

Spring 5-4-2018

Greening the Graduate Experience: An Exploration in Sustainability Education for Higher Education Leadership Students at the University of San Diego

David Horber
dhorber@sandiego.edu

Follow this and additional works at: <http://digital.sandiego.edu/soles-mahel-action>

 Part of the [Educational Leadership Commons](#), [Higher Education Commons](#), and the [Leadership Studies Commons](#)

Digital USD Citation

Horber, David, "Greening the Graduate Experience: An Exploration in Sustainability Education for Higher Education Leadership Students at the University of San Diego" (2018). *M.A. in Higher Education Leadership: Action Research Projects*. 6.
<http://digital.sandiego.edu/soles-mahel-action/6>

This Action research project: Open access is brought to you for free and open access by the School of Leadership and Education Sciences at Digital USD. It has been accepted for inclusion in M.A. in Higher Education Leadership: Action Research Projects by an authorized administrator of Digital USD. For more information, please contact digital@sandiego.edu.

Greening the Graduate Experience:
An Exploration in Sustainability Education for Higher Education Leadership Students at the
University of San Diego

David Horber

University of San Diego

Table of Contents

Abstract	3
Introduction	4-5
Background	5-9
Context	10-11
Appreciative Inquiry Methodology	11-13
Needs Assessment	14-15
Cycle 1	16-28
Green Graduate Inventory	16-23
Sustainability Campus Tour	23-29
Cycle 2	29-43
Sustainability Campus Tour Survey	30-32
Sustainability Game Event	32-39
Green Graduate Inventory Review	39-45
Limitations	45-46
Recommendations	46-47
Personal Reflection	47-48
References	49-50
Appendices	
Appendix A: Green Graduate Inventory	51-52
Appendix B: Sustainability Campus Tour Itinerary	53-54
Appendix C: End of Campus Sustainability Tour Survey	55
Appendix D: Sustainability Game Event Agenda	56
Appendix E: Green Graduate Inventory Review	57-58
Appendix F: Email to Recruit Participants	59
Appendix H: Consent Form Email	60
Appendix I: Green Graduate Inventory Link Email	61
Appendix J: Sustainability Campus Tour Confirmation Email	62
Appendix K: Sustainability Game Event Confirmation Email	63
Appendix L: Consent Form	64-65

Abstract

The purpose of this research is to understand the impact of interactive educational interventions, namely a sustainability inventory (Green Graduate Inventory), campus tours, and sustainability game events, on sustainability engagement in graduate students studying Higher Education Leadership at the University of San Diego. Utilizing an Appreciative Inquiry lens, I aim to celebrate sustainability achievements of participants and the University of San Diego community. My research question is, how can I help develop and empower environmentally conscious leaders, amongst higher education leadership graduate students at the University of San Diego, through intentional educational interventions? Additionally, this research will examine the culture at the University of San Diego around sustainability outreach and will explore the intersections of sustainability and study abroad. Through the interactive educational interventions, I hope to see a difference in the answers students provide on the initial Green Graduate Inventory and the Green Graduate Inventory Review. Additionally, I hope to increase the participants' connection to the University of San Diego campus through the sustainability campus tour and their association with their peers through sustainability game events.

Introduction

Sustainability has been an exciting area for me for quite some time now. As an undergraduate student at the University of Colorado Boulder, I was engaged in sustainability topics in my community as a residential advisor and the classroom through an environmental public policy course. I worked in collaboration with my peers to help our pilot residence hall composting initiative succeed and inventoried students' environmental participation through a program called "One Million Acts of Green." After graduation, I worked as an assistant hall director at CU Boulder, which gave me the opportunity to oversee students working on sustainability projects.

When I was applying to graduate school, I researched the Office of Sustainability at the University of San Diego and was impressed by the work they were doing. Throughout my time as a graduate assistant in the Office of Sustainability, I have had a desire to work with my peers to expand our collective knowledge and increase sustainability participation on campus. During the first training as a cohort, individuals in the group shared what positions they were to hold on campus for the upcoming year. After lunch, a colleague asked me a recycling question, making it apparent to me that they had listened to me as I shared my role and that they were interested in implementing sustainable practices to their life. It also became clear to me that I now held informal authority and would be looked to as a "sustainability expert." It was in that inauspicious moment that I made it my goal to help sustainability education grow on campus through greater collaboration with diverse campus partners. With this goal in mind, I aimed to increase awareness, provide experiential learning opportunities, and extend communication to my peers.

