

Sustainability and Social Engagement

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Executive Summary

The Sustainability and Social Engagement Group at Southwestern University set out to respond to two research questions regarding the university's sustainability efforts:

1. What connects and disconnects SU students to sustainability and social activism?
2. How can community engagement with sustainable practices and awareness of programs on campus be increased?

We implemented a three phase plan that began with a review of the scholarly literature on university sustainability and the implementation of a campus-wide sustainability survey. The second phase involved a public relations campaign that combined our findings from the literature with our survey results to educate and inform the campus. The third phase involved a series of presentations to university leaders with the purpose of raising awareness about student engagement with sustainability issues and the hope of inspiring meaningful changes on campus. Our review of the literature found the following:

1. Institutions of Higher Education (IHEs) have been increasingly involved in sustainability efforts as places for dialogue, research, and action.
2. Orientation, integration into academics, and education in sustainability are shown to be the most important factors in increasing a campus community's level of engagement in sustainability.
3. Southwestern University's commitment to sustainability has expanded significantly since 2007, with signing of the Talloires Declaration and the President's Climate Commitment two years later. These acts commit the university to sustainability action and environmental literacy through teaching, research, and outreach.
4. Despite recent strides in sustainability initiatives on the Southwestern campus, only a relatively small group of active students have introduced these changes.

A nine question, online survey was distributed to the campus through various mediums, and we collected responses from 216 individuals to gauge their knowledge of and engagement with sustainability at SU. The most important findings from the survey and subsequent group interviews included the following:

1. Sustainability was primarily defined in terms of the environment rather than a holistic social, financial, and environmental definition.
2. Approximately 82 % of respondents rated sustainability as "important" or "very important."
3. Water bottle refilling stations, 100% renewable energy, composting in the commons and SU Garden, and recycling were the most positively rated initiatives. These represent some of the most easily accessible sustainable actions students can take on campus.
4. Although 81% of students either "agreed" or "strongly agreed" that the community garden made a positively impact on campus, 77% of respondents said they "seldom" or "never" used the garden.
5. Meatless Mondays can be improved with better signage about nutrition, information on the benefit of reducing meat in one's diet, and increased diversity of food options. The way Meatless Monday is currently presented gives students a negative view of the initiative.
6. Campus-wide events and more information on how to live sustainably were highly rated as ways to increase participation in sustainability initiatives.

We implemented a public relations campaign that included working with the university's marketing team to increase social media postings about sustainability. We also met with the admissions staff to implement a sustainability component during campus tours. Lastly, we developed two short

videos to be posted on social media and the school website, as well as to be distributed to prospective students, parents and donors via admissions emails.

Finally, we met with several campus leaders to share our findings and make recommendations for improving the campus' sustainability efforts. We recommend the following:

1. Education for future students about Southwestern's commitment to sustainability.
2. Improvements to the new student orientation's sustainability component. Also, integration of a brief sustainability education with first year seminar or Paideia coursework can improve future involvement.
3. Improved access to and knowledge of the community garden through first year activities.
4. Increased university-level commitment to sustainability through the integration of environmental, social, and financial sustainability principles into the core values of the university.
5. Promotion of sustainability as a matter of school pride. This includes associating the university with sustainability through branding, hiring a sustainability coordinator, and implementing campus-wide education of the importance of sustainability to Southwestern.



Environmental Studies capstone student Nick Espino passing out pamphlets at Earth Day Texas 2016

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1. Introduction

The health of the world's ecological systems has been a major focal point for discussion over the past several decades, and many environmentalists, scientists, and policy makers are recognizing sustainability as a major global concern that needs addressing (Cortese, 2003). Following a well-cited definition from the Brundtland Commission, Cortese (2003) defines sustainability as "development that meets the needs for the present without compromising the ability of future generations to meet their own needs." The Southwestern University Capstone (2014) defined sustainability as "Challenging the Southwestern University community to lighten our environmental footprint, improve our quality of life, [and] engage in meaningful partnerships with the community." A sustainable future with stable populations, healthy ecosystems, and social and economic stability is achievable through increased sustainable awareness and education.

Institutions of higher education (IHEs) play a critical role in the future of sustainability, as dialogue, research, and action begin in IHEs. "As society goes, so goes the university; but also, as the university goes, so goes society" (Kerr, 2001, p.194). This statement reflects on how institutions of higher education are models of sustainability initiatives and lead change in research, education, and environmental activity. IHEs train most of the professionals who lead, develop, manage, and teach today's society (Cortese, 2003). Furthermore, sustainability is complex and encompasses a diverse range of disciplines, drawing from engineering, environmental science, education, business, and law, to name a few. To meet this complexity, sustainability-related curricula and programs must encompass these disciplines (Cortese, 2003). Higher education is the only type of institution with the ability and structure to do this effectively. In the United States, many organizations aim to lead change for sustainable innovations in IHEs.

1.1 Southwestern's Commitment

The Talloires Declaration composed in 1990 greatly expanded the global commitment to sustainability. Over 350 university presidents in over 40 countries signed a ten-point action plan for colleges and universities. Southwestern University's commitment to sustainability has expanded significantly since 2007, when then University President Jake B. Schrum signed the Talloires Declaration. The Talloires Declaration commits Southwestern University to initiatives in sustainability and environmental literacy through teaching, research, and outreach ("Talloires Declaration", 2001). In the past, Southwestern University has created institutional changes that include laundry-to-landscape water systems, solar-powered golf carts, and LED lights (Env. Studies Capstone, 2014).

Southwestern University students, staff, and faculty have historically exemplified the commitment to environmental and social sustainability. Through the Mellon and Kendeda funded Student Environmental Engagement and Development (SEED) grant, student leaders had been motivated to develop and implement initiatives throughout campus, including the campus-wide compost collection, a rainwater harvesting system for the Community Garden, and reusable water bottle refilling stations. Implementing sustainability practices is extremely difficult, and implementers meet challenges at every step of the process. Successful initiatives require the support of the entire campus community. Due to consistent campaigns led by SEAK students and Environmental Studies majors, the campus undertook multiple major projects, including initiatives to decrease the campus' carbon footprint, receive all electricity from wind power, compost campus dining materials, and the creation of a "Green Fee" to fund future sustainability projects on campus ("Sustainability on Campus", n.d.).

1.2 Our Study

Our project includes both a literature review and a three-phase project. This literature review aims to expand on the idea of “campus sustainability” and applies the work to the Southwestern University campus. Furthermore, the first phase of the 2016 Sustainability and Social Engagement Capstone group aimed to understand what drives and disconnects Southwestern University students to sustainable behavior and environmental activism. Through a nine-question survey and two informal interview groups addressing sustainability, this project gained insight into the level of understanding and awareness of the meaning of sustainability on campus, the opinions of Southwestern’s efforts, and what factors increase campus involvement. The second phase included implementing a public relations (PR) campaign and a multifaceted presentation to increase sustainability awareness at Southwestern University. Our third phase involved presenting our data from our research to multiple individuals and groups on campus, both student led and administrative, to help improve sustainability initiatives on campus. Our ultimate goal was to understand what drives the sustainability on the Southwestern campus and implement a greater awareness into our campus.



Southwestern University's first electric car charging station located near the Wilhelmina Cullen Admission Center

2. Literature Review

Sustainability is a paradigm for thinking about the future in which the “economic, environmental, and social dimensions are intertwined, not separated, and are balanced in the pursuit of an improved quality of life” (United Nations Educational Scientific and Cultural Organization, 2011). To integrate sustainability into a campus, Institutions of Higher Education (IHEs) must consider this paradigm. The literature on campus sustainability varies widely and focuses on many aspects of environmental activism and aspects of stewardship on college campuses. Given the educational role of colleges, understanding what makes campuses sustainable and what actions foster engagement, activism, and environmental literacy of the campus community is paramount. Due to the subjective nature of sustainability research, the literature addresses this issue in a variety of ways. Our literature review focuses on three main types of research that describe what drives and hinders sustainability: case studies, empirical studies, and theoretical studies.

2.1 Qualitative and Quantitative Studies

A case study of Australian and English Universities by Ralph and Stubbs (2014) utilized interviews, university websites, and qualitative and quantitative data to investigate how universities integrate environmental sustainability into operations, teachings, and research while acknowledging the three “E”s of sustainability: economy, ecology, and equity. They examined four English universities, which have specific governmental requirements to address, measure, and report carbon emissions through capital funding, and compared them to four Australian universities, which have an environmental focus on systemic change rather than direct governmental regulation with an emphasis on the role of education in sustainability. They conducted eighteen interviews. These interviews included questions about “their university’s environmental sustainability activities; the drivers and barriers to integrating environmental sustainability into their area of responsibility; how they ranked the importance of the drivers and barriers; their view on how successful their university had been in integrating environmental sustainability into their area of expertise; and, the key success factors” (Ralph & Stubbs, 2014).

The results showed that although outside factors drove the Australian universities to be more sustainable, the most influential factors were from within the universities, including policies and programs made by the university, internal pressure by students and faculty, leadership and support from strong individuals and management, and funding. The barriers to both universities included lack of knowledge, academic silos, and challenges from working between disciplines (Ralph & Stubbs, 2014). The results of this case study exemplify that achieving sustainable campuses requires cooperative effort from all staff, faculty, and students; it also requires great leadership and a high level of literacy in sustainability.

Krizek et al. (2011) use the University of Colorado Boulder as a case study of successful and unsuccessful sustainability plans in a university setting. They attempt to define four phases for how campuses may address issues of sustainability: grassroots campaigns, executive acceptance, campus leadership, and self-actualization and integration into the campus community. These phases require coordination between campus community members to be completed successfully. The authors recommend integrating sustainability into campus philosophy and core values, having clearly defined roles such as a sustainability coordinator, and fostering innovation and creativity within the academic experience are important campus decisions to enhance the progress of sustainability initiatives. Some of the challenges faced by Colorado included varying and competing priorities within and between personnel bodies, prioritization of revenue within the university, and the inability to produce sweeping changes (Krizek et al., 2011). Much of the sustainability advocacy came from the students rather than administration, a theme common to many universities.

Sustainability at the campus-level also requires education on environmental issues. Stewart (2010) offers another plan for implementing sustainability education for students by using the University of Maryland as a case study. First, he argues that the education should begin at the campus orientation, where the school must impress upon the students the importance of sustainability to the campus. Furthermore, they also need to emphasize the available resources and smart practices early in student education. Second, he says that first-year courses should teach the principles of sustainability, since once students have a foundational knowledge of sustainability, they can draw connections on their own in future courses. Stewart cited the University of Maryland’s “Student Sustainability Advisors” as a highly successful initiative. The group gives 60 to 90 minute presentations in 32 first year courses at the university, which directly reaches 640 students on campus. Additionally, many colleges have graduation requirements in environmental literacy, and these requirements are a crucial part of Stewart’s suggested plan.

