

Utah State University

DigitalCommons@USU

Undergraduate Honors Capstone Projects

Honors Program

Summer 2013

Student-Initiated Campus Sustainability: Strategies for Success

Michaela Stuver Harper
Utah State University

Follow this and additional works at: <https://digitalcommons.usu.edu/honors>



Part of the [Environmental Studies Commons](#)

Recommended Citation

Harper, Michaela Stuver, "Student-Initiated Campus Sustainability: Strategies for Success" (2013).
Undergraduate Honors Capstone Projects. 164.
<https://digitalcommons.usu.edu/honors/164>

This Thesis is brought to you for free and open access by the Honors Program at DigitalCommons@USU. It has been accepted for inclusion in Undergraduate Honors Capstone Projects by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



**STUDENT-INITIATED CAMPUS SUSTAINABILITY:
STRATEGIES FOR SUCCESS**

by

Michaela Stuver Harper

**Thesis submitted in partial fulfillment
of the requirements for the degree**

of

**HONORS IN UNIVERSITY STUDIES
WITH DEPARTMENTAL HONORS**

in

**Environmental Studies
in the Department of Environment and Society**

Approved:

Thesis/Project Advisor

Dr. Roslynn Brain

Departmental Honors Advisor

Dr. Mark Brunson

Honors Program Director

Dr. Nicholas Morrison

UTAH STATE UNIVERSITY

Logan, UT

Summer 2013

Abstract

Campus sustainability is growing in popularity throughout the United States, and also internationally. The purpose of this study was to determine whether student-run environmental sustainability initiatives are capable of succeeding, and if so, what factors and characteristics exist in successful and unsuccessful projects. Environmental sustainability initiatives are those that address at least one of the following five areas: 1) Air quality and climate change, 2) local food and sustainable agriculture, 3) land conservation and recycling, reducing and reusing, 4) renewable energy, and 5) water conservation. Success was defined as the ability of a program to continue when the initiator leaves the university. Six representatives—faculty or staff members with sustainability experiences and university sustainability roles—from three universities were interviewed using a semi-structured approach. Successful initiatives were hypothesized by the researcher to require 1) faculty/staff support, 2) funding and 3) specific features and functions for management. Results indicated, however, that while faculty/staff support and funding were important factors; committed students, networking and collaboration were more important than the predicted specific features and functions for management. The results of this study may provide future programs with the framework necessary to succeed and develop permanence, and may aid the many programs and departments at various universities in determining whether a proposed initiative is capable of gaining longevity.

Keywords: sustainability, campus, student initiatives, success, strategies

Acknowledgements

I want to express my sincere gratitude to Dr. Roslynn Brain, my Thesis Advisor, for her dedication and time. She was constantly a support to me throughout my Honor's Thesis, and ultimately sparked the idea for the research. I am also extremely grateful for the many friends, family and faculty who were great sources of support and advice through discouragement. I would especially like to thank Amber Summers-Graham, Mark Brunson, Darlene Stuver and Mario Harper for such support. I am particularly grateful to each of the university representatives who were willing to take time out of their busy schedules for me to interview them; each was also a supportive contact throughout my research. Without them, their patience and willingness to help, I would not have the information necessary to produce a quality product.

Table of Contents

Introduction5

Literature Review6

Methods.....8

Results10

Primary Characteristics10

 1. Funding10

 2. Faculty/staff support11

 3. Committed student leaders13

 4. Networking and collaboration14

Secondary Characteristics.....16

Conclusion and Recommendations18

Possible Limitations20

Future Research20

References21

Appendix A: List of Contacts23

Author’s Biography24

Introduction

Institutions of Higher Education have placed an increased emphasis on environmental sustainability, with a contagious effect on students and the surrounding communities. As such, it is important to develop and maintain standards and guidelines, which ensure the success of campus sustainability programs. While there are many different evaluative tools for administration-initiated sustainability projects, standards for student-initiated sustainability programs are currently lacking. This study pursued the gap in the literature, and attempted to create a guideline for universities where students initiate programs designed to increase campus sustainability.

Sustainability initiatives are usually considered successful if they are able to maintain a benefit through an extended period of time. This relates to one definition of sustainability, as the ability to prolong (Sustained, 2012). Recommendations from this study were designed to increase the success of student sustainability programs, and success was defined as the ability of the initiative to outlast the initiator and survive when the original student leaves campus.