My research question was derived from this mindset and is, "How can I help develop and empower environmentally conscious leaders, amongst higher education leadership graduate students at the University of San Diego, through intentional educational interventions?" I am also interested in exploring our outreach culture as it relates to sustainability and the effect study abroad has on environmental consciousness and global citizenship.

Background

My research question was framed by the research I have done surrounding sustainability education at higher education institutions. First, it is important that I define what an environmentally conscious leader is. Dr. Mitchell Thomashow (2014) describes five components of campus sustainability leadership. In these components Dr. Thomashow (2014) states the importance of first clarifying the meaning of sustainability to oneself, determining how the principles and behaviors of sustainability might inform one's understanding of leadership, listening carefully to what sustainability means to others, finding common ground, and finally implementing sustainability practices on campus. This process of definition, collaboration, and action resonated with my values as a student affairs practitioner and as a researcher.

Dr. Thomashow (2014) describes how the students he was interacting with at the Clinton Global Initiative University viewed sustainability through an intersectional lens:

I was inspired, humbled, and delighted by the change-making expertise and commitment of these students. They aspired to maximize their impact on community service practitioners. And whether their primary interest was health, poverty, social justice, gender, or environment, they all had a strong interest in sustainability principles (p. 13).

The concept of connecting students' diverse interests to sustainability captured my attention and inspired me to develop educational interventions that would empower my fellow graduate students.

Another helpful resource is a book, *Sustainability on campus: stories and strategies for change*, edited by Peggy Barlett and Geoffrey Chase (2004). In this text, a chapter authored by Abigail Jahiel and R. Given Harper provided me with valuable insight concerning the benefits of campus collaboration on sustainability progress. The authors described their experience of developing a green task force at Illinois Wesleyan University during the early 2000's. The chapter described some of the partnerships with academic departments, student affairs departments, and facilities they made to promote campus change. A particularly salient message came across when the director of the physical plant on campus gave a guest lecture to a class titled, "Greening the Campus" (Jahiel & Harper, 2004). From that experience it was clear that sustainability innovation can come from some different places on campus and that, "The key was acknowledging individual efforts, demonstrating respect, and listening to concerns" (Jahiel & Harper, 2004, p. 58). Through my research, I explored sustainability with individuals who work on campus that have unrealized potential as environmentally conscious leaders.

When researching potential educational interventions I could implement, it was important that the structure of the interventions were engaging and interactive. The notion of providing a sustainability-themed campus tour was derived from Dr. Peggy Barlett (2002). As a professor at Emory University, Dr. Barlett worked with students, staff members, fellow faculty members, and the alumni community to develop a campus tour that highlighted Emory University's commitment and achievements in sustainability. Dr. Barlett found that the sustainability-themed

campus tour provided members of the community with an opportunity to connect with the campus while learning about sustainability (Barlett, 2002).

In addition to sustainability campus tours, I gravitated toward the idea of utilizing sustainability-themed games as a tool to teach students about sustainability, while building community with other students. McConville, Rauch, Hellegren, and Kain (2017) demonstrated in their research the impact that role-playing games could have on students' sustainability learning. The researchers designed a game in which Masters students at the Chalmers University of Technology, Sweden enrolled in a course titled; "Water Resources and Environment" were challenged to assume different roles in the implementation of a project. Each student would have different desired objectives and would need to work with their peers to win the game. In total 191 students have played the game since 2013. The researchers administered a post-session survey and found that the game was viewed positively as useful or very useful by 82% of participants in 2013 and by 54% of participants in 2015. Negative feedback for the game was centered on the logistics of the game rather than the game itself. While students' overall impression of the course improved from 2013 to 2015, feedback for each aspect of the class, lectures, individual work, the game, and group work declined. This data indicates that the reception of the game matched students' response to other aspects of the course (McConville, Rauch, Hellegren, & Kain, 2017).

Research from Mercer, Kythreotis, Robinso, Stolte, George, and Haywood (2017) indicated that sustainability-themed games could have a significant effect in sustainability awareness, student empowerment, and the creation of practical change. In their experiment, the researchers tasked students in the "Human Impacts on the Environment" course at the University of Hull, UK, to create and facilitate sustainability-themed games to local primary schools. In

total six games were created by the researchers and played by 66 students, yielding positive feedback (Mercer, et al., 2017). These promising results indicate the potential application of sustainability-themed games and emphasize the importance of tailoring games to fit the needs of the targeted student audience.