Finally, students at Colorado College created a short documentary called “Sense of Place” that the university shows during new student orientation to give students a background on the geologic,

agricultural, water, and energy histories of the area and the college. Students received this documentary well, and it demonstrates how linking student activism with administrative decisions, such as campus orientation schedules, and promoting awareness and education make important contributions to an overall attitude or mission towards sustainability at a university (Suber and Kraus-Polk, 2014).

Much of the research on campus sustainability initiatives is qualitative research that subjectively evaluates the factors that contribute to successful programs. Owens (2013), however, researched the issue from a quantitative perspective by viewing campus sustainability as an “organizational strategy” and using a profit model to evaluate determinants of sustainable operational initiatives. He found that “growth factors”, such as student preferences for sustainability, tenured faculty, and community engagement levels, were major determinants of sustainability operations. Additionally, he found that these “growth factors” are more important than “decline factors”, such as regulatory pressure, fiscal concerns, or grants in promoting sustainability on campuses. Thus, students, faculty, and overall campus attitudes are actually the drivers of change on campus rather than the interventions of regulators or groups that give grants. This finding supports the qualitative evidence found in Ralph and Stubbs’ (2014) case study.

2.2 Theoretical Studies

Brown and Hamburger (2012) assert that campuses are pivotal institutions in societies and that they have helped create and foster activism and movements, including campus sustainability. The authors establish a list of challenges that sustainability campaigns have on campus: institutional, fiscal, leadership, and psychological (Brown and Hamburger, 2012). Furthermore, they explain the different messages campaigns can adopt that might get more people involved:

1. Sustainable education is the ideal testing ground for interdisciplinary research and education.
2. Sustainability will help recruit both students and faculty.
3. Reductions in energy and resource use have financial advantages.
4. Sustainability initiatives present the opportunity for collaboration and competition with other institutions.
5. Sustainability education will enhance the role of the university in service to the community, the state, and the nation.
6. Sustainability education will foster enhanced engagement with faculty, students, and the community.

Brown and Hamburger (2012) stress the importance of creating an office of sustainability to support initiatives, as well as the importance of using the four “C”s as a guideline to accomplish sustainability: curriculum, culture, campus, and community.

The importance of student affairs in sustainability to the education of students is highlighted by Kerr and Hart-Steffes (2012). Student affairs are essential to sustainability because they educate the student population on necessary skills such as leadership, making change, and group dynamics. The authors believe it is very important for students to learn through experience which builds leaders. The authors find that many universities have incorporated sustainability into mission statements, strategic plans, and student affairs. According to Kerr and Hart-Steffes (2012, p. 15), the best marketing strategies for sustainability include “signs in the lobby depicting native plants or building materials, LEED certification or green building techniques, placards in the dining halls informing guests of the use of local farmers, and signage in the bookstore declaring fair labor standards.”

2.3 Summary of Literature

The literature finds that universities best achieve sustainability through a wide variety of initiatives and require support and action from the entire campus community. The case studies and quantitative research demonstrate that engaging the whole community is difficult to achieve. Most campuses struggle to achieve buy-in and coordination between an entire student body, faculty, and staff. However, often the most successful programs have been student-led and driven by administrative support. Several articles stress the importance of education in sustainability. An environmentally educated campus is more likely to participate in sustainability initiatives and to make connections to environmental problems. Our research will attempt to fill a gap in the literature by conducting a campus-wide survey at Southwestern University that both quantitatively and qualitatively assesses student engagement and provides a framework for improving upon levels of engagement at the university.



Solar chair constructed in partnership with the Physics department at Southwestern University

3. Methods

Based on the literature that was reviewed, a campus environmental literacy survey seemed to be a good way to begin our sustainability initiatives. Following previous academic research, we conducted a short nine-question online survey and two informal group interviews to learn how to better communicate and engage the Southwestern campus in sustainability. Below are detailed methods of how both the environmental literacy survey (hereafter referred to as “survey”) and informal group interviews were conducted.

3.1 Environmental Literacy Survey

We conducted an environmental literacy survey to assess student views on sustainability. The survey was made available to the campus community on February 16, 2016, and remained available for approximately four weeks. We created the survey using Google Forms and required participants to have a Southwestern e-mail address and to be over 18 years old to participate. These restrictions limited the survey respondents to current students, who were our target audience. To encourage participation, we limited the survey to nine questions concerning environmental sustainability. Each question employed

either an open-ended response, linear scales, or check boxes. The survey questions and optional responses can be found in the appendix (Appendix A).

The survey aimed to assess the following:

1. Students' interpretations of the meaning of sustainability
2. Their awareness of the importance of sustainability to Southwestern
3. Their perceptions of initiatives that have taken place on campus
4. Their concerns with the current sustainability efforts on campus
5. What would increase students' involvement with sustainability efforts

Before the actual survey began, we collected information on demographics from the respondents. We asked students to provide their age, year in school, major, geographical background, and organizational involvement. We asked these questions to help us understand how different demographics influence students in regards to opinions on sustainability.

The survey asked four open ended question and five non open ended questions. The open ended questions asked respondents: how they defined sustainability, what campus initiatives they did not like (if any), what would increase their involvement in the community garden, and whether their personal identity influenced their participation in sustainability. The five non open ended questions asked respondents to rate: the importance of sustainability at Southwestern, the impact of eight different sustainability-related programs on campus, their use of different sustainability-related initiatives on campus, the effectiveness of various platforms for spreading information about sustainability, and what programs would make them more inclined to participate in sustainability. These rating questions were asked with a sliding scale from one to five, with an additional "not applicable" option. Each numerical response was given a description, such as 1= "strongly disagree" or "never" and 5= "strongly agree" or "always." The survey did not require students to answer all questions, so students could leave any response blank.

We used multiple venues to distribute the survey and ensure participation by a diverse array of students. We focused on student organizations, social media, and word of mouth to raise awareness and participation in the survey. All members of the capstone team invited their Southwestern friends on Facebook to participate in the survey through an event link. Due to limits in friend circles, the majority of initial respondents were juniors and seniors. To reach first-years and sophomores, we tabled in front of the campus-dining hall, as Southwestern requires students to have meal plans for their first two years. We offered students who passed by the table to take the survey on a provided laptop, and offered candy to everyone who came to the table, regardless of participation. We distributed the survey to all 102 organizations on campus through e-mail, as well as by reaching out to the leader of each organization and asking them to forward the survey link to their members. In addition to these efforts, we personally contacted athletic team leaders and coaches to increase participation, as initial participation of men's athletic teams was disproportionately low.

3.2 Group Interviews:

We conducted group interviews to delve deeper into topics that a short survey could not fully address. We conducted two group interviews with a total of six students having been interviewed. For the first group interview, two capstone team members proctored the group interview and a third recorded the discussion. The two proctors assisted each other in leading the group discussion, while the recorder did not participate in the discussion. We informed participants that they were not representing the views of their organization, just their own personal beliefs and viewpoints. We conducted both discussion groups in same location. Discussion questions can be found in the appendix (Appendix B).

At first, we attempted to gather students from a wide range of organizations in order to be representational of the student body, but it became apparent that gathering participants would be a difficult task. Initially, we contacted 12 organizations asking for a representative to participate in the

group discussion, but we unfortunately received no responses. In the end, we decided to use our friends for participants as they were the people that were most willing to participate. The first group interview had five participants with two females, and three males. Because the participants of the first interview were like-minded to each other and to us, we sought out people that we were not familiar with for the second interview. We invited four people to the second group interview, including one female and three males, although only one person participated as three interviewees did not attend on the day of the second interview.

All together the two interviews included six participants. Interviewee number one was a senior involved in Alpha Phi Omega (APO) service fraternity, residence life, and the golf team. Interviewee number two was a junior involved in APO, Kappa Sigma Greek fraternity, and Operation Achievement. Interviewee number three was a junior involved in APO, Southwestern Community Garden, and SEAK. Interviewee number four was a senior involved in Kappa Delta Chi sorority and Spring Breakaway. Interviewee number five was a sophomore and worked for the megaphone. Interviewee number six (who participated in the second round of interviews) was a junior who played for the SU football team and was a member of the Phi Delta Theta fraternity.



Reusable water bottle refill station in the Fine Arts Center paid for by the Green Fee

4. Results

4.1 Environmental Literacy Survey:

The online survey reached a total of 216 Southwestern students. The demographics of the online survey showed that the respondents accurately represented the student body composition (Figure 1). Students could indicate thirteen different categories of organization involvement on the survey. Of the 212 respondents to the question, 200 students (94%) indicated at least one organizational affiliation, and 144 students (70%) indicated multiple affiliations (Figure 2). The most popular majors for respondents were Psychology, Biology, Business, and Communication Studies with 12.1%, 11.6%, 11.6% and 8.4% of respondents, respectively. Almost all respondents fell between the 18-22 age range with only 5% of respondents reporting an age over 22. A majority of respondents were from in-state (82.6%), with some from out of state (13.1%), and 4.2% being international. These numbers are consistent with the overall demographics of the university.

We first asked how participants defined sustainability. To ease analysis of the answers, we coded the responses in terms of their themes. Going off of prominent responses, the coding included whether

or not the definition had an environmental component, a social component, a financial component, or a temporal component. Over 65% of respondents defined sustainability in terms relating to the environment. The second highest theme, at 43%, defined sustainability in relation to time, meaning that sustainability would be able to continue almost indefinitely. Less mentioned by participants were an economic component in 8% of responses, and a social component in 5% of responses.

Our second question asked students to rate how important it is to them that Southwestern be sustainable. Over 80% of respondents thought sustainability was either important or very important (Figure 3). Out of 214 responses, only seven students felt that it was either not very important or not at all important.

To understand the student body's perception of existing sustainability projects on campus, we asked participants to rank nine different sustainability efforts on whether they made a positive impact on campus. The nine projects that we asked about were the community garden, green fund, water bottle refilling stations, 100% renewable energy, composting in the Commons and SU Garden, Meatless Mondays, recycling, and pirate bikes. The most popular sustainability projects were water bottle refilling stations, 100% renewable energy, composting in the Commons and SU Garden, and recycling. Each of these projects had more than 50% of respondents strongly agree that the project made a positive impact on campus. Meatless Mondays and the Green Fund scored the lowest with only 23% and 32% strongly agreeing that they made a positive impact on campus. The Green Fund, however, was the least-known initiative. A large portion, 32%, of respondents did not know about the Green Fund, and 8.9% of students did not know about 100% renewable energy at Southwestern.