Participants in this study were selected from one of three universities—Brigham Young University, the University of Utah and Utah State University—for their experiences working with students on campus sustainability initiatives.

Success was predicted to require faculty/staff support, funding and specific features and functions for management; however, results indicated that specific features and functions for management were less important than committed students, networking and collaboration. While the recommendations in this study seem unanimous and are encouraged for various universities, caution is urged when attempting to generalize the results, and further research may be required to apply these recommendations outside the State of Utah.

Literature Review

Campus sustainability is a growing trend across the nation and globe. According to Boström (2012), sustainable development has guided the pursuit of environmental reform since the Brundtland Report of 1987. An increased level of research indicates that university sustainability initiatives have the potential to encourage environmental sustainability in surrounding communities, in the areas of land (conservation, recycling, reducing, reusing), air (quality and climate change), water (quality and conservation), food (local food movements), and/or energy (renewables). While most change is focused on environmental reform, increased sustainability is fundamentally based on the three pillars of sustainability: environmental, economic and social (Boström, 2012). As colleges and universities develop sustainability programs, research and outreach, communities respond to the growing competition and increase the overall sustainability of the area (Bartlett, 2011). According to Mascarelli (2009), this growing trend lacks a unifying measurement due to the differences in focus. “Schools grapple with different challenges...[while] schools in the American West focus heavily on water conservation, for instance, many in New England are homing in on finding more centralized, lower-carbon alternatives for heating their buildings year-round” (p. 154).

Sustainability education is also increasing in Institutions of Higher Education. According to Schmit (2009), “sustainability has become a focal area and marketing opportunity for thousands of businesses, colleges, and universities across the United States (US). In 2009 alone, US colleges and universities created over 100 majors, minors, and certificates in energy and sustainability-related programs (only three programs were added in 2005).” One study suggests that as students understand sustainability, they begin to develop a sense of responsibility towards sustainability, hopefully impacting their actions (Walshe, 2013). Another study of students from schools with environmental and sustainability education programs questions whether or not that

education had an impact on their actions (Spínola, 2012). Levin (2006) also questions the effectiveness of education alone. In this information age, it is argued that education alone will not achieve behavior change because there are “no fundamentally new ways of interacting with the environment” (Levin, 2006, p. 72).

Sustainable initiatives impact local, regional and national communities. Sedlacek (2013) suggests that universities are able to actively support sustainable development, and often act as a governing agency for the surrounding region (p. 74). Universities also “[assume] a leading role in coordinating, promoting, and enhancing the engagement of local authorities and other societal stakeholders to design and implement regional sustainability plans by acting as sources of technical expertise” (Karatzolou, 2013, p. 45). However, Haapio and Viitaniemi (2008) suggest that some sustainability initiatives—such as green buildings—have many assessment tools, and it is often hard to know which tool to use when measuring the possible shortcomings and benefits of the initiative. This study attempts to fill the current gap in university sustainability initiative assessment tools: Because Institutions of Higher Education play such a major role in the regional sustainability, it is important to implement successful programs and initiatives. While campus sustainability appears to have many positive implications, studies from the University of Chicago emphasize the importance of further research and considering the limitations of any study (Klein-Banai & Theis, 2011).

Although campus sustainability is growing in popularity, support is not unanimous. Breen (2010) summarizes many of the benefits and “blessings” of campus sustainability initiatives, but also criticizes the rationale for the initiatives. According to Breen (2010), there is too much focus on marketing and the importance of increasing funds, with too little focus placed on the impacts on the environment. This is contrasted by Stafford (2011), who has shown the importance of funding in sustainability efforts of corporations and institutions of higher

education. Wealth, or the availability of funding, has been the most prominent factor in the success of sustainable initiatives as reported in the published research (Stafford, 2011). Boström (2012) worries that many sustainable initiatives also lack the social infrastructure to succeed and encourage sustainable development.

Although campus sustainability lacks unanimous support, there is overwhelming evidence that Institutions of Higher Education have an important impact and benefit on surrounding communities. While there are various assessment tools to measure university sustainability, knowing which tool to use is often confusing. The current literature also lacks recommendations for longevity of university sustainability programs. This, combined with the increase in student interests in sustainability, necessitates a set of guidelines for measuring success in student sustainability initiatives.