An aspect of sustainability leadership that I am interested in exploring in greater detail is global citizenship and the effect that study abroad programs have on our views of the environment. Wynveen, Kyle, and Tarrant (2012) explored this topic in their research involving the administration of pre and post trip surveys to 623 students who participated in a four-week study abroad program. From the results of the surveys, the researchers concluded that the students who participated in the study abroad program increased their awareness and perceived responsibility for the environment (Wynveen, Kyle, & Tarrant, 2012).

International experience is required for students seeking graduate degrees at the University of San Diego School of Leadership and Education Sciences and aims to increase students' cultural competency. I see Wynveen, Kyle, and Tarrant findings as promising and hope to investigate this issue in depth at USD through the educational interventions of campus sustainability tours and sustainability-themed games. While aspects of this project are centered on USD and local initiatives, it is important to have a foundational understanding of sustainability in a global context. I specifically spoke about the international center on the campus tour and incorporated a sustainability game, which addressed the concept of carbon offsets. As universities aim to mitigate their carbon footprints through internal energy retrofits like solar panels, carbon offsets offer an option to supplement sustainability efforts. The American College & University Presidents' Climate Commitment explains "a carbon offset is a reduction or removal of carbon dioxide equivalent GHG emissions that is used to counter

balance or compensate for (‘offset’) emissions from other activities” (American College & University Presidents’ Climate Commitment).

Through the project, I aimed to challenge participants to approach sustainability on personal, group, institutional, and systemic levels. This framework was inspired by Urie Bronfenbrenner's theory of Developmental Ecology. A specific area of Bronfenbrenner's theory of Developmental Ecology that informed my research was his concept of nested levels of context (Bronfenbrenner 1996).

Three of the nested levels of context that influenced this project were the microsystem, mesosystem, and exosystem. Bronfenbrenner (1996) described the microsystem as “a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting”. On the microsystem level, I wanted participants to explore what sustainability looked like in their daily lives via the Green Graduate Inventory and our conversations during the sustainability campus tours.

Bronfenbrenner (1996) defined a mesosystem as, “the interrelations among two or more settings in which the developing person actively participates”. The mesosystems I was interested in diving into were the participants’ intersections with sustainability and their professional and academic roles. The sustainability game events would also serve as isolated mesosystems where participants could learn about sustainability issues in a group setting. The final level of context I was interested in exploring was the exosystem. Bronfenbrenner (1996) wrote that “an exosystem refers to one or more setting that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting”. University policies and procedures regarding sustainability discussed in both the sustainability campus tours and sustainability game events were exosystems of sustainability that we examined together.

Context

I completed my research at the University of San Diego (USD). USD is a Private Catholic Higher Education Institution that strives to educate and cultivate undergraduate, masters, and doctoral students to become changemakers who positively impact their communities. Specifically, I work within the Office of Sustainability at USD. Founded in 2009, the Office of Sustainability is a relatively new department on campus. The Office of Sustainability strives to create positive change in the community through the guiding principles listed on their website (2012):

expand campus awareness and commitment to sustainability, foster integration among academics and sustainability, build campus infrastructure that promotes sustainability, cultivate the capacity of individuals to encourage sustainability, serve as a sustainability resource for the San Diego community, [and] engage in external and internal partnerships that promote sustainability.

The goals of USD and the Office of Sustainability have coalesced around the theme of care for our common home. This sentiment was presented by Pope Francis (2015) in his encyclical, "Laudato Si'" and has shaped how the university views sustainability.

As the graduate assistant for education and outreach in the Office of Sustainability, I work directly with students, staff, and faculty members to increase awareness of sustainability issues in our community. I care for our environment and endeavor to communicate the impact the environment has on people. This is a passion area of mine and relates to the spirit and goals of the University of San Diego community. Communication and education are essential because increased awareness about sustainability can bring a broader spotlight to issues like Environmental Justice, "the fair treatment and meaningful involvement of all people regardless

of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (Environmental Justice, 2017). Sustainability also can shade how we view study abroad experiences, regarding our carbon output and our desire to empower culturally competent citizens (Wynveen, Kyle, & Tarrant, 2012).

With this project, I strived to highlight some of the areas that my peers are passionate about through a sustainability lens. I also desired to become more engaged in different areas of campus, which can add to my practice as well. In this project, I am cognizant that it was necessary for me to be aware of the role that personal relationships play. My targeted population included individuals in which I shared academic, professional, and personal spaces with. Managing personal relationships was a challenge but also provided me with an excellent opportunity to deepen my understanding and appreciation of the work my colleagues do.