We also asked students which sustainability projects they did not like, if any. Only 20% of respondents chose to write in an answer. Of these, 62% wrote in that they did not like Meatless Monday. Meatless Monday is a part of Southwestern's dining services commitment to sustainability, where meat is not served in the main entree line of the campus dining center (the Commons) on Mondays. The reasons identified included concern over lack of meat in the Commons, limitation of choice in food, and the perception that the initiative had no positive benefit. Three students who also wrote in Meatless Monday for this question did not like it because there was still meat in the commons during Meatless Monday.

To gauge what activities students actually participate in, we asked how often they used certain sustainable initiatives. The most used initiatives were recycling, refillable water bottle stations, pirate bikes, and composting in the Commons. Lesser used initiatives were composting in the garden, solar chairs, and the SU Garden itself.

As an open ended question, we asked respondents what would increase their involvement in the SU Garden due to an observed lack of participation and interest in it. Responses were coded based on the theme of the response. The most frequently mentioned ideas to increase involvement in the garden were increased knowledge and information, increased public relations campaigns or visibility, more personal time, and more events at the garden.

We then proposed five different actions and asked participants to choose any and all that would make them more inclined to participate in sustainability initiatives. We proposed more signs to indicate sustainable designs and initiatives, more information about how to live sustainably, better support for underrepresented students, campus-wide events engaging sustainability, and more funding from Southwestern. The most popular actions chosen by participants were more information about how to live sustainably and a campus-wide event engaging sustainability, selected by 74.5% and 72.6% of respondents respectively. More funding from Southwestern and more support for underrepresented students were chosen by 42% and 30.7% of participants respectively, while 58.5% indicated they wanted more signs. An optional "other" category was provided for students to write in suggestions. Several students wrote in that more time, knowledge, or promotion about events would increase their involvement.

Respondents were asked to rate six different platforms based on how effectively each contributed to increasing their knowledge of sustainability. The six different platforms were classes, student organizations, the school website, social media, word of mouth, and email. The top three most effective ways of increasing knowledge of sustainability were word-of-mouth, student organizations, and social media. The two least effective were the school website and e-mail.

The final question of the survey addressed social justice concerns on campus. This was an open-ended question in which respondents were asked to identify any way in which their identity (race, LGBTQ identity, or disability) had affected their participation in sustainability efforts, if at all. Of the 157 respondents to this question, 140 (89%) indicated that they did feel that their identity affected their participation. A total of 4% of respondents indicated that due to their identity, they felt encouraged to address environmental concerns and invoke change. All of these respondents were members of a diversity or social justice organization. Another 3% of respondents indicated that their participation was limited due to having a disability and sustainability efforts not being accessible. Yet another 2% of respondents indicated that an underrepresentation of their identity affected their comfort level at events, but neither encouraged nor discouraged their participation.

5. Discussion

5.1 Campus Sustainability

Sustainability at a campus level requires education on environmental issues. Stewart (2010) argues that environmental knowledge and activism increases when it is shown to students during student orientation. Our results suggested that more information about sustainability would be an important method of getting students involved. Additionally, given the wide variety of ways students defined sustainability, our results show a need for further education about the term and its relevance to the university's mission. The literature demonstrates that first-year courses should teach principles of sustainability since students more easily draw connections in future courses once they have a foundational knowledge of sustainability. Furthermore, studies have shown that having student sustainability advisors and hosting mandatory 60-90 minute presentations have successfully increased involvement in campus initiatives (Stewart, 2010). Therefore, if Southwestern implements similar requirements for first-year students, we expect higher involvement in and knowledge about garden and sustainability initiatives at Southwestern University.

The results indicate that once a baseline level of education about sustainability is reached, disseminating necessary information to support sustainable initiatives is best done through word of mouth, student organizations, and social media. The two most popular choices for increasing participation in sustainability efforts were to provide more information and have campus wide events. These findings suggest that these would be effective ways to engage the student population in sustainability efforts on campus. In our second informal group interview, a junior fraternity member mentioned that although he felt included in campus events, he didn't feel included in the decision making process. This highlights Ralph & Stubbs (2014) research that influential factors in successful sustainability programs are internal pressure from students and faculty, support from strong individuals and management, and working across disciplines and different student organizations to create policies and programs. Furthermore, a senior male athlete suggested that athletes in particular may not have as much time to commit to efforts because of the time commitment required for their sport; furthermore, he felt that the responsibility lies on environmental groups to increase knowledge. Several other interviewees suggested that disseminating the information in a way that better reaches a diverse campus audience would make students feel more informed and better able to participate in sustainability.

5.2 The Garden Paradox

The Southwestern Garden is an important area where diverse groups of students have come together to host events and create meaningful projects, such as an aquaponics system, a healing garden, and a film day in the garden. Unfortunately, participation in the garden has fluctuated greatly over time, and student involvement has lagged in recent years. The results of our survey showed something we termed “The Garden Paradox.” The paradox is that 75% of respondents said the garden made a positive impact on Southwestern’s sustainability; however, only 5% of respondents use it “often” or “always” and 51% of students had “never” used it. Among the 174 students who indicated the community garden made a positive impact on campus, the average respondent indicated that they “seldom” visit the garden.

The most frequently mentioned ideas to decrease the “garden paradox” were to increase knowledge and information, PR and visibility, more personal time, and more events at the garden. Stewart’s (2010) case study on sustainable involvement in University of Maryland’s successful sustainability program reflects these suggestions. Education and information about the community garden will increase participation in the garden. The best way to inform the campus about the garden is through early exposure in orientation. Additionally, Southwestern Admissions offered to give prospective students the opportunity to visit and work in the garden as part of admitted student visit days.

Composting in the SU garden was utilized more than the garden itself, meaning many students could compost in the garden without ever actually stepping foot in it. This indicates that students care about helping the garden, even though participation in it is very low. Students have motivation for participating in the garden through composting, but external factors stop them from actually visiting the garden. Breaking down these barriers will allow students to take a step beyond simply composting to actually visiting and working in the garden.

5.3 Marketing

According to Kerr and Hart-Steffer (2012), universities need to strategize and utilize marketing techniques to incorporate sustainability into mission statements, strategic plans, and student affairs. To solve these problems, administration needs to highlight the importance of sustainability. They further suggest that the importance of student affairs in sustainability requires educating the student population in necessary skills, such as leadership, making change, and group dynamics, to broaden and diversify involvement. In the long term, this will also help recruit both students and faculty.

Our results suggest the need for improved marketing efforts for sustainability at Southwestern. The school website was found to be the least effective way to transmit information about sustainability, and increased PR was indicated as a highly effective way of increasing involvement in the garden, overall participation in sustainability, and awareness of its importance to the campus’ overall mission. This indicates a need for improving the university website as a platform for education and engagement in sustainability. Additionally, 32% of students indicated that they did not know about the campus Green Fund. Following Kerr and Hart-Steffer (2012) and Suber and Krauss-Polk (2014) we found that creating short videos about Southwestern and the community, and enabling first-year students to participate in sustainability through increased awareness is an effective way of marketing. Our results also indicate that utilizing social media is one of the most effective ways of reaching and engaging students.

5.4 Demographics and Affiliations

Organizational involvement at Southwestern is high, and many students are involved in several different campus organizations. Based on our interviews, cliques formed through organizations represent a potential concern for engaging students on sustainability because clique members are often loyal to each other to the exclusion of outside people or other cliques. If outside people or other cliques are the main advocates for sustainability efforts, then that increases the likelihood that members of the clique will not support those efforts. This data also demonstrates that the relatively small environmental student organizations are not representative of the vast majority of students at SU who care about environmental sustainability. An approach to education and involvement as examined earlier with student orientation and an interdisciplinary approach can broaden and diversify students involved in sustainability.

Additionally, demographics changed students' perceptions of sustainability. Fraternity members were the least supportive of sustainability initiatives. On a scale of 1 to 5, with 5 being very important, the average response to "how important to you is it for Southwestern University to be sustainable?" was a 4.24. The average response for fraternity members was a 4.0, while the average for environmental or animal welfare organization members and diversity or social justice organization members was a 4.64 and 4.63, respectively. Additionally, Greek-life members were least informed about the Green Fund: 52% of those who did not know about the Green Fund were in a Greek organization (fraternity or sorority), while only 3% of those who did not know were in an environmental or animal welfare organization. This evidence demonstrates the divide on campus between those who are involved in sustainability, and those who are not.

5.5 Meatless Mondays

Meatless Mondays is a sustainable initiative pushed forward by Students for Environmental Activism and Knowledge (SEAK), in which the campus dining center does not serve meat in the main entree line on Mondays. It is part of a national campaign to promote awareness of the harmful environmental impacts of factory meat farming, as well as the health benefits of eating vegetarian. The average survey respondent was "neutral" about the positive impact of Meatless Mondays, while the average student "agreed" that each of the other seven sustainability initiatives listed made a positive impact on campus.

Men's athletes and fraternity members were least supportive of Meatless Mondays: both "disagreed" on average that it made a positive impact. Although environmental and animal welfare organization members and diversity or social justice organization members were more supportive, the average of these respondents was still "neutral" about the impact of Meatless Monday. In informal group interviews, we found further evidence of a divided student body in regards to Meatless Monday. When discussing the effectiveness of the MM campaign, a Southwestern senior athlete, stated, "The biggest issue for MM is that the consumption of meat is an ingrained part of American culture. It's hard to gain traction on a collective attitude. How do you convince people who believe they need meat every day to change?" Alternatively, a junior male athlete suggested that the biggest issue was that Meatless Monday took away choice. The issue of framing an initiative as "taking away" compared to "giving back" is a common problem with national Meatless Mondays initiatives. As an athlete who was interviewed expressed, many students see lack of meat in entrées as a removal of choice. Gao et al. (2014) support this statement, as they found Meatless Monday was the least favored way of implementing dining sustainability on college campuses. A significantly more favored alternative was reducing portion sizes of meat, rather than cutting out meat altogether.

Several of our interviewees reiterated that educating students on meat consumption would be imperative to improve Meatless Mondays. A junior male athlete was one such student who said he did not understand how Meatless Mondays were sustainable. Correlating with these assertions on lack of education, the majority of our interviewees did not change their eating habits because of the initiative.



