (and nations) can contribute greatly toward protection of public safety, health, and welfare and thus provide a positive example of environmental stewardship.

Service-learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities (Eyler and Giles, 1999; Stanton, 1990). It is generally combined with **project based** learning. Even though there are many different interpretations of service-learning as well as different objectives and contexts, we can say that there is a core concept upon which all seem to agree:

Service-learning combines service objectives with learning objectives with the intent that the activity changes both the recipient and the provider of the service. This is accomplished by combining service tasks with structured opportunities that link the task to self-reflection, self-discovery, and the acquisition and comprehension of values, knowledge, skills, and abilities (KSA) content.

Service-learning may also reflect on participants' personal and career interests in science, the environment, public policy or other related areas. Thus, we see that service-learning combines SERVICE with LEARNING in intentional ways. There are many illustrations of how the combination is transforming to both community and students. This is not to say that volunteer activities without a learning component are less important than service-learning, but that the two approaches are fundamentally different activities with different objectives. Both are valued components of a national effort to increase citizen involvement in community service, and at every age (NCSL, 2002).

Service-learning achieves a higher degree of learning because it successfully employs more effective parameters of learning. The following diagram illustrates why service-learning is more successful in teaching and learning according to the U.S. National Training Laboratory research data on "Average Learning Retention Rates" with the Learning Pyramid:

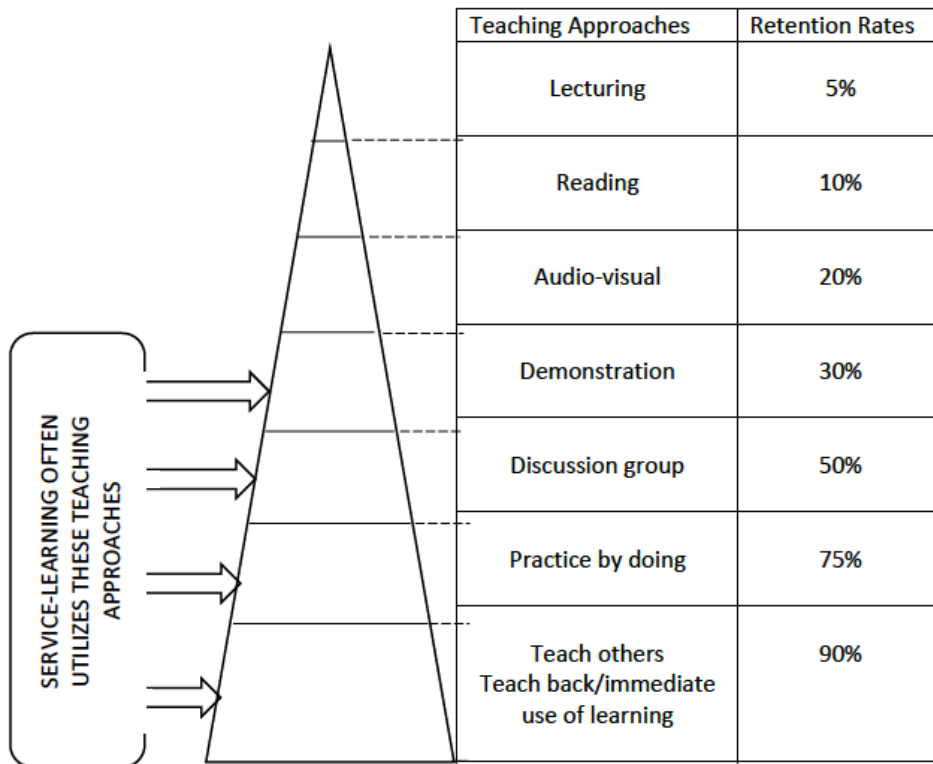


Figure 1. Service-learning vs. Learning Pyramid and Retention Rates of the Knowledge