Methods

This study was designed as an attempt to create a set of guidelines for successful student sustainability initiatives. Success was defined as the ability of a program to survive after the initiator leaves the university. Three universities in Utah—Brigham Young University, University of Utah and Utah State University—were chosen for this study because each had established administrative sustainability programs and experience in student-initiated programs. All universities selected in this study are major universities in the state with established university sustainability programs and a sustainability office. Interview participants were selected purposefully for their experiences working with student sustainability programs as current faculty or staff at their universities of residence. Two representatives from each university were selected as interview participants. Each participant was a faculty or staff member who worked and collaborated with the university's sustainability office, and each had interacted with students on various levels of initiatives.

The interview guide followed a semi-structured approach, where guided questions were prepared, but the interviewer openly followed the leads of the informants and probed into additional areas that arose during interview interactions (Hatch, 2002; Brain, Fuhrman & De Lay 2009). The semi-structured interview guide consisted of the following questions:

- Can you describe some major campus sustainability initiatives that were started by students currently underway on your campus?
- What are some of your most successful sustainability initiatives, started by students?
- What are the key factors that have made these initiatives so successful?
- Can you think of any sustainability initiatives that were started with momentum, and then ended? Please describe...
- What key factors caused these initiatives to fail?
- If you could provide a toolkit to a university that is looking to start a sustainability initiative such as a campus garden or composting program, what would you recommend to them to ensure long-term success of the program?

Each interview was conducted either in person or over the phone, and all in-person interviews took place in the participant's office. Interviews lasted from 10-30 minutes, with the mode interview duration of 12 minutes. Responses were transcribed verbatim and inductive analysis was used to extract themes from the data (Brain et al., 2009; Coffrey & Atkinson, 1996; Hatch 2002). Inductive analysis included

1. Reading the data to identify broad guidelines for analysis
2. Creating characteristics of successful projects based on the data
3. Comparing themes and characteristics across participants
4. Supporting each theme with "raw" data (Brain et al., 2009; Hatch, 2002; Spradley, 1980)

Results

This research found four primary characteristics—characteristics supported by all participants—of successful student-initiated campus sustainability projects: 1) funding, 2) faculty/staff support, 3) committed student leaders and 4) networking and collaboration. All characteristics are listed in order of frequency and emphasis placed by participants. Secondary characteristics—supported by three or more participants—included the benefit of the initiative, preparation, visibility/marketing and detailed records.

Primary Characteristics

1. Funding. Because financial—or economic—sustainability is one of the three pillars of sustainability (Boström, 2012), it makes sense that financial sustainability is important to student-initiated environmental sustainability programs.

Most successful student-initiatives existed at universities where there was already some form of student grant program. For example: the Utah State University Blue Goes Green Grant program is funded through student fees: each student pays \$3.00 per semester as part of tuition. Grant proposals from undergraduate and graduate students are then accepted each March to support student-led sustainability projects (S. Damitz, personal communication, June 10, 2013; S. Tomlin, personal communication, June 20, 2013). The University of Utah has similar student fees: “*one was the Renewable Energy Fund: \$1 per semester per student, and the other was a \$2.50 fee for the Sustainable Campus Initiative Fund*” (M. Wilson, personal communication, July 12, 2013). One participant, from Utah State University, explained:

“We have the advantage of the money to actually fuel some of these... I didn't go here, I went to Westminster College in Salt Lake, and they didn't necessarily have a green fee. We had these ideas, and it was kind of contingent on finding funding for these things” (S. Tomlin, personal communication, June 20, 2013).

While Westminster College was not included in this study, the above example from a study participant highlights the value of funding: although lack of funding does not eliminate student proposals, it does limit the number of successful projects. Another participant indicated that funding is not the only factor, but that a good financial standpoint includes diverse funding sources:

“Leveraging several sources of funding—leveraging Federal funding with state funding with university funding—was instrumental in both Utah Conservation Corps and Aggie Blue Bikes getting off the ground... If you’re relying on one pot of money, it’s not the most sustainable business model” (S. Damitz, personal communication, June 10, 2013).

While all participants stressed the importance of funding, this example indicated that continuance required diverse funding sources to eliminate the complete loss of funding if one source is removed.