Student Keara Hudler practicing Yoga in the Southwestern Community Garden

6. Conclusion

Overall, our results have exhibited multiple influential factors that drive and hinder sustainability at Southwestern University. As Ralph & Stubbs (2014) declared, the most influential factors are from within our university, and the barriers include lack of knowledge, academic silos, and working across disciplines. Stewart (2010) addresses diversifying and broadening involvement at the beginning of students' university careers, and Kerr and Hart-Steffer (2012) suggest implementing importance of sustainability at administrative levels. Over 80% of the Southwestern University students who took our survey believe sustainability is important for our campus; however, the involvement in initiatives shows extreme disparities between support and involvement.

In general, our results suggest that the lack of involvement and engagement in sustainability initiatives comes from a gap in knowledge. Most students care about sustainability, but as demonstrated through the case of the SU garden, they are not able to get involved. The most common reason for this is that they do not know how. Students did not support initiatives that they did not feel connected to. Information about how to live sustainably, public relations campaigns about how to get involved, and a further integration into coursework and organizations on campus are all ways identified by our survey and interviews for sustainability engagement on campus to improve. Through our review of literature, survey data, and interviews, we make several recommendations for the Southwestern University campus community. We shared these recommendations with several campus leaders, administrators and committee members.

7. Recommendations

We arranged meetings with nine different departments to provide information relevant to their department about sustainability and to make recommendations on how they can continue to support sustainability at Southwestern. The nine departments we met with were campus dining services (Sodexo), SEAK (Students for Environmental Activism and Knowledge), the Sustainability Committee, Residence Life, Student Activities, the Strategic Planning Committee, Admissions, Marketing, and the university's President. For each meeting, we prepared a handout to give to the attendees that contained

information about our survey, all findings relevant to their department, and our recommendations. Additionally, these meetings were used to gather information and feedback to inform future sustainability efforts. Results from each of these meetings are also included in each respective section.

At the beginning of each document, we informed the department that we distributed an online survey to the campus community during the month of February that reached 216 students and we had a sampling of responses from each type of organization. We also let them know that we conducted informal group interviews to hear students' voices on important sustainability-related topics around campus.

7.1 Recommendations for Sodexo (Campus Dining Services)

Findings relevant to Sodexo:

- Of the 216 students who participated in the survey, 82% of the students felt that sustainability is important or very important to them.
- Of the 216 students who participated in the survey, 73% of student respondents said that more information on how to live sustainably would make them more inclined to participate in sustainable initiatives on campus.
- Of the 216 students who participated in the survey, 11% of respondents wrote-in that they did not like Meatless Mondays, which was 62% of all write-ins for said question.
- The average respondent was “neutral” about the impact of Meatless Mondays.
- Students cited these reasons when discussing why they did not like Meatless Mondays: lack of meat; confusion over availability of meat; lack of diversity of food options; lack of nutritional education; and, frustration with lack of choice and having decision made for them.
- Students who were male athletes and fraternities were less likely to support Meatless Mondays.
- There was a slight correlation between age and grade level, where support increases with year.
- Sustainability is part of Southwestern University's spirit which reflected in many of our sustainability initiatives and by the results of our survey.

Recommendations:

- Large, clear signage about protein levels of entrees in lieu of current small signs should be added.
 - These signs could be in the entree line, on tables in the Commons, or both.
- Add higher protein entrees to Meatless Monday rotations.
- Change the initiative to a less busy day, such as Friday.

Results from Meeting:

- The Sodexo team explained that clearer signage about protein levels, nutrition content, and general information about Meatless Mondays will not be beneficial. They cynically explained that the more signs they add, the less students pay attention to them.
- The Sodexo team was open to changing the content of the main entree line on Meatless Mondays to different types of dishes with higher protein contents than the cheese enchiladas and cheese ravioli dishes that they usually cycle bi-weekly on Meatless Mondays.
- We proposed switching Meatless Monday to a less busy day in order to help booster positive feelings towards Meatless Mondays, but the Sodexo team explained that communication would be the best way to garner positive attitudes towards Meatless Mondays rather than moving the campaign from Monday to Friday.
- Furthermore, the Sodexo team gave their point of view on the matter that Meatless Mondays is a great campaign, but the problem is that students who oppose Meatless Mondays feel as if their options are being taken away; therefore, changing the campaign to a positive reinforcement campaign rather than a negative reinforcement campaign would be beneficial.

- Suggestions included Mindful Mondays, Sustainability Mondays, and Vegetarian Mondays. The Sodexo team emphasized that the campaign should highlight that the campaign is giving vegetarian options to the student body rather than taking away the meat options.

7.2 Recommendations for the Vice President of Student Life

Southwestern's Commitment to Sustainability:

- Southwestern has signed the Taillores Declaration, establishing a university-level commitment to sustainable practices.
- We are members of the Association for the Advancement of Sustainability in Higher Education.
- We have two LEED certified buildings, seven new water bottle refilling stations, 100% renewable energy, and a green fund with \$20,000 per semester for green projects that have won Southwestern University many awards including: Green power champion for SCAC each year since 2011, Featured in Princeton Review's Green Guide, and Silver award for STARS sustainability tracking program.

Relevant Findings

- Of the 216 students who participated in the survey, 82% of the students felt that sustainability is important or very important to them.
- Of the 216 students who participated in the survey, 73% of students said that more information on how to live sustainably would make them more inclined to participate in sustainability initiatives on campus.
- Of the 216 students who participated in the survey, 77% of students rarely or never visit the SU community garden, yet 81% of students agrees that it makes a positive impact on campus.
- In both free responses from our survey, interviews, and similar research projects done at other universities, many students emphasized that including and educating new students on sustainability at SU during First Year Orientation is imperative for long-term inclusion and knowledge of sustainability initiatives.

Recommendations:

- Residence Life should include a mandatory First Year Orientation event about sustainability.
- Residence Life should also include education on Meatless Monday, including nutritional information, as part of First Year Orientation.
- Res Life should encourage RA (Residence Assistant) participation in SEAK events to bolster first year participation.
- First year students should visit the Garden during orientation.
- First years students should also be educated on the Green Fund.

Results from meeting:

- Vice President Woody was enthralled with our suggestions. She suggested reinstating a past event during student orientation where SEAK members gave a presentation during dinner in the commons. This past SEAK event failed to continue two years ago because it was not well received. During the event, students were too loud and were not paying attention to the speakers; therefore, the SEAK presentation was not successful. However, Vice President Woody suggested that a more formal presentation would be beneficial and successful.
- An alternative to the informal dinner presentation suggestion was to have a more official and formal presentation during the student orientation week. The presentation would be during the beginning of the week when students are more inclined to attend all the orientation events. Furthermore, the presentation would occur prior to a movie or an event where the setting is entirely focused on one group speaking, as opposed to the excessive noise of the cafeteria.
- The student orientation week presentation will occur in the fall of 2017 in order to have more time to prepare and organize the event with SEAK.

- Vice President Woody was delighted by the idea of getting the RAs involved in running the formal presentation in order to get better attendance.
- Another recommendation that Vice President Jamie Woody accepted was the idea that in student orientation week that the RAs would walk the first-year students down to the garden in order to show them where the garden is in the beginning of their Southwestern careers.
- All of these recommendations, will be sent to SEAK and Keara Hudler to execute and plan.

7.3 Recommendations for the Strategic Planning and Budget Committee

Relevant Findings:

- Of the 216 students who participated in the survey, 82% of the students felt that sustainability is important or very important to them.
- Over 75% of respondents stated that the Southwestern University community garden made a positive impact on sustainability; however, 77% rarely or never visited the garden.
- Students remarked that they like sustainability initiatives like the LEED buildings and pirate bikes, but they do not feel these initiatives fully contribute to sustainability.
- According to 58% of respondents, additional signage of sustainability events would increase respondent participation, and 42% of respondents stated that increased funding from SU would increase their participation.
- Many students noted that accessibility was a major barrier to their participation in efforts.

Recommendations:

- With how important sustainability is to students, we believe that sustainability should be a component of Southwestern's mission.
- The lack of familiarity with the garden despite high ratings for positive impact suggests that projects are needed to integrate the garden into the greater SU community, such as:
 - Devoting guideposts and signage detailing how the garden is part of Southwestern's sustainability and why sustainability is important to SU.
 - Creating a walkway or other more accessible path to the garden.
 - Having gardening classes, such as an FRA.
 - Encouraging curriculum to integrate the garden into other courses, too.
- Aim for all new construction and renovations to be LEED certified, specifically academic and student services buildings.
- Provide more alternative transportation options for off-campus travel.
 - Expand the Pirate Bike program to allow use off campus.
 - Expand the current shuttle program.
 - Advocate for a bus stop at SU under Georgetown's proposed public transportation plan.

Results from meeting:

- We met with Committee Chair Dr. Ben Pierce. Although he will not be on the Strategic Planning and Budget Committee next year, he said he will pass this information and our recommendations along to the 2016-2017 Committee Chair.
- In response to the LEED certified buildings, Dr. Pierce suggested meeting with the Facilities Committee because they handle building projects. We noted that we were already meeting with many of the members of the Facilities Committee as a result of other meetings, and thus meeting with the Facilities Committee specifically would be redundant.
- There is currently a search for a new Vice President of Physical Plant and Dr. Pierce noted that having the new VP of Physical Plant be someone who is equally, or more, committed to sustainability efforts as was the previous VP Bob Mathis would be beneficial.
 - This would be beneficial as they are critical in implementing certain sustainability plans.
 - A VP as an advocate would also help ensure there is support from higher administration.

- Suggested attempting to get involved with the decision making process (even if it is just being able to sit in on some of the interviews) would be beneficial.
- It was recommended to have a point person that future people can consult with about the results of our work because almost all of this year's capstone students are 2016 graduates.
 - Having a point person ensures that the information is not forgotten after being stored away.
 - As a capstone group, we agreed to select the current student STARS coordinator Keara Hudler, as a point-person for our research.
 - This is beneficial because students typically have a stronger voice in university policy, so a student point person would likely accomplish more than another faculty or staff member as point person.
- Show the importance of sustainability when talking to administration by emphasizing the importance of sustainability to prospective students as well as the financial benefits.

7.4 Recommendations for Student Activities and University Programming Council (UPC)

Findings relevant to Student Activities and UPC:

- Of the 216 students who participated in the survey, 82% of the students felt that sustainability is important or very important to them.
- The two highest responses for increasing participation in sustainability efforts were more campus-wide events and more information.
- Over 75% of respondents stated that the Southwestern University community garden made a positive impact on sustainability; however, 77% of respondents also stated that they had never visited the Garden.
- Multiple interviewees emphasized that educating students on sustainability would be very effective if done earlier in their Southwestern careers.