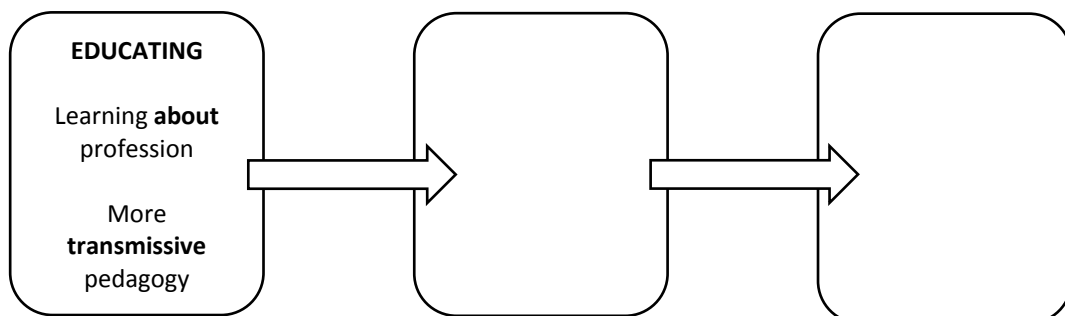


Figure 2. Three models of learning: (1) Educating, (2) Enabling, (3) Exploring

While traditional teaching theories emphasize “educating” model, the emerging theories seek to provide a better balance between these three models. As an critical facilitator of emerging theories, service-learning not only allows more retention of the knowledge but also facilitates a better balance of teaching outcomes among educating, enabling, and exploring and thus rebalancing the focus of learning as illustrated in Figure 3 Traditional vs. Emerging Emphasis:

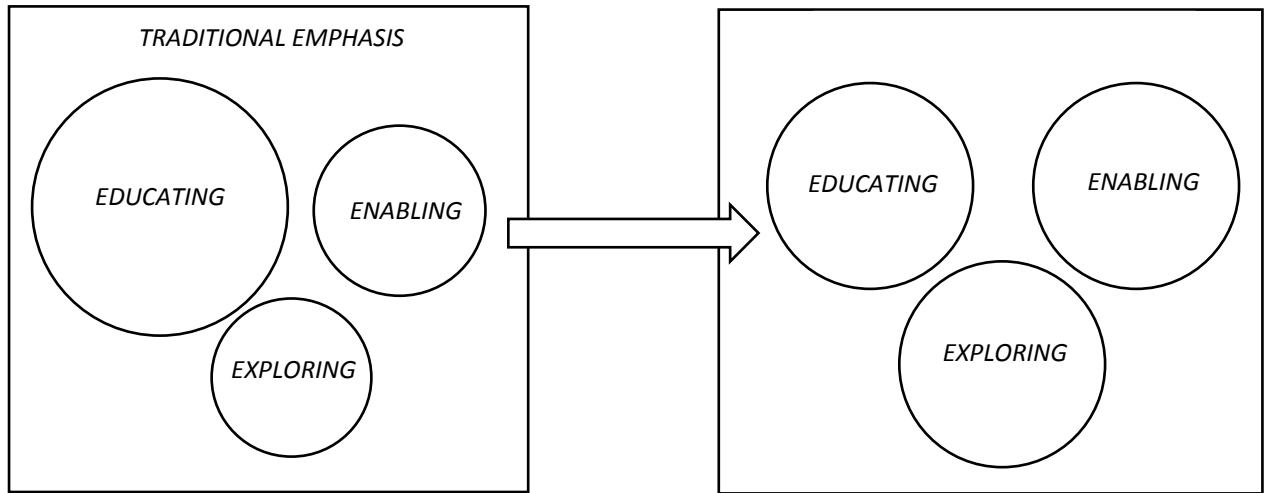


Figure 3. Traditional Emphasis vs. Emerging Emphasis

As a result, learners are better prepared for the challenges of the future. Service-learning serves as a platform to blend disciplinary knowledge, civic knowledge, academic engagement and civic engagement as illustrated in the following diagram:

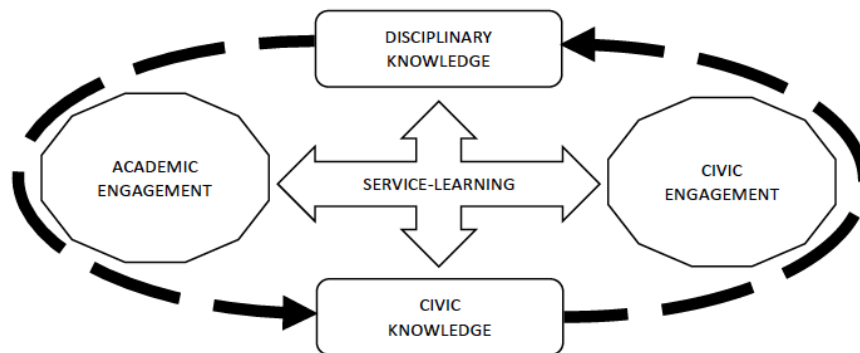


Figure 3. Service-learning platform

Service-learning achieves its objective when the focus between 'learning' and 'service' is balanced.