However, one participant from Brigham Young University was concerned with the reliance on funding: *“that’s one of the problems I see with sustainability initiatives is that they require so much funding, rather than being able to fund themselves”* (J. Thomas, personal communication, June 18, 2013). While diverse sources of funding may be important, this advice for projects to fund themselves would limit or eliminate the necessity of outside funding.

2. Faculty/staff support. Faculty or staff support ranged from Sustainability Office personnel to highly involved advisors, but all participants agreed that student-sustainability initiatives were more successful when accompanied by some form of faculty or staff support. One participant from Brigham Young University explained, *“someone needs to want to keep [the initiative] going”* (J. Thomas, personal communication, June 18, 2013), and another participant agreed, *“having an admin, or making some person kind of in charge of [the initiative], or at least checking up on it is important”* (S. Tomlin, personal communication, June 20, 2013).

Both participants above indicated that unless there is some level of accountability placed on the initiator and the initiative, there is no motivation for continuance. One participant explained that engaged faculty and staff members are important to “*navigate campus administration...and bureaucracy*” and providing advice “*about long-term persistence*” (M. Wilson, personal communication, July 12, 2013).

Both participants from Brigham Young University mentioned an example that was unique to their campus: several years ago, a group of students began a daily collection and donation of plastic recycling. After an extended period of time, campus Recycling adopted the initiative, and it is now run and maintained by full-time campus staff (J. Thomas, personal communication, June 18, 2013; B. Rudy, personal communication July 8, 2013).

One participant from Utah State University was under the impression that “*students...felt like they needed to have USU staff oversight to make sure what they were doing was sustainable*” (S. Damitz, personal communication, June 10, 2013). Faculty, staff and students agree that projects will last longer and be more sustainable with some level of staff oversight. In the case of Utah State University, that was the creation of the Blue Goes Green student fee and grant program and the Student Sustainability Office (S. Damitz, personal communication, June 10, 2013; S. Tomlin, personal communication, June 20, 2013). At the University of Utah, the faculty/staff support was an advisor who works closely with the student project-initiator (R. Sanders, personal communication, June 17, 2013; M. Wilson, personal communication, July 12, 2013). At Brigham Young University, the faculty involvement exists in the BYU Sustainability Office and the Dean of Students, which occasionally adopt student sustainability initiatives as well (J. Thomas, personal communication, June 18, 2013; B. Rudy, personal communication, July 8, 2013).

While each university had a different contact or method of faculty/staff involvement, each incorporated a means of support and advice for students to contact upon starting sustainability initiatives.

3. Committed student leaders. All interview participants agree that student-initiated sustainability programs would not gain longevity without a dedicated student, or group of students, leading the program and actually implementing the idea. One participant said that a successful initiative occurred due to “*a small, but committed number of student leaders that really pushed their peers for it*” (S. Damitz, personal communication, June 10, 2013). Another participant explained that successful programs “*that have [expanded] beyond their original scope are those that have high levels of student involvement*” (R. Sanders, personal communication, June 17, 2013). Both participant examples listed above illustrated student leaders who encouraged their peers to be involved in sustainability. One participant shared an initiative that was started by faculty, and then saved by students:

“The campus gardens, although it began by a faculty member, the faculty member retired and the garden nearly failed. Students jumped in and have been verbal in getting the organic gardens on campus” (M. Wilson, personal communication, July 12, 2013).

The example of the campus gardens indicated the power that students can have on a university campus if they are verbal and dedicated to their efforts. Even though a faculty member originally started the project, when that person left, students were willing and able to dedicate the time and effort necessary to ensure success. Another participant said, “*if there are opportunities for students to participate, then that’s a great way to keep a project going because it reduces the burden on faculty and staff members*” (R. Sanders, personal communication, June 17, 2013).

Both of these examples indicated the ability of students to dedicate time and effort to initiatives, time and energy that many faculty and staff members are not able to dedicate in addition to their normal responsibilities on campus.

One participant believed that committed student leaders were so important as to be included in the grant application:

“Since the institutional memory of a student is four years, and some of these projects take a little to initiate, and who knows if the original student is still there as the project is going...so we are very specific on our application about who is the group leader, and it basically means that as group leader, you are here from start to finish of the project, or if not, you have the contact information for the next person” (S. Tomlin, personal communication, June 20, 2013).