Recommendations:

- Given how important sustainability is to students and how effective campus-wide events are, we believe that more future campus-wide events could have a focus on sustainability to both increase knowledge and involvement in sustainability along with increasing event turnout
- Given its high ratings of impact and importance, The SU Garden could be a great future site for event hosting.
 - The garden has recently undergone a thorough revamping and beautification from another group in the Environmental Studies Capstone.
 - Example ideas: FNL Movie Night in the garden, including it as an events location.
- First-year orientation would be a very effective way to introduce students to sustainable initiatives, especially the SU Garden.
 - An example idea is hosting a game during Pirate Training that has students sort out items that are trash, recyclable, or compost.
- Engage athletics and fraternities in sustainability when and where possible; they have a lower support rate for sustainability.
 - Education and feeling included would help this.

Results from meeting:

- The coordinators of UPC/ Student Activities were very supportive of sustainability events.
- Student Activities already partners with SEAK to provide campus-wide events focused on sustainability.
 - SEAK holds an annual Earth Week festival during the week of Earth Day (April 22nd) which includes a variety of activities. This year, SEAK did "Mount Trashmore" to show the amount of trash produced in a given week and promote decreasing trash waste,

- Student Activities partners with SEAK to provide activities specific to first-year students.
 - SEAK ran an activity booth this year during First Year Orientation Turnout was relatively low, between 40-50 students, compared to the size of the first-year class which is approximately 300 students.
- Student Activities does not take the first-years to the garden location.
 - Upon talking to Jamie Woodie, she agreed to ensure that first-year students would be taken to the campus garden during first-year orientation events
- Student Activities heads are glad that there are more events taking place in the garden such as the “Garden Movie Night.”
- Student Activities heads believe that although education about sustainability is important, pirate training may not be the proper place to incorporate new activities.

7.5 Recommendations for Students for Environmental Activism and Knowledge (SEAK)

Findings relevant to SEAK:

- Of the 216 students who participated in the survey, 82% of students felt that sustainability is important or very important to them.
- Of the 216 students who participated in the survey, 73% of students said that more information on how to live sustainably would make them more inclined to participate in sustainable initiatives on campus.
- Of the 216 students who participated in the survey, 11% of respondents wrote-in that they did not like Meatless Mondays, which was 62% of all write-ins.
- The average respondent was “neutral” about the impact of Meatless Mondays.
- Reasons for not liking Meatless Mondays included: lack of meat; confusion over availability of meat; lack of diversity of food options; lack of nutritional education; and, frustration with their meat choice being “taken away” from them.
- Men’s athletes and fraternities were the least supportive of Meatless Mondays.
- Slight correlation with age and grade level where support increases with year.

Recommendations:

- Addressing the athletics department directly by meeting with athletics administration and talking to athletes directly, which will lead to small but effective ripple effects.
- Information shared in person rather than through secondary sources
- Make more variety of food options available, and acknowledge students’ right to choose.
 - Anger is coming from students feeling “shamed” for eating meat
- Large signage about protein levels of food
- Other ideas:
 - Change to a less busy day; i.e. Friday
 - Reframe language from admonishing “bad” behavior to encouraging “good”
 - Serving smaller portions of meat entrees, or shifting away from the worst meats for environmentalists like beef
 - Compare to other schools—show that sustainability is part of school’s spirit, and show that SU is not being “singled out”

Results from meeting:

- We were given fifteen minutes to speak at a meeting of SEAK attended by all officers and several other students
- We discussed how Meatless Mondays could be improved upon based on our research. SEAK was receptive and eager to make changes to make the program more effective. They did not support increasing signage, as they already have signs that they feel are not working.

- SEAK decided to address the topic of Meatless Monday in the fall by working with Sodexo. They understood that reframing the initiative as “giving” students an option to be sustainable rather than taking away meat was necessary.
- We have agreed to set up a meeting with SEAK officer Keara Hudler after the capstone is complete to pass on all relevant information to SEAK.
- In our final meeting with Keara, we plan to create a strategy for improving engagement with sustainability by organizing ideas for orientation activities and coordinating the actions of Student Activities, Residence Life, other administration, and SEAK.

7.6 Recommendations for the Sustainability Committee

Relevant findings:

- Sustainability was primarily defined in terms of environmental sustainability rather than a holistic social, financial, and environmental definition.
- Approximately 82 % of respondents rated sustainability as “important” or “very important.”
- Water bottle refilling stations, 100% renewable energy, composting in the commons and SU Garden, and recycling were the most positively rated initiatives. These represent some of the most easily accessible sustainable actions students can take on campus.
- Although 81% of students either “agreed” or “strongly agreed” that the community garden made a positively impact on campus, 77% of respondents said they “seldom” or “never” used the garden.
- Meatless Mondays can be improved with better signage about nutrition, information on the benefit of reducing meat in diet, and increased diversity of food options. The way Meatless Monday is currently presented gives students a negative view of the initiative.
- Campus wide events and more information on how to live sustainably were highly rated as ways to increase participation in sustainability initiatives.

Recommendations:

- Education to future students about Southwestern’s commitment to sustainability.
- Improvements to the new student orientation’s sustainability component. Also, integration of a brief sustainability education with first year seminar or Paideia coursework can improve future involvement.
- Improved access and knowledge of the community garden through first year activities.
- Increased university-level commitment to sustainability through the integration of environmental, social, and financial sustainability principles into the core values of the university.
- Promotion of sustainability as a matter of school pride. This includes associating the university with sustainability through branding, hiring a sustainability coordinator, and implementing campus-wide education of the importance of sustainability to Southwestern.

Results from meeting:

- John Ore and Taylor Kidd were both interested in the results of our sustainability survey and requested that the results be shared with them to add to their understanding of sustainability on campus.
- We were provided with ideas for increasing engagement with sustainability on campus, a majority of which we were already pursuing, leading to positive reinforcement of our existing efforts to engage the campus in sustainability.
- Some of these ideas included putting a “sustainability” tab on the Southwestern homepage, conducting class outside in the SU Garden, having an FRA in the SU garden, conducting a

campus tour solely over sustainability, having an interactive map about sustainability initiatives on campus, and meeting with the school administration to promote institutional change.

- We also received some new ideas such as having sustainability as a topic for either the Shilling Lecture or the Brown Symposium to reach more people and educate about the importance of environmental, social and financial sustainability.
- Ore noted that he had taken previous classes to the SU Garden and many students did not know about the garden's location with a few exceptions from Environmental Studies students.
- Ore also emphasized that it would benefit the school if the next Vice-President of Physical Plant would be someone who was willing to work on sustainability initiatives.
- It was suggested to integrate sustainability into first-year seminars which will be 4-hour courses starting in Fall 2016.
- Both recommended that highlighting the financial benefits of environmental sustainability would benefit future initiatives.
- Speaking on Meatless Monday, they think it is a good idea to add value of non-meat products to encourage positive sentiment.
- They stressed the importance of showing the success of already existing sustainability projects.

7.7 Recommendations for President Burger

Benefits of promoting sustainability at Southwestern:

Increasing amounts of prospective students are interested in sustainability efforts at Universities.

- Almost two thirds (60 percent) of the respondents to The Princeton Review's 2015 College Hopes & Worries Survey said that being provided with a college's commitment to environmental issues would influence their decision to apply to attend a school.
- Based on our personal communication, the SU Admissions Office has received calls and questions from prospective students asking about sustainability efforts on campus.
- Other schools have "sustainability" tabs right on their front page to showcase their efforts, such as the peer institution Middlebury College in Vermont.

Supporting sustainability can benefit the school financially.

- The Environmental Studies 2016 Capstone group "Sustainable Infrastructure for the Walzel Gymnasium: Applications and Recommendations" has worked successfully with physical plant to secure bids to change all the light bulbs in the Walzel gym to be more energy efficient and environmentally friendly. Although this change comes with up-front costs, it will pay the school back in approximately 2-3 years and then become a source of financial savings.
- Previous environmental studies capstones (Guadarrama, 2015) have analyzed the ability of certain buildings on campus to become more cost-efficient while also becoming more environmentally sustainable.
- Supporting environmental sustainability could lead to increased numbers of incoming students.

We have many existing sustainability programs that can be showcased.

- Green Fee grants were established by the 2015 environmental studies capstone students. This grant program provides approximately \$20,000 a semester for sustainability projects proposed by students and faculty with priority given to students.
- We have two LEED certified buildings which are the Prothro Center and the Wilhelmina Cullen Admissions Center.
- SU uses 100% renewable energy which decreases our carbon footprint. The school displaces its energy consumption by paying for wind-generated electricity produced by Texas wind farms. Georgetown followed lead of Southwestern and will be 100% renewable by 2017.
- The SU Community Garden provides a location to grow organic plants for consumption to reduce food miles and promote healthy eating habits.

- Composting in the Commons and SU Garden reduces food waste and turns it into compost.
- Meatless Mondays is a national campaign which aims to decrease meat consumption in order to benefit people and their environment.

We are already involved in a tracking system.

- We participate in STARS (Sustainability Tracking, Assessment & Rating System) which is an international point-system for institutions of higher education. In 2012, we were ranked gold and bronze. This year, our ranking is being calculated by Keara Hudler. We can get points for things like courses, projects, and events.

Environmental Studies is becoming increasingly popular despite it being a relatively new major.

- The environmental studies major was created in 2000 and is growing every year.
- The capstone classes are becoming increasingly large and continue to grow (8 students in '12 and '13 compared to 15 and 17 students in '14 and '16)
- For example, courses that were previously offered only once every two years are now being offered every year to accommodate student interest.

There are existing projects that can be built upon.

- The Ecolab is growing community of students that has goals to become integrated into both the environmental studies program and biology program. It is currently an independent study program housed in Environmental Studies and lead by Anwar Sounny-Slitine. The Ecolab has already partnered with the chemistry department to include soil analysis into the lab portion of a first-year chemistry class.
- There is a sustainability committee that encourage these initiatives.
- Our ES capstone group has already created two videos to promote sustainability.

And most importantly, Southwestern students care about sustainability.

- Sustainability, primarily defined in terms of environmental sustainability, was very important to our 216 survey respondents with 82.2 % of respondents rating sustainability at Southwestern as "important" or "very important" to them.
- Initiatives rated as making the greatest positive impact to sustainability on campus were water bottle refilling stations, 100% renewable energy, composting in the commons and SU Garden, and recycling.

Previous studies and other schools have shown us how this can be done.