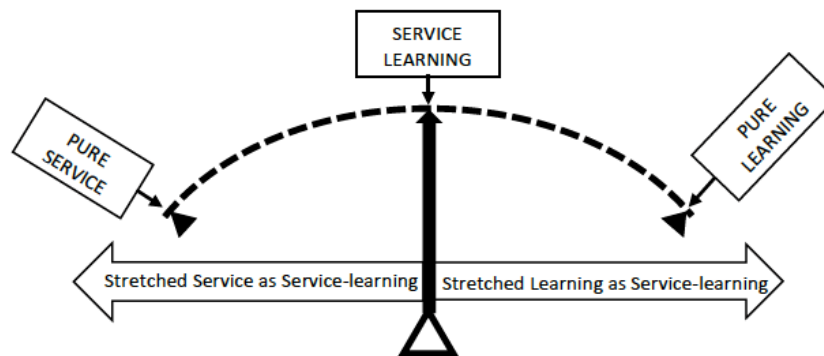


Figure 4. Balanced service and learning

In Figure 5, Service-learning accomplishes goals of both curricula and a meaningful service. Service-learning employs (1) active learning, (2) discovery (research) learning, and (3) professional learning simultaneously.

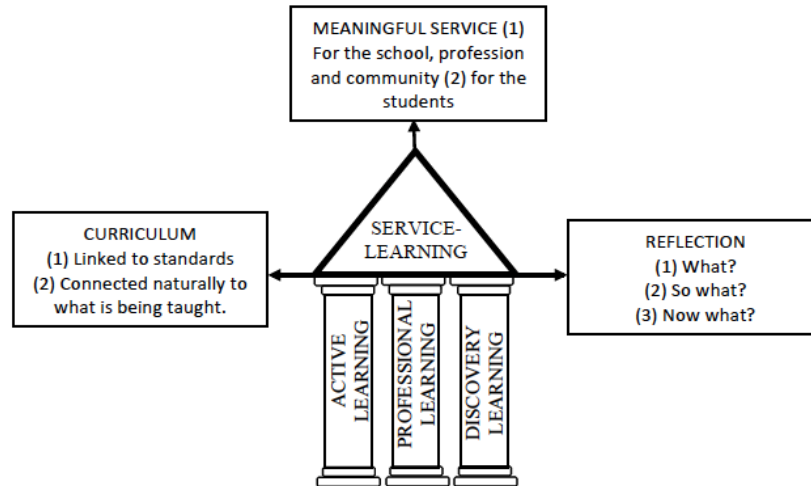


Figure 5. Balanced service and learning

Service-learning instills theory and practice of service, values of empathy and reciprocity through critical reflection, integration, insight and identity formation. Process of research and professional education through inquiry, analysis, synthesis advances knowledge. Research in service-learning disseminates the knowledge through field research, civic engagement and community benefit. Observed outcomes of service-learning are socially responsible daily behavior, advocacy through community education, community building, community economic development, political awareness and activism, direct action strategies and direct service. Service-learning is an experiential education approach based on “reciprocal learning”. Service-learning occurs when there is a balance between the learning goals and service outcomes. Therefore, service-learning really occurs only if “both the providers and recipients of service benefit from these activities” (Furco, 1996). Furco presents five types of service programs distinguished by (1) primary purpose and focus, (2) defined by primary beneficiary:

Table 1. Type of Service Program, Focus, and Beneficiary

Type of Service Program	Primary Focus	Primary Beneficiary
1 - Volunteerism	Service	Recipient
2 - Community Service	Service	Recipient & Provider
3 - Internship	Learning	Provider
4 - Field Education	Learning & Service	Provider
5 - Service-learning	Learning & Service	Provider & Recipient

It is important to further note the difference between community service and service-learning beyond their primary focus. Service-learning targets development of cognitive skills, has more

rigorous assessment and selection criteria, it is a work-based or project-based learning for the student, and enhances academic development (Furco and Billing, 2002).

Benefits of service-learning may be easily observed in all six of the educational domains: (1) Academic, (2) Vocational, (3) Personal, (4) Civic/Cultural, (5) Ethical, (6) Social. Providing students with service-learning experiences generate a cycle of change as they progress through their curriculum thus become both a better learner and a better citizen.