Appreciative Inquiry Methodology

For this project, I utilized Appreciative Inquiry (AI). Cooperrider, Whitney, and Stavros (2003) described appreciative inquiry as "the cooperative co-evolutionary search for the best in people, their organizations, and the world around them" (p. 3). During this project, I was interested in learning about what my peers already knew about sustainability and recognizing their contributions to our community. In the same breath, I was excited to share with the participants some of the significant sustainability accomplishments that the University of San Diego has achieved. Through this process, I highlighted units across the campus that may not be thought of as sustainability champions, yet they contribute to the health of the university's sustainability movement.

Appreciative Inquiry and the Office of Sustainability at USD share many common values. Cooperrider, et al. (2003) found that appreciate inquiry, "involves the discovery of what gives 'life' to a living system when it is most effective, alive, and constructively capable in economic, ecological, and human terms" (p. 3). Establishing and maintaining effective systems for humans in their environment is a concept that I hold dear. When I started my position in the Office of Sustainability, one of my first tasks was to define sustainability. This definition would accompany my picture on the Office of Sustainability website. After much consideration, I concluded that for me "Sustainability is a worldview connected to living environmentally, socially, and fiscally responsible; encouraging our community to flourish" (Who We Are, 2012). The parallels between Cooperrider, Whitney, and Stavros' definition of AI, and my definition of sustainability are apparent. This vision structured how I proceeded with this project.

Cooperrider, Whitney, and Stavros' (2003) appreciative inquiry model is comprised of four steps. The first step is Discovery, in which the practitioner appreciates the positive aspects of the current system. The second step is Dream, where the practitioner envisions what could be improved upon in the situation. The third step is Design, which challenges practitioners and participants to collaborate to implement the strategies built in the dream phase. The fourth and final step is Destiny. Destiny requires practitioners and participants to sustain the positive change they have worked toward.

The application of AI afforded me the opportunity to recognize and celebrate the sustainability efforts of the individuals I worked with, the community I lived in, and the University of San Diego. In the first cycle of the project, I asked individuals to examine what they already know about sustainability, acknowledging that everyone will be at a different starting place. This project aimed to contribute to the growth of sustainability education and

proved to be insightful for those who participated. I strived to be conscious of the time my participants spend with me and express my gratitude toward them.

During the sustainability-themed campus tours, the AI process aided me in the promotion of the University of San Diego's strengths. These tours engaged participants and led to discoveries. In a similar vein, the sustainability-themed games utilized AI to empower students to think critically about sustainability and to design a plan to collaborate further with the Office of Sustainability.

During the first cycle of my project, some of my participants indicated that they did not think they had much to contribute concerning sustainability knowledge and competency. Many individuals stated that they began from a place in which they feel ashamed for not engaging in sustainability correctly. One of the potential limitations of my choice to utilize AI was that I could lose the opportunity to engage with potential participants because they might have been too intimidated by the design stage to continue into the project. This ended up not being the case as everyone who completed the initial survey continued to the campus tour portion of the project. It was vital for me to communicate my expectations and the goals of the project from the beginning.

Throughout this project, it was imperative that I was consistent with the treatment of my findings. AI thrives on identifying and highlighting the positive aspects of every situation. I found it essential that I remained cognizant of the whole picture and to not disregard any negative feedback I received. All the data I collected has value, and I needed to challenge myself to view my work through an appreciative and critical lens.

Needs Assessment

My initial interactions with my peers in the Higher Education Leadership Program at the University of San Diego led me to the realization that there was a need to increase sustainability education. With the best of intentions, my colleagues would look to me at the end of meals that we shared together and ask if the materials they were disposing of were recyclable. Their desire to reduce their impact on the environment was a motivating factor in my decision to dedicate my time and energy to help empower these individuals to engage in sustainable actions.

From these interactions, it was clear to me that our current system lacked opportunities for collaboration between the Office of Sustainability and the USD campus at large. The intersection of the potential impact that the emerging higher education professionals could have on students, staff, and faculty; in concert with their desire to engage in sustainability work led me to believe this would be a great topic to explore further. It was clear to me that if I wanted to create change in this group that I would need to be creative and persistent in my outreach approaches. Presently, there is an opportunity to increase the amount of information sharing between representatives of the Office of Sustainability and graduate students studying higher education leadership. As a graduate assistant in the Office of Sustainability, I had some resources and campus context that I can share with my potential participants. At the same time, my participants brought exciting and diverse views about sustainability. Ideally, these interactions were mutually beneficial and helped all parties flourish.