- Brown and Hamburger (2012): efforts of all different campus constituents must be integrated. A sustainability coordinator position is an important way to increase efficiency
- Ralph and Stubbs (2014): Internal pressures drive sustainability, not external. We need to make sustainability happen, it cannot wait.
- Krizek et al (2011): Four phases of sustainability- grassroots, administrative acceptance, leadership and action, integration and self-actualization of a sustainable campus
- Stewart (2010): Education, especially through first year orientation and in-person presentations, is the best way to increase campus acceptance and involvement in sustainability.

Recommendations:

- Work to create an identity for sustainability. Acceptance of sustainability as a priority for the institution means better engagement from campus.
- Implement orientation activities to educate, inform, and engage students in sustainability.
- Work through first-year seminars or Paideia clusters to give a brief introduction to sustainability.
- Using the core values of SU that are already in place, build sustainability as an identity... "Promoting lifelong learning...fostering diverse perspectives...encouraging activism in the pursuit of justice"
- Continue to integrate sustainability into course curriculum.
- Invest in growing projects that embrace sustainability.

- Coordinate efforts between groups on campus, such as athletics and the rest of campus for sustainability.
- Add a “sustainability” tab to the Southwestern website to demonstrate our commitment to sustainability and showcase existing sustainability efforts.
- Establish a position for a sustainability coordinator. We need someone to coordinate efforts between students, faculty, administration, and our memberships such as STARS and AASHE.

7.8 Recommendations for Admissions Office

Findings relevant to Admissions:

- The 2015 Princeton Review College Hopes and Worries Survey found that “A majority (60%) of respondents said having information about colleges' commitment to environmental issues would contribute "strongly," "very much," or "somewhat" to their application/attendance decisions.”
- Of the 216 students who participated in the survey, 82% of students felt that sustainability is important or very important to them.
- In our informal interviews and free response survey questions, we found that students would be more inclined to participate in sustainability on campus if they had more knowledge of opportunities on campus.
- Educating incoming students on the importance of sustainability to Southwestern can increase involvement and engagement in sustainability initiatives over students' four years on campus.

Recommendations:

- Provide prospective students and parents with information about sustainability on admissions tours
- Have a working knowledge of sustainability efforts and opportunities for students to become engaged for use in discussions, info sessions, and interviews with new students.
- Give students an opportunity for visiting and/or working in the community garden during admitted student visit days
- Send material to students such as a sustainability promo video or flier about sustainability to prospective students

Results from Meeting:

- We met with all members of the admissions team, including the Director of Admissions and all admissions counselors.
- We provided them with a handout (Appendix C) to be provided to all new tour guides with thorough information about campus sustainability efforts listed by location on campus.
- All Spring 2016 tour guides were trained using this handout and are equipped to discuss sustainable practices at all locations on campus.
- A garden option was implemented for 2016 Spring Admitted Student Days.
- A scavenger-hunt for admitted students took students to buildings across campus and included a stop in the garden.

7.9 Recommendations for Marketing Team

Findings relevant to Marketing:

- The Southwestern website was the least effective tool for increasing students' awareness of sustainability on campus.
- Social media was the most effective platform for informing students.
- Almost three-fourths of students in a survey of 216 said that more information about how to live sustainably would make them more inclined to participate in sustainability initiatives.

- Over a third of students said that increased PR about the garden would increase their participation.
- The 2015 Princeton Review College Hopes and Worries Survey found that “A majority (60%) of respondents said having information about colleges' commitment to environmental issues would contribute "strongly," "very much," or "somewhat" to their application/attendance decisions.”

Recommendations for Marketing

- Improve the accessibility and content of the Sustainability webpage.
- Promote the Sustainability webpage to the home page of the university website.
- Advertise sustainability through social media to reach the most students.
- Help educate the student body through posts and videos about what sustainability is and its importance to campus.
- Create promotional material for prospective students and alumni donors that demonstrates Southwestern's commitment to sustainability and opportunities for incoming students to get involved.

Results from meeting:

- The marketing team “pushed” students to the Sustainability webpage on St. Patrick's Day and Earth Day, using “green-themed” posts.
- The marketing team posted pictures of students in the SU garden and of the SU capstone at Earth Day Texas to their Twitter and Facebook pages.
- We planned a video project to educate students about sustainability and use for prospective students and donors through Facebook posts and emails directed at these target audiences.
- The team has made a verbal agreement to “tell the Southwestern sustainability story.”

8. Literature Cited

- Environmental Studies Capstone (2014). SUstainability Strategic Plan.
- Brinkhurst, M. (2011). Achieving campus sustainability; Top-down, Bottom-up, or neither? *International Journal of Sustainability in Higher Education*, 12(4), 338-354.
- Brown, M., and Hamburger, M. (2012). Organizing for sustainability. *New Directions for Student Services*, (137), 85-96.
- Dunkel, N. W. & Torres-Antonini, M. (2009). Green residence halls are here: Current trends in sustainable campus housing. *The Journal of College and University Student Housing*, 36(1), 10-23.
- Chagnon, N., and King, D. (2012). Challenges in minimizing teacher authority while facilitating a student-owned activism project. *Humboldt Journal of Social Relations*, 34, 33-34.
- Cortese, A. D. (2003). The Critical Role of Higher Education in Creating a Sustainable Future. *Planning for Higher Education*, 15-22.
- Kerr, Kathleen G., and Jeanne S. Hart-Steffes. (2012). "Sustainability, student affairs, and students." *New Directions for Student Services*, (137), 7-17.
- Knight, B. (2015). Interactive memory: chronicling sustainability efforts at Southwestern University. Southwestern University Environmental Studies Department.
- Krizek, Kevin J., et al. (2012). Higher education's sustainability imperative: how to practically respond?. *International Journal of Sustainability in Higher Education* 13.1: 19-33.
- Gao, A. F., Gao, A., Park, A., Verdin, H., & Wong, P. (2014). Less meat campus strategy. *UCB SEEDS Reports*: University of British Columbia.
- McNamara, K. H. (2010). Fostering sustainability in higher education: a mixed-methods study of transformative leadership and change strategies. *Environmental Practice*, 12(01), 48-58.
- Owens, T. L., & Schiller, K. S. (2013). "Growth or Decline? The Form And Function of the Sustainability Agenda in Higher Education."
- Ralph, M., & Stubbs, W. (2014). Integrating environmental sustainability into universities. *High Educ Higher Education*, 67(1), 71-90.
- Ruseva, T. (2007). "Academic Survey of Campus Sustainability". *Indiana University Task Force on Campus Sustainability*. Retrieved January 29, 2016 from http://sustain.indiana.edu/programs/internship-program-in-sustainability/docs/final-reports/SU07/Tatyana-Ruseva_SU07.pdf
- Southwestern University. (n.d.). Sustainability. Retrieved February 1, 2016, from <http://www.southwestern.edu/sustainability/>
- Stewart, M. (2010). Transforming higher education: a practical plan for integrating sustainability education into the student experience. *Journal of Sustainability Education*, 1(1), 1-13.
- Suber, A & Kraus-Polk, J. (2014). "A Sense of Place". Colorado College Office of Sustainability. <https://senseofplacecoloradocollege.wordpress.com/>
- Swearingen-White, S. (2014). Campus sustainability plans in the United States: where, what, and how to evaluate? *International Journal of Sustainability in Higher Education*, 15(02), 228 - 241.
- Too, L., & Bajracharya, B. (2015). Sustainable campus: engaging the community in sustainability. *International Journal of Sustainability in Higher Education*, 16(1), 57-71.
- United Nations Educational Scientific and Cultural Organization (2011). Education for sustainable development. Retrieved 5 February from <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/three-terms-one-goal/>
- University Leaders for a Sustainable Future. (2001). Programs & Services: Talloires Declaration. Retrieved February 1, 2016, from http://www.ulsf.org/programs_talloires.html

Tables and Figures

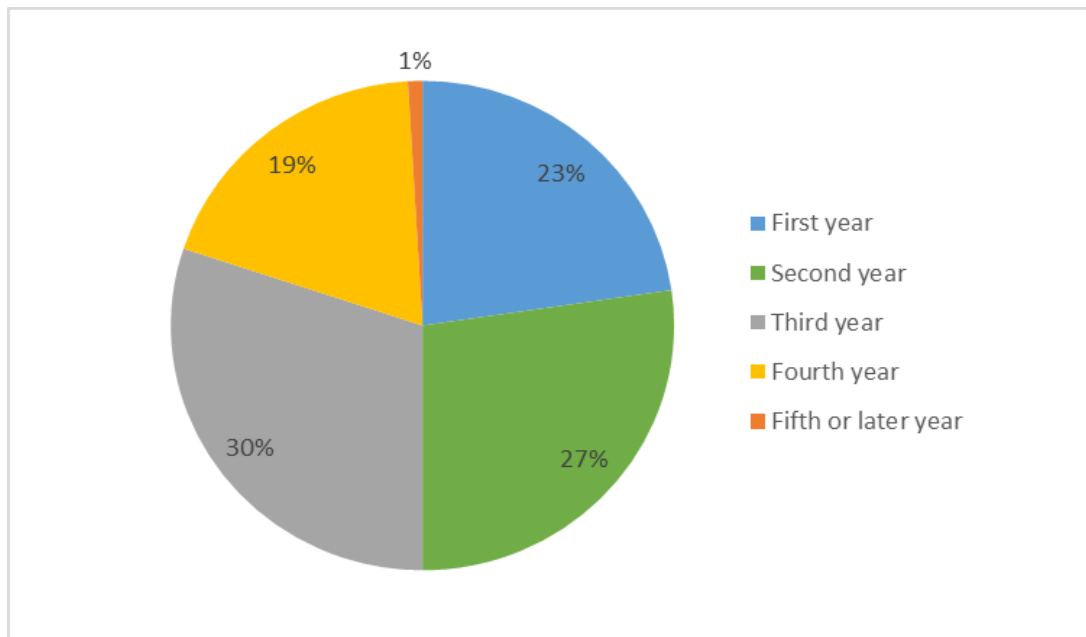


Figure 1. Breakdown of the 216 Southwestern University students who participated in the environmental literacy survey by year-class.