Service-learning may be conceptualized in the following four categories (Butin, 2003):

- **Technical:** Focuses on the innovation (advancing the knowledge) itself. Attempts to create best practices and their principles.
- **Cultural:** Emphasizes individual meaning within the context of innovation (acculturation, understanding and appropriation of innovation).
- **Political:** Concerned with issues of competing constituencies and their manifestation through power imbalances.
- **Post-structural:** Concerned with how an innovation constructs, reinforces, or disrupts social norms.

Service-learning often simultaneously utilize these categories and thus have a multiple-perspective focus to lead conceptualization of a diverse set of goals and enactments. Service-learning endeavors in the Department of Landscape Architecture at Mississippi State University often have multiple-perspective focus such as small town planning and design in rural communities in Mississippi. These projects often involve mixed land uses including but not limited to agriculture, urban agriculture, urban homesteading, et.al. as a part of providing better food security and healthy living as well as improved quality of life.

2. Service-Learning in Landscape Architecture Studios at Mississippi State University

2.1 Background

Mississippi State University is located in the East-Central part of the state of Mississippi in the South Eastern portion of the United States of America. With a population of under three million people on 47,000 square miles, it is highly rural in character with a relatively low density of people across the state. Mississippi State University is a Land Grant Institution with land provided by the Morrill Acts. The definition of a land-grant institution is "an institution that has been designated by its state legislature or Congress to receive the benefits of the Morrill Acts of 1862 and 1890. The original mission of these institutions, as set forth in the first Morrill Act, was to teach agriculture, military tactics, and the mechanic arts as well as classical studies so that members of the working classes could obtain a liberal, practical education" (<http://ext.wsu.edu/documents/landgrant.pdf>). Through this designation the university has agents in each county to aid with community development, policy, and other issues that pertain to the wellbeing of the community. The vision of the university is not only about teaching and learning, but also service. As part of the design studio sequence the faculty of the Department of Landscape Architecture began to collaborate on ways to utilize this method of thinking to get our students into the field to work with communities that wanted design intervention but did not have the funding to hire a landscape architect to do the work. Our department did not want to compete with professional landscape architect but rather produce conceptual ideas that could then be turned over to a Landscape Architect for massaging and construction documents.

2.2 Demographics

Mississippi is a place that in 2015 had a child poverty rate of 35%, a senior poverty rate of 18%, and has 25.9% of women in the state in poverty. Single parent families with related children that are below poverty is at 47%. The number of black children below 200% poverty is 253,000 (<http://www.spotlightonpoverty.org/map-detail.aspx?state=Mississippi>). It's these types of numbers that have given the importance to going out into the field to help the people of Mississippi. Along with poverty comes food deserts. "Food deserts are defined as urban neighbourhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options. The lack of access contributes to a poor diet and can lead to higher levels of obesity and other diet-related diseases, such as diabetes and heart disease" (<http://apps.ams.usda.gov/fooddeserts/fooddeserts.aspx>). Many counties in the agriculturally rich Mississippi Delta Region contain food deserts. Poverty and the conversion of food crops to biofuels have created the issues surrounding fresh foods.

2.3 Opportunities

2.3.1 Henson Creative Park

At Mississippi State University there are many avenues to explore in terms of team building for projects. The department of Landscape Architecture had the opportunity to begin building a relationship with the John C. Stennis Institute of Government. This group had been developed from a past team with the title of the Mississippi Community Action Team which went into communities to facilitate visual preference studies. Dr. Joseph Fratesi and Jeremy Murdock managed small grants from groups such as the Appalachian Regional Commission to help develop opportunities for design intervention. The group had approached the department concerning a team effort for a design studio beginning in Leland, Mississippi located in the Delta Region. The collaboration was not only limited to the resources already in place at the Stennis institute but also by building a team on the ground in Leland composed of local politicians and citizens to help get input for design solutions. The team grew to include members of the chamber of commerce, local artist, the local school board and teachers, as well as an environmental engineering group that heard of the project and offered their services to relocate an existing weir on a proposed park site. The service-learning worked both ways as the students walked the city, the citizens interacted with them answering questions our students had while they were inventorying the sites to be conceptually developed. Local service groups prepared and gave us meals in return for a brief talk about our hopes for the city (Figure 6). A local citizen that had a large unoccupied home allowed the students to stay the night at the house so we didn't need to find more money for the stay over. This house was one of the jewels for the project as some of the members of the city team eventually bought the property and turned it into an award winning bed and breakfast that caters to weddings and guests from the region bringing tax dollars to a town that needed economic development drastically (Figure 7). The city engineer donated survey work. In the early days of the project many people and groups came together to get ideas generated. Our students spent two nights and three days on in the city sketching, meeting with citizens, and trying to find the soul of the place. We met with local historians, the mayor, and everyone that stopped students to find out why they were in their town. Our students had the opportunity to speak with the media, sketch multiple sites around the town, and finally present findings to the city (Fig. 8, Fig. 9, and Fig. 10)