I have worked with my supervisors, peers, and interns in the Office of Sustainability to refine my ideas about this project and to ensure that I would be prepared for my interactions with my participants. My purpose and desired outcomes for this project align with the values and goals of the Office of Sustainability and my position as the graduate assistant for education and

outreach. Through my educational interventions, I worked to connect my participants with the tools they needed to have conversations about the work USD is doing to allocate resources of energy and water conservation responsibly.

One of the guiding documents that I utilized to ground my approach was Pope Francis' (2015) Encyclical Letter *Laudato Si*. This letter connects the concepts of environmental sustainability, human health, and the Catholic religion. To further attach myself to Appreciative Inquiry as a frame for this project I kept in mind that, "Rather than a problem to be solved, the world is a joyful mystery to be contemplated with gladness and praise" (p. 12).

The additional information that was necessary for the success of this project was related to the history of higher education sustainability efforts. There were numerous articles from the *International Journal of Sustainability in Higher Education* that proved to be invaluable to me as I moved through my cycles. Learning from the insights of those who have dedicated their energy to improve sustainable practices in higher education settings was crucial to the completion of this project. Additionally, it was essential for me to remain cognizant of the needs of my participants. Maintaining consistency in the project while being flexible to any constraints my participants' may face was a point of emphasis for this project.

The participants of this project were Higher Education Graduate Students attending the University of San Diego. I aimed to influence future higher education professionals who currently have and will continue to have a lasting effect on students and campus climate. Throughout this process, I sought advice and feedback from my critical friends Novien Yarber, Dan Morgan, Margaret Anderson, and Hazel Claros. Additionally, I reached out to Alison Sanchirico (Sustainability Coordinator), Jelitsa Fonseca (Marketing and Events Graduate Assistant in the Office of Sustainability), and Dr. Ngo (AR Advisor) for support.

Cycle I

My first cycle was comprised of two steps. First I administered a survey that I created and named the Green Graduate Inventory (GGI) to graduate students who indicated they were interested in the project and had signed the consent form. The second step of the first cycle was the sustainability-themed campus tour. Utilizing the lens of Appreciative Inquiry (AI), the GGI encompassed the Discover and Dream stages while the campus tour fulfilled the Design and Destiny portions of the cycle. The GGI allowed me to understand where the participants were starting from and give the participants an opportunity to develop a sustainable lens. This information would influence the features I would highlight in the sustainability campus tour. The sustainability campus tour allowed space for the participants and I to come together and discuss tangible sustainability practices that USD has implemented. The sustainability campus tour also served as an opportunity to sustain and apply the messages of the tour.

Green Graduate Inventory

When developing the Green Graduate Inventory (GGI), it was vital for me to establish what questions I wanted to ask that would shape the rest of the project. Before getting into the questions that would inform me of the starting points of the participating students and the questions that challenged participants to critically think about sustainability, the first section of the GGI was comprised of questions that asked demographic data.

As an aspiring student affairs practitioner, it was necessary to me that my professional values were represented in this project. One value that is dear to me is allowing individuals to have the opportunity to identify however they see fit. For this reason, I left the questions regarding Academic Year, Age, and Gender open-ended and not mandatory to complete the GGI. My rationale for including these demographic indicators was to see if there would be any

difference in sustainability knowledge between participants of different ages and genders. The question of Academic Year was particularly salient to me because I was interested in discerning the responses of first and second-year graduate students to questions of what the University of San Diego is working on regarding sustainability. Seven of the participants identified as first-year students and 11 identified as second-year students. Participants ranged from 21 years old to 37 years old with the highest concentration, 9 out of 18 students, identifying as either 24 or 25 years old. Concerning gender, 12 participants identified as female and six identified as male. It is noteworthy that the responses in regards to gender included answers of cis-female and cis-woman.

After the demographic data was collected, the GGI then asked the participants to define sustainability. A challenging and potentially multi-faceted question, the process of defining sustainability is essential to understanding one's current outlook on the concept of sustainability. Inspired by Dr. Thomashow's book *The Nine Elements of a Sustainable Campus* and my process of defining sustainability as a new graduate assistant in the Office of Sustainability, it was important that I utilized the definition of the term sustainability as a starting point. The definitions posited by the participants varied in depth and confidence, yet the central themes that emerged centered around the environment, resources, the future, recycling, and waste. The top two topics of the environment and resources were both mentioned in eight of the 18 responses and indicate that environmental sustainability and resource management was salient to many individuals. This information guided what topics I would focus on during the campus tour and let me know that it would be important to incorporate concepts of social and fiscal sustainability into future aspects of the project.