This participant stressed the importance of committed leaders throughout the duration of the project, not just the origination of the idea. Projects without a continuous leader often get lost, or dissolve, in the transition of leadership.

4. Networking and collaboration. Networking and collaboration is recommended in any endeavor where personal or cultural benefit is desired. Networking is a way to find others willing to help and get further advice. Collaboration often follows networking, as individuals become willing to help. One participant explained networking as a way to use past experiences of others to benefit current endeavors:

“There’s a lot of people who have done this in a university setting, and it’s all about connecting with these people and not trying to reinvent the wheel, but bouncing ideas off them to see what’s worked for them in the past” (S, Damitz, personal communication, June 10, 2013).

A participant from the University of Utah suggested, “*a lot of people are really willing to help...[and] are really patient and kind and want to work with students*” (R. Sanders, personal communication, June 17, 2013). These comments indicated that an individual at one university, or in one department, may have a similar idea as someone else, and that those with previous experiences are often willing to help. When more experience is available, the burden on new project initiators is lightened, as they are able to learn what has succeeded and failed in the past.

Another participant suggested that a way to network as having initiatives affect a diverse group on campus because as people are affected, they are more likely to become involved in the future (S. Tomlin, personal communication, June 20, 2013). A participant from Brigham Young University recounted “*a collective action that wasn’t organized*” (B. Rudy, personal communication, July 8, 2013), and echoed the sentiment above. Brigham Young University Recycling instituted new recycling bins and labels. While cardboard was not the intended product for the bins, students began recycling cardboard in the new bin, and Recycling was forced to establish a cardboard recycling program (B. Rudy, personal communication, July 8, 2013). Because there was a change that affected students across campus, student misunderstanding resulted in the establishment of cardboard recycling.

Both participants from the University of Utah stressed the importance of communication in networking and collaboration. One of the participants stressed, “*make sure you communicate your goals well to multiple groups across campus. Make yourself available to students, faculty and staff from all different departments and organizations*” (R. Sanders, personal communication, June 17, 2013), and the other explained that interest in student chapters of sustainability organizations on campus “*waxed and waned based on how they recruited leadership*” (M. Wilson, personal communication, July 12, 2013). Initiators who are able to

communicate their goals will also likely be able to recruit leaders and collaborators in the future, thus increasing the longevity of their programs.

Secondary Characteristics

Participants stressed the above Primary Characteristics both individually and in combination; however, the following Secondary Characteristics were not stressed by all participants, and were only found to be effective when combined with other characteristics. One participant, when explaining the success of the plastic recycling program at Brigham Young University, said, *“from what I see, the thing that made campus first take notice was the person dedicated to [recycling, and], coupled with that, what helped them want to adopt it was that it’s well known that there’s the harm in non-recycled plastic”* (J. Thomas, personal communication, June 18, 2013). Campus administration chose to adopt the recycling program—and thereby created longevity—because it was a very beneficial initiative, and students were dedicated to it. The other participant from Brigham Young University added,

“The unsuccessful [initiatives] have been people not doing more than just asking...administration is willing to respond to demonstrated, prolonged needs. I think, for example, our bus passes are at the point of going away because it hasn’t been a demand” (B. Rudy, personal communication, July 8, 2013).

Motivated students not only have the ability to encourage students to become more involved, they are able to influence administrative decisions by the energy they put towards an initiative—this is called “purchasing power” in economics. Committed students established the cardboard and plastic recycling programs at Brigham Young University through their energy, and campus adopted the programs because they were truly a benefit and students demonstrated the demand. The bus passes, mentioned above, will likely be discontinued—even though they are

environmentally beneficial, and a financial benefit to students—because there is too little student demand.

Preparation—including proper research, implementation strategies and leadership transitions—can determine whether a good idea with a committed student leader will succeed. One participant shared an experience where the project initiator thought he did all necessary preparation, and was still caught by a small detail: there is a green rooftop on the library at the University of Utah, and the project initiator was pursuing “*a study of the use of sustainable impacts of green rooftops*” (R. Sanders, personal communication, June 17, 2013). The research was intended to have a large impact due to the visibility through one of the reading room windows; however, after the project was approved and in the implementation stages, the student discovered a lack of a power source for the equipment necessary to complete the research. The project was then moved to a more isolated rooftop (R. Sanders, personal communication, June 17, 2013).