Figure 6. Dr. Joe Fratesi Speaking with Rotary Club Members



Figure 7. Home for the site visit, later turned into Bed and Breakfast



Figure 8. Student speaking with local media



Figure 9. Students Sketching along Deer Creek



Figure 10. Students Presenting conceptual ideas to community

This process led to the development of a team of players from the city, the Stennis Institute, the Department of Landscape Architecture, and Landscape Architect Robert Poore of Native Habitats to apply for a National Endowment of the Arts Grant to develop design drawings for the Henson Creative Park along the banks of Deer Creek adjacent to a museum for Jim Henson, creator of Kermit the Frog and the Muppets. Background information from the students work on the site were used to show the committee that work had been done on the site and that the city was serious about developing the park. The grant was awarded to the team and over the next year design work was completed for the park. Students also took part at this time by building three-dimensional models and producing marketing images for the city to use to raise funds (Fig. 11). These images all received feedback from the Landscape Architect and the city fostering more learning opportunities for students.



Figure 10. Student Renderings for Marketing Purposes

Students in the Cost Estimating class in our Landscape Contracting and Management major developed a rough estimate for the project based on plans by the landscape architect and will be providing the City of Leland with a yearly management estimate in the Spring of 2016. The partnership with the people of Leland gave rise to many learning opportunities and developed a pride in the students as they worked on what is becoming a real project. The value of developing open recreation space for people to gather in a town that needs to work more closely together was something sensed early by the students as they walked the streets and spoke with the people that will be utilizing these spaces over time. The full value of the park as a market is yet to be seen, but if the bringing together of farmers, artists, and the local citizens can begin to develop dialog about local food, obesity, sustainability, and the arts, then it is already a success. Students gained a valuable insight to working with communities and that they have power to make change in the places they choose to live and work.

2.3.2 Arkwings

Our department became involved with a service-learning opportunity with the Arkwings Foundation as the founder was the father of one of our departments graduate students. Dr. John McCall contacted us and asked if a class would be interested in coming to Memphis, Tennessee to help with master planning of his foundation. "Arkwings Foundation is a multi-ministry wellness organization incorporated as a 501 (c) 3 not-for-profit public charity founded in 1991. Its mission is to promote spiritual, emotional, and physical health for individuals, organizations, and communities through innovative, hands-on programs, with a focus on inner-city youth. Arkwings under the direction of Dr. John McCall and a 20-member board of directors also organizes and leads groups of individuals desiring to participate in wellness retreats and to serve in national and international locations. The Arkwings motto is "Taking Care of Self in order to Care for Others" (God, Neighbor, Self). The Arkwings Foundation headquarters is located on a 17 acre multi-facility retreat conference center surrounded by old growth forest in the community of Frayser just north of downtown Memphis. Volunteers are needed to mentor youth through urban gardening programs, to participate in facility improvement projects, and serve in its various ministries" - John McCall. When visiting the site with students Dr. McCall explained the purpose of the foundation and talked at length about teaching inner city children about gardening, nutrition, and how to turn that knowledge base into a career. Our students spent three days at the site, first hearing about the history of the site and the local canoe/kayaking ports. We take the students each year we do the project on a canoe trip down the river so that they can see some of the issues with pollution in our waterways Fig. 11. Members from



Figure 11. Students canoeing and Picking up Trash along the Wolf River

the Wolf River Conservancy donate the boats and discuss the issues in the watershed with the students. The end result is that the students haul trash out of the environment that would have eventually made it to the Mississippi River and ultimately to the Gulf of Mexico. Each year there is a charrette focusing on different aspect of the property. The first year focused on a Master Plan (Fig. 12) and subsequent years have focused on housing, community agriculture, and small markets for selling produce grown by the children. The participants in the gardening effort all are asked to take part in the design development to help students understand the needs of the user. Each year we have local landscape architects help with critiques while developers and engineers give background information etc. Students have been hired by the foundation to make models and create digital images of the site and the department of Landscape Architecture has been an ongoing supporter of the project. The site is one of the last stands of old growth forest in the region with open space along a major thoroughfare in the city of Memphis, allowing for good access to the market and agricultural fields. A recent venture is also growing honey on the site and selling locally.