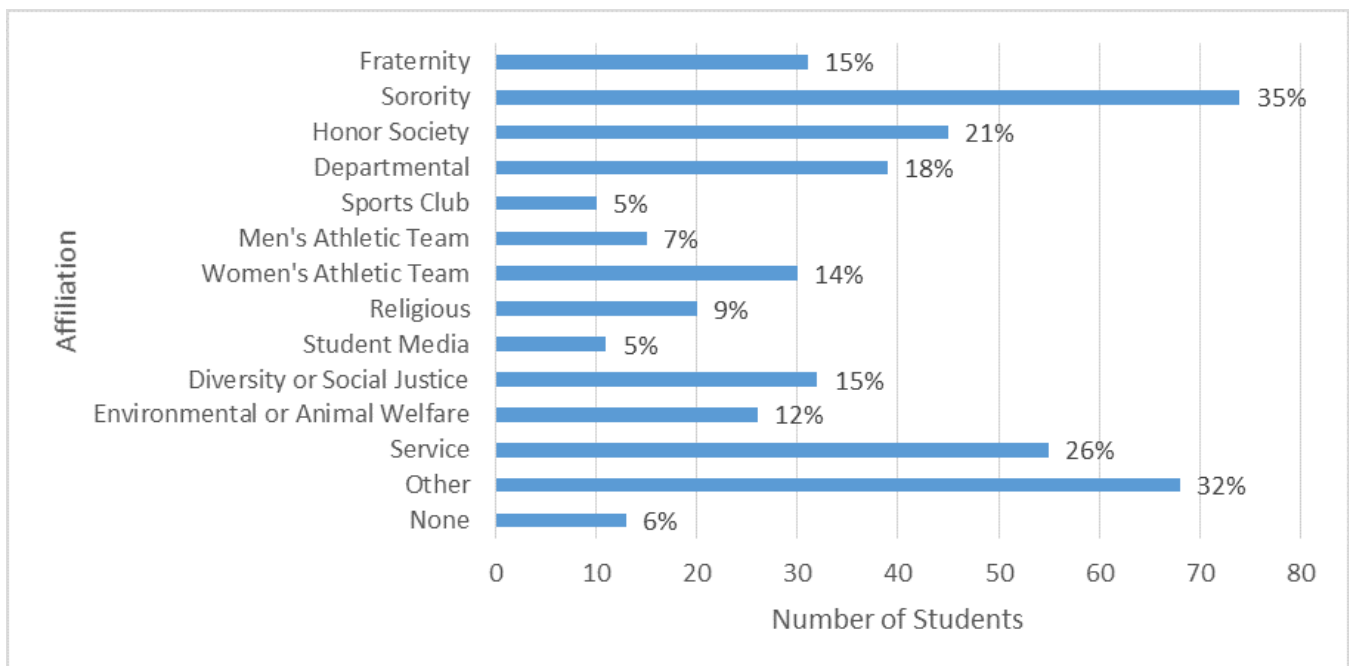


Figure 2. Affiliations of survey respondents within Greek life, student organizations, and athletic teams. Affiliation of survey respondents are listed vertically while the percentage at the end of each bar represent the percent of all respondents in each category.

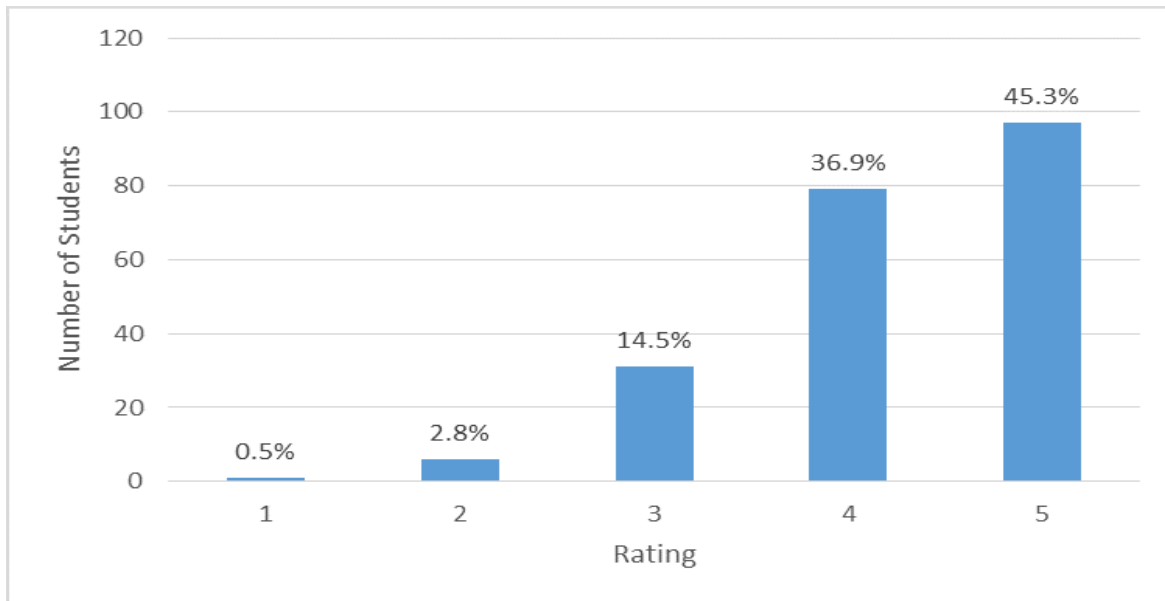


Figure 3. Respondent rating of how important sustainability is to them. Over 80% of respondents ranked sustainability as “important” or “very important” (bars 4 and 5 in the graph).

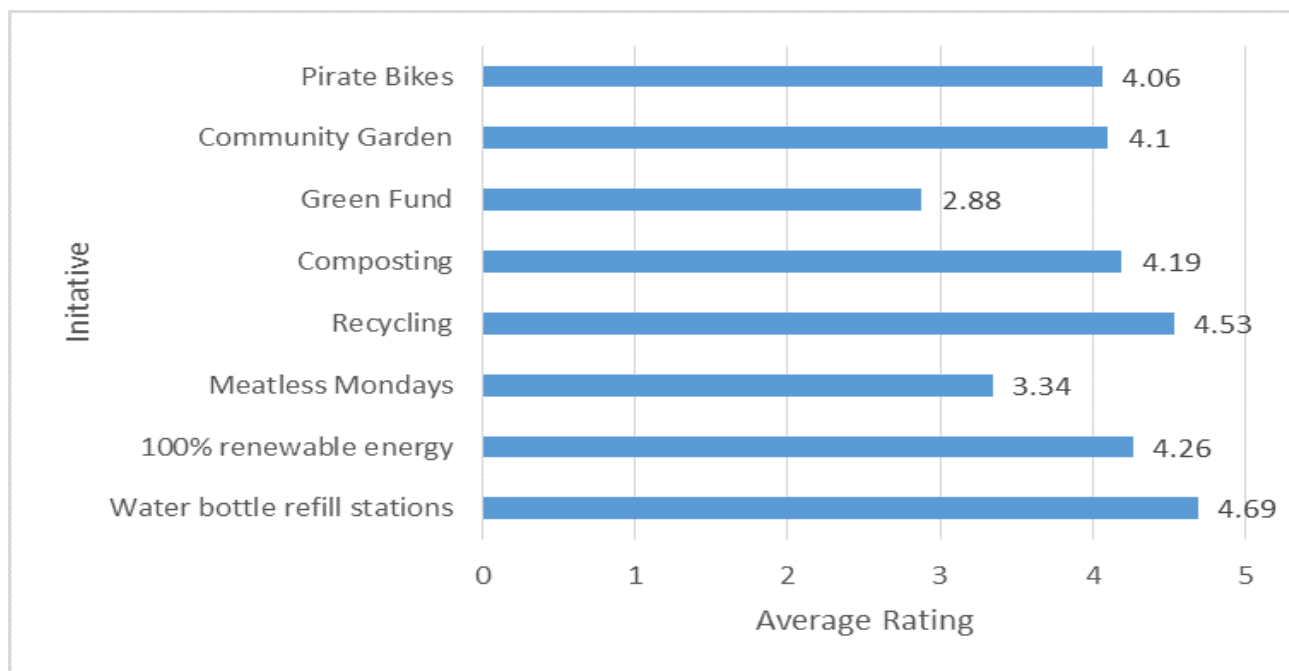


Figure 4. Average response of eight sustainability projects on the Southwestern University Campus. Water bottle refill stations, 100% renewable energy, composting in the SU commons, and recycling were the most popular.

Table 1. Comparisons of involvement of different student organizations.

	Affiliation												
	Fraternity	Sorority	Honor Society	Departmental SO	Sports Club	Men's Athletic Team	Women's Athletic Team	Religious SO	Student Media Organization	Diversity or Social Justice SO	Environmental or Animal Welfare SO	Service SO	Other SO
Fraternity	100%	3%	10%	16%	10%	26%	10%	13%	0%	6%	10%	26%	29%
Sorority	1%	100%	31%	22%	4%	0%	19%	8%	4%	12%	12%	23%	34%
Honor Society	7%	51%	100%	44%	2%	4%	4%	4%	4%	18%	7%	24%	31%
Departmental SO	13%	41%	51%	100%	3%	5%	8%	18%	8%	23%	13%	28%	23%
Sports Club	30%	30%	10%	10%	100%	10%	50%	20%	0%	10%	20%	10%	20%
Men's Athletic Team	53%	0%	13%	13%	7%	100%	0%	7%	0%	7%	0%	27%	20%
Women's Athletic Team	10%	47%	7%	10%	17%	0%	100%	17%	3%	0%	13%	17%	27%
Religious SO	20%	30%	10%	35%	1%	5%	25%	100%	0%	15%	5%	50%	35%
Student Media Organization	0%	27%	18%	27%	0%	0%	9%	0%	100%	36%	0%	18%	18%
Diversity or Social Justice SO	6%	28%	25%	28%	3%	3%	0%	9%	13%	100%	28%	19%	22%
Environmental or Animal Welfare SO	12%	35%	12%	19%	8%	0%	15%	4%	0%	35%	100%	35%	23%
Service SO	15%	31%	20%	20%	2%	7%	9%	18%	4%	11%	16%	100%	33%
Other SO	13%	37%	21%	13%	3%	4%	12%	10%	3%	10%	9%	26%	100%

Appendix

Appendix A: Environmental Literacy Survey

Consent Form:

- A. Are you 18 or older?
- B. We are students of the Spring 2016 Environmental Studies Capstone. This research will be used to improve engagement with students about sustainability initiatives on campus. This survey is completely voluntary and anonymous. Your name will not be collected in this form. If you experience discomfort while taking this survey, you may stop the survey at any time and withdraw your participation in it. You may also choose to submit the survey without answering any questions that make you uncomfortable. If you decline to answer a question or decide not to participate, your relationship with SU will not be affected. These data will be shared with the Environmental Studies Capstone. Aggregate results will be discussed at the Capstone Presentation and the Creative Works Symposium. If you have any questions or concerns, you may contact the principal investigator, Joshua Long at jlong@southwestern.edu. If you have questions about your rights as a participant, please contact the Co-Chairs of the Southwestern University Institutional Review Board, the committee that evaluates research involving human subject: Dr. Abby Dings, phone 512-863-1667, email dingsa@southwestern.edu and Dr. Kathryn Prater, phone 512-863-1978, email praterk@southwestern.edu. Have you read these terms, and do you consent to them?