Although the project was still successfully implemented, the impacts and visibility of the research were limited from the original plans simply because a small detail was missed in the preparatory research. This experience from a participant also illustrates the importance of visibility of the project.

A participant from Utah State University explained an initiative that is targeted to “*Engage students on a daily basis... We did a composting Blue Goes Green grant, and that’s going into the Living Learning complex, and I know that will have a pretty prolific impact because we are working with students and an entire dorm of people in taking a look at composting...we’re actually working on signage for all of the projects, and...making them interactive with those QRL codes you can do with smartphones*” (S. Tomlin, personal communication, June 20, 2013).

Blue Goes Green has placed enough importance on the visibility of initiatives to implement a program targeted to involve an entire student living complex, as well as incorporate interactive signs into all of the current programs. The participant above considered visibility and marketing as primary ways to increase networking and collaboration by involving or affecting a diverse group of people on campus.

Detailed records, while not required for a successful project, indicate the level of impact a project has and creates a standard for individual projects. One participant recounted of a project that was able to increase from two beehives on campus to 14 and create the University of Utah Campus Bees Club. The expansion of the program was encouraged after the initiator measured and recorded student interest (R. Sanders, personal communication, June 17, 2013). Another participant stressed detailed records as a proof of success:

“There are times when people come back and want to know what happened in the past, so you can move forward. If you don’t have those records, it’s really hard to provide the information to keep going and show that you’re really doing what you say you’re doing”

(J. Thomas, personal communication, June 18, 2013).

Although an initiative may be completely successful, this participant believed that records are important in order to assure others of the success. Detailed records are also beneficial as a starting place in the case of leadership transition.

Conclusion and Recommendations

Participants for this study were selected from three universities and interviewed using a semi-structured approach. The conversations were transcribed verbatim and results were analyzed. Based on participant responses and emphasis placed on characteristics of successful student-initiated campus sustainability programs, the following guidelines are suggested for successful initiatives on various university campuses:

- Ensure projects have established funding to support the initiative.
 - If possible, manage the initiative in a way that it funds itself and/or utilizes diverse funding sources.
 - Consider offering a student grant program, funded by student fees.
- Incorporate faculty or staff support into the initiative.
 - Develop and use an office dedicated to sustainability initiatives, where students are able to brainstorm ideas and work through barriers.
 - Incorporate a faculty or staff advisor into projects to provide a realistic perspective on the initiative.
 - Consider having a process where students can apply to have the initiative adopted by campus administration.
- Require commitment from student leaders.
 - If funded by a student grant program, require a firm commitment from the applicant to be involved through the duration of the project and/or have a detailed plan for leadership transition.
- Encourage networking and collaboration.
 - Use the sustainability office as an opportunity for students to network with other interested students, as well as faculty or staff willing to help.
 - Encourage projects that impact and invoke a large, diverse portion of the campus population—this is often achieved through increased visibility and marketing of a project.
- Incorporate a definite need in each program.
- Require preparation.

- For example: Prior research, implementation and leadership transition plans.
- Keep records of project successes and failures.
- Do not rely on any one characteristic alone to determine success.

Possible Limitations

This study was neither an experiment nor a statistical study, and as such, there is little justification for generalizing the results or attempting to prove correlation. While participants seem to substantiate the claims, the recommendations provided do not guarantee the success of student initiated sustainability programs. Because all three universities were located in Utah, interstate results may also be inconsistent. As more information becomes available on the success of student-initiated campus sustainability projects, further research and evaluation of these results may be necessary.

Future Research

Further research in Utah would require incorporation of Weber State University, Utah Valley University and Southern Utah University because all are also major universities in Utah with established sustainability offices and programs. Regional and/or national research is also recommended in order to increase consistency across state borders. Recommended universities in the Western United States could include Portland State University, Colorado University-Boulder and Colorado State University, among others.