Figure 12. Early Conceptual Design for the Arkwings site

Student learning included interaction with local environmentalist, food and nutrition specialist, housing developers, and a non-profit that actively worked in the community to raise awareness about local food in and underserved area. The discussions with students taking part in the urban gardens project were eye-opening to our students as issues such as poverty, homelessness, broken families due to drug addiction or jail time were on the fore front. The majority of our students had not experienced those issues first hand and had empathy for those children, making the work they were doing that more important to them.

2.3.3 Water Valley

Another project that was a collaboration with the Stennis Institute was in Water Valley, Mississippi. The Stennis Institute was approached about the possibility of developing conceptual plans for a temporary park on the site of a burned down structure on the town's main street. We worked alongside with a retired botanist from the University of Mississippi, the President of the locally owned bank, and two local entrepreneurs. In a two-week project the students created a Master Plan, perspectives, sections, and details and took these back to the community for input. This project provided a wonderful opportunity for our students to work with a main street association and multiple members of the community that wanted to see positive change. We were also able to

educate the citizens about what it is that landscape architects are capable of as the initial reaction was that our students were there to plant trees. The relationship was wonderful for both sides of the collaboration. The team chose the work of a student that decided to develop the temporary park as a



Figure 13. Members of the Water Valley teams discuss student work

local food market on the weekend and passive recreation area during the week. The project that was selected was then put together in a marketing flyer to help recruit new clients to the Stennis Center and design studio. The project gained community support and is under construction. Another collaborator on the project was Mississippi State University's public relations department that put out the story state wide about the project. The students were rewarded not only by knowing that they had helped work on a project that would be built and provide an opportunity for people in the town to get fresh local food, but also with a feel good story about their hard work. Our department received good feedback from parents, administrators, and citizens alike about the work we are doing.

3. Conclusions

The use of service-learning in the landscape architecture studio has been mutually beneficial to students, faculty, and local groups whether they are private or public entities. The ability for design students to meet with real clients and have real world sites with real world problems provides an ownership of the project for the students. Students gain real experience with communicating conceptual ideas to communities that otherwise would not be able to afford consultation. The students have an opportunity to learn about the place they are working with and the people that make it home. These are not simple technical solutions derived at a desk far away from ground zero, but in the trenches with citizens that want to make their community better. Students take away from the experience not only pride in providing a design that may be part of a solution for the community, but also new friendships, contacts, and an appreciation for work in less glamorous places around the world, places where people need and appreciate the ideas and effort provided by these students. The partnership between multiple departments on campus and the communities also are mutually beneficial in that new relationships are being made with each project. Each group brings something important to the table in the collaboration that makes the whole project work. One group may find funding while another locates a place to stay in the community or locations to be examined. The community comes away with a product that can be shown to the greater citizenry to solve whatever

topic was important to the project. Issues such as food deserts, public markets, housing, recreation, or any multitude of others are common to explore in the design studio and give an opportunity to be flexible over time with many types of projects to explore. The work of the students in the department of landscape architecture at Mississippi State University has developed an empathy for communities that do not have the resources to develop plans or need leadership to help shape the direction of the community. The issues surrounding food in Mississippi are ongoing. Students were asked to inventory and analyze conditions of multiple sites in multiple rural communities to assess possible sites for community markets and shared public spaces. From these early studies, students went through the design process to develop strategies for communities to develop sites and provide marketing drawings. The sites provided allowed for students to explore the interconnectivity between place and cultural context and the issues of food deserts and other design issues related to food such as land planning. From the educator and administrative points of view the projects were highly successful as the students participated in hands on learning with real clients. Positive feedback was given from the communities with one community's Chamber of Commerce giving the team a Community Service Award for the work completed. Student feedback was positive as well with students giving written testament to how proud they were of the work they completed and how they felt it was important to have real world projects with real clients giving feedback. While money and resources can be an issue when utilizing service-learning in the classroom, there is always a way to find help in these arenas. We weren't afraid to ask what we could do in the community to find accommodations or meals, spreading the word of what we were trying to accomplish.

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