Demographics:

- C. What year are you?
 - a. First year
 - b. Second year
 - c. Third year
 - d. Fourth year
 - e. Fifth+ year
- D. What student organizations, athletic teams, and Greek organizations are you very involved with, if any? Check boxes that apply.
 - a. Fraternity
 - b. Sorority
 - c. Honor Society
 - d. Departmental Student Organization
 - e. Sports Club
 - f. Men's Athletic Team
 - g. Women's Athletic Team
 - h. Religious Student Organization
 - i. Student Media Organization
 - j. Diversity or Social Justice Organization
 - k. Environmental or Animal Welfare Organization
 - l. Service Student Organization
 - m. Other Student Organization
 - n. None
- E. What is your major? Check all that apply (list includes every major from Southwestern University Course Catalog)
- F. What is your age?
- G. Where are you from?
 - Texas

- Out of State, from USA
- International

Environmental Literacy Questionnaire:

1. How would you define sustainability?
2. How important to you is it for Southwestern University to be sustainable? (Rate 1-5, with 1 = Not important at all, 5 = Very Important)
3. Rate the following (1-5, or didn't know) in terms of how much you think it makes a positive impact on campus:
 - a. Community Garden
 - b. Green Fund
 - c. Water Bottle Refilling Stations
 - d. 100% Renewable Energy
 - e. Composting in the Commons and SU Garden
 - f. Meatless Mondays
 - g. Recycling
 - h. Pirate Bikes
4. Are there any other sustainability efforts on campus you do NOT like? If so, why?
5. How often do you use these? (Rate 1-5)
 - a. Community Garden
 - b. Water Bottle Refilling Stations
 - c. Composting in the Commons
 - d. Composting in the Garden
 - e. Recycling
 - f. Pirate Bikes
 - g. Solar Lounge Chairs
6. How effective is each platform in increasing your knowledge of sustainability? (Rate 1-5)
 - a. Classes
 - b. Student Organizations
 - c. School Website
 - d. Social Media
 - e. Word of Mouth
 - f. Email
7. What would make you be more inclined to participate in Sustainable initiatives on campus? Check all that apply.
 - a. More signs indicating sustainable design/initiatives
 - b. More information about how to live sustainably
 - c. Better support for underrepresented students
 - d. Scavenger hunts with prizes
 - e. More funding from SU
 - f. Other(s) _____
8. What would increase your interest and involvement with the community garden?
9. Does your identity (race/ethnicity, LGBTQ, disability, etc.) affect your participation in sustainability efforts at SU? If so, in what ways?

Appendix B: Informal Group Interview Questions

1. Introduction
 - a. What is our project and its purpose?
2. Consent

- a. Reiterate emailed consent form. Do you understand?
 - b. Would you like a pseudonym?
3. Icebreaker
 - a. Name, year, organizations/teams
 - b. What was the last thing you recycled or composted?
4. How would you define sustainability?
 - a. What are some components or types of sustainability?
 - b. How do you see or define sustainability at Southwestern? Give some examples of sustainable things around campus.
5. Do you believe that Southwestern integrates social justice into sustainability?
 - a. How could it be improved?
 - b. What programs are most effective in integrating social justice?
 - c. We are considering proposing a support group for underrepresented students. Do you believe that there is a need for a support group for diverse students?
6. What are your perceptions of Meatless Monday and the impact it has made on campus?
 - a. Has it changed your food consumption habits? Are you more aware of where your food comes from and its potential global impact?
 - i. *How would you improve Meatless Monday, if at all?
 - b. Are there other sustainability initiatives on campus that you do not like?
 - i. *How would you improve them, if at all?
7. Do you feel included on Southwestern's Sustainability efforts?
 - a. Why or why not? Would you like to be?
 - i. *Do you feel a lack of community and why is that?
 - b. How could we make sustainability more inclusive to the entire campus?
8. What would be most likely to get you involved with sustainability on campus?
 - a. Information? Signage? Big Events? Classes? Funding?

Appendix C: Admissions Tour Handout

Sustainability Tour Highlights:

Why is sustainability at SU important to admissions?

- The 2015 Princeton Review College Hopes and Worries Survey found that “A majority (60%) of respondents said having information about colleges' commitment to environmental issues would contribute "strongly," "very much," or "somewhat" to their application/attendance decisions.”
- Our recent campus survey showed that 82% of students felt that it is “important” or “very important” for Southwestern to be sustainable.

Recommendations for the admissions tour:

University-Level Commitment

- The Green fund is approximately \$20,000 per semester for student sustainability projects.
- Southwestern University is 100% wind based energy.
- Georgetown has followed Southwestern's lead and has plans for 100% renewable energy.
- Southwestern University is one of the first colleges in Texas to sign Talloires Declaration Establishing the university's commitment to practicing more sustainable ways of living; Environmental Studies degree and course offerings; teaching environmental literacy; and, establishing community partnerships.
- Southwestern has reduced its carbon footprint by 52% since 2010.

- The irrigation system at Southwestern is controlled by a computerized weather station to conserve water.
- Approximately 90% of the landscape on campus is native or drought tolerant.
- Southwestern has won its conference in the EPA's College & University Green Power Challenge every year since 2011.
- Southwestern has reduced its electrical consumption per square foot by 39% since 2001.
- All new and replacement plumbing fixtures at Southwestern University are low flow, water conserving fixtures.

Admissions and Prothro

- The admissions and the Prothro buildings are both LEED certified.
- There is an electric car charging station at the Admissions Center.

Fondren Jones Science Hall

- The FJHS building is where student-led projects are located especially ones using campus as living laboratory.
- The Ecolab and other classes with garden components.
- There are many student-led projects utilizing King Creativity Grants including: flush-eliminating urinals, water harvesting, student created solar lounge chairs, rainwater collection system, and reusing water in observatory.

Library

- GIS lab: The GIS class requires student-led projects, often including assessment of campus programs.
- Many projects like water-bottle refill stations and establishing an office of sustainability that are from past Environmental Studies Capstone projects.

Mood-Bridwell

- There is an Environmental Lounge that includes a plastic bag recycling collection.

McCombs

- Southwestern University is one of 124 colleges with STARS silver rating: 48.19 points.
- The campus dining operation composts 90% of compostable materials.
- There are no trays at the Commons, which allows for less water use.
- Of academic departments, 1/3 have at least one course relating to sustainability.
- We have many partnerships with Georgetown: The Locker, Boys and Girls Club, Joli Farms, and Meals on wheels

Residence Halls

- There are recycling bins in every room.
- All new toilets and showerheads are low-flush, low-flow.
- There are solar water heater at the Phi Delta Theta house.
- Maintenance has committed to using environmentally friendly cleaning supplies.

Athletic Buildings and Robertson Gym

- Athletic fields are watered using recycled greywater.
- Student projects have taken charge of reducing energy use in Robertson and athletics.
- Robertson is being retrofitted with LED lighting, reducing energy and saving money.

Garden

- Anyone can have a plot in the Garden, or volunteer to work there.
- Much of the food grown goes to Meals on Wheels.
- There is a 19,000 gallon rainwater collection system in the garden.
- There is a composting station where compost from students' rooms is collected.
- There are many major events in the garden including yoga, the Big Event, and UPC movie nights.

Appendix D: Script for Campus Sustainability Videos

Environmental Studies Capstone Video Project

Thesis: Through the use of video documentation, student and staff interviews, and imagery, we hope to demonstrate the importance of sustainability at Southwestern University. Our video content will focus on the actions of the Spring 2016 Environmental Studies Capstone project groups, interviews with Professor Joshua Long, GIS lab administrator Anwar Sounny-Slitine, and several capstone students. Footage and interviews will be compiled into two separate videos, each totaling no more than two minutes in length, and edited with a consistent format and style. The first will detail sustainability at Southwestern and where we currently stand and the second will show the work of the current capstone class. The first will be educational and promotional for current and future students, while the second will be used for information and promotion for prospective students, parents, and alumni.

Sustainability at Southwestern Manuscript:

- I. What is sustainability?
 - A. The 2014 Environmental Studies Capstone group definition for sustainability is: “Challenging the Southwestern University community to lighten our environmental footprint; improve our quality of life; engage in meaningful partnerships with the community; and, promote the core values of sustainability so that our graduates will enter the world as role model who will promote justice and the common good.”
 1. Dr. Long explains the definition of sustainability in his own words: It means environmental consciousness and actions, socially fair systems and community involvement, and an ability to stay financially stable.
- II. What has Southwestern done to be sustainable?
 - A. Administrative Commitments
 1. Mention the signing Tailloires Declaration, committing to 100% renewable energy, and establishing the Green Fund for student sustainability-driven projects.
 2. Southwestern University is a leader in sustainability in Texas higher education with STARS silver rating and our rankings in the Princeton Green Guide.
 - a) *Film of LEED certified buildings, green fund projects such as Solar Lounge Chairs, garden, and rainwater collection system*
 3. Southwestern utilizes the campus as a living laboratory
 - a) *Film of Ecolab, garden, water recycling systems, and students in Robertson with lights*
 - B. Student-Led Commitments
 1. Student lead actions that snowball
 - a) Water bottle refilling station, composting, and taking styrofoam out of cove
- III. The Projects of the 2016 Environmental Studies Capstone
 - A. In most classes students just learn and discuss Sustainability, but in the SU Environmental Studies Capstone, students get to take action, and try to make the campus more sustainable. *(from a student voice)*
 - B. Brief description of past projects
 1. Establishing an office of sustainability
 2. Creating a 5 and 10 year sustainability plan
 - C. The Current Capstone Projects
 1. Three groups of five or six students each tasked with a different focus
 - a) *Making one of campus’ oldest buildings more energy efficient (rolling video of students inside Robertson Center with Shorty)*

- b) Implementing a campus-wide survey about students' understanding and involvement in Sustainability, then sharing the results with campus (*rolling video of students talking about or presenting on survey results*)
- c) Making a plan for the SU garden to be more sustainable, while garnering greater involvement on campus (*rolling video of the garden and students working in it*)

D. Student reflections on Capstone work

Link to Sustainability Video:

<https://www.youtube.com/watch?v=zEiM6l5meQI>