References

- Bartlett, P. F. (2011). Campus sustainable food projects: critique and engagement. *American Anthropologist*, 113(1), 101–115. doi:10.1111/j.1548-1433.2010.01309.x
- Boström, M. (2012). A missing pillar? Challenges in theorizing and practicing social sustainability: introduction to the special issue. *Sustainability: Science: Practice and Policy*. 8(1). Retrieved from <http://sspp.proquest.com/archives/vol8iss1/introduction.bostrom.html>
- Brain, R.G., Fuhrman, N.E. & De Lay, A.M. (2009). Characterizing “good” teaching in non-formal settings. *NATC Journal*. September 2009, 50-55.
- Breen, S. D. (2010). The mixed political blessing of campus sustainability. *Ps-Political Science & Politics*, 43(4), 685–690. doi:10.1017/S1049096510001022
- Coffrey, A. & Atkinson, P. (1996). Making sense of qualitative data: complementary research strategies. Thousand Oaks, CA: Sage.
- Haapio, A. & Viitaniemi, P. (2008). A review of building environmental assessment tools. *Environmental Impact Assessment Review*. 28(7). 469-482.
doi:10.1016/j.bbr.2011.03.031
- Hatch, J.A. (2002). Doing qualitative research in education settings. Albany, NY: State University of New York Press.
- Karatzolou, B. (2013). An in depth literature review of the evolving roles and contributions of universities to education for sustainable development. *Journal of Cleaner Production*. 2013(49). 44-53.
- Klein-Banai, C., & Theis, T. L. (2011). An urban university’s ecological footprint and the effect of climate change. *Ecological Indicators*, 11(3), 857–860.

- Levin, A.I. (2006). Sustainable development and the information society. *Russian Studies in Philosophy*. 45(1). 60-71.
- Mascarelli, A. L. (2009). How green is your campus? *Nature*, 461(7261), 154–155.
doi:10.1038/461154a
- Schmit, J. (2009). *As colleges add green majors and minors, classes fill up*. USA Today.
- Sedlacek, S. (2013). The role of universities in fostering sustainable development at the regional level. *Journal of Cleaner Production*. 2013(48). 74-84.
- Spínola, H. (2012). Sustainable development contributions among University of Madeira (Portugal) students. *World Academy of Science, Engineering and Technology*. 2012(66). 945-949.
- Spradley, J.P. (1980). Participant observation. New York, NY: Holt, Reinhart and Winston.
- Stafford, S. L. (2011). How green is your campus? An analysis of factors that drive universities to embrace sustainability. *Contemporary Economic Policy*, 29(3), 337–356.
doi:10.1111/j.1465-7287.2010.00231.x
- Sustained. (2012). In *Collins English Dictionary, Complete and Unabridged 10th Ed*. Retrieved from <http://dictionary.reference.com/browse/sustained>
- Walshe, N. (2013) Exploring and developing student understandings of sustainable development. *Curriculum Journal*. 24(2). 224-249. doi: 10.1080/09585176.2013.781388

Appendix A: List of Contacts

A list of contacts, their titles and university; Names provided with permission.

Name and Interview Code	Title	University
Jared Thomas: BYU 1	Student Sustainability Assistant	Brigham Young University
Bill Rudy: BYU 2	Recycling	Brigham Young University
Rachel Sanders: UofU 1	Sustainable Campus Initiative Fund Coordinator	University of Utah
Myron Wilson: UofU 2	Sustainability Office Director	University of Utah
Sean Damitz: USU 1	Student Sustainability Office Director	Utah State University
Stephanie Tomlin: USU 2	Aggie Blue Bikes and Student Sustainability Office Coordinator	Utah State University

Author's Biography

Michaela Stuver Harper was born in Provo, Utah and raised throughout Utah County. She graduated from Mountain View High School in 2010 and entered Utah State University that fall as an Environmental Studies major, with an emphasis in Youth Programs. She worked for Dr. Roslynn Brain as an Undergraduate Research Assistant and Extension Intern during the Spring 2012 semester; where she was able to glean the idea for her Honor's Thesis, and later present the research she did as an Extension Intern. While an Aggie, Michaela also supplemented her education as a STAR tutor at Adam's Elementary, a Teaching Assistant and Care Provider at the on-campus Care and Education Center, President of SOSNR—a student club in the Department of Environment and Society—a member of the USU Beginning Ballroom Team and an Undergraduate Teaching Fellow for the Environment and Society Department. She also served on the College of Natural Resources Student council for several years.

After she graduates in August 2013, Michaela plans to raise a daughter, and in a year move with her husband, Mario, for his PhD program. In the future, she hopes to pursue graduate school for herself, as well.