After giving the students the chance to define sustainability for themselves, I was interested in discovering how sustainability was present in their daily, professional, and academic lives. In addition to the free response questions in which the participants were asked to describe how sustainability was present in their lives, the GGI asked them to rank themselves on a five-point scale to identify if sustainability was present in different aspects of their lives. I preferred this holistic approach of connecting concepts of sustainability to their personal, professional, and academic roles because it closely aligns with my views of sustainability and student affairs as interconnected and ever-evolving entities.

The quantitative data represented in the GGI was made up of questions that asked the participants to rate the presence of sustainability in different aspects of their lives on a 1 to 5 scale, where of 1 represented a view that strongly disagreed with the sentiment and 5 expressed a view that strongly agreed with the question. Additionally, there were several questions regarding the participants' experience in engaging in sustainability conversations, in which participants gave yes or no answers. Finally, there were open-ended qualitative questions in which the participants could provide greater context and describe how and why they felt the way they did.

Before jumping into questions of how sustainability intersected their professional and academic roles, I found it necessary to ask how the participants viewed sustainability in their daily lives. Out of the 18 responses, a majority encompassing ten students rated themselves as a 3 out of 5 when asked if sustainability is present in their daily lives. The mean results yielded a 2.55 out of 5 indicating that the participants answered more toward disagreeing with the proposed statement.

When asked to describe how sustainability is present in their daily lives participants gave many different responses. The most common themes centered on the participant's thoughts and

actions regarding recycling, reusing, and electricity. A sense of apprehension was evident as one participant answered that "I honestly don't do much other than try to limit water use and unplug electronics that aren't being used." This sense of uncertainty and self-deprecation was an area of interest to me as I strived to move forward in the project with an appreciative lens. Other answers surprised me with the depth and introspective energy the participants put into their responses. A significant portion of the participants gave more than three examples of how sustainability is present in their daily lives.

The next group of questions implored the participants to investigate to what degree and how sustainability was present in their professional lives. To emerge as an environmentally conscious leader, it is essential for us to build upon our personal sustainability habits and translate them to our work environments. The question regarding sustainability's presence in their professional lives yielded a stark contrast in the participants. The modal data illustrated that six individuals agreed with the proposed statement and six people disagreed. There were also outliers that strongly agreed and strongly disagreed. Out of the 18 responses, only four people identified themselves in the middle as a 3 out of 5. With such variation in the reactions, it was not surprising that the mean resulted in a score of 3 out of 5.

One student described the presence of sustainability in their professional work as a vital component of their office. "Sustainability is at the heart of my work, from Leave No Trace practices in the field and taking time to pursue conservation of our natural lands. Our office composts all food waste and recycles." By focusing on these positive aspects, I strived to help the participants engage in conversations about what areas they can improve upon in their offices and give them the motivation to continue the work they have completed.

Participating in sustainability conversations is vital to the success of the University of San Diego's sustainability goals because they challenge us to think critically about our understanding of what sustainability is collaboratively. It was important to me that I asked the participants about their past conversations about sustainability and their comfort to reach out to diverse populations about sustainability. A majority of the participants, 10 out of 18, indicated that they have had conversations with professional staff members. Regarding participants' comfort level in taking part in sustainability conversations with professional staff members, seven students noted that they either agreed or strongly agreed with the statement.

An important connection can be made concerning the participants' comfort in having sustainability conversations and their likelihood to engage in these conversations. Of the three students who either strongly disagreed or disagreed with the statement that they felt comfortable having conversations with professional staff members about sustainability, all three also noted that they had not had sustainability conversations with professional staff. Familiarizing the participants with sustainability language, facts, and concepts would play an essential role in the success of the rest of the research project. This data was encouraging and represents not only the desire of the participants to increase sustainability awareness in their offices but also the potential impact that we can make as graduate students if that percentage increased.

When thinking of the essential job functions many higher education professionals hold, interacting with students contains a great deal of gravity. For this reason, I thought it to be important that I asked the participants to recall if they have had any conversations with students about sustainability and how comfortable they were in those situations. Approximately two-thirds of the participants, 12 out of 18, had not had a conversation with a student about sustainability while one third, or 6 out of 18, participants reported having a sustainability

conversation with a student. In this scenario comfort did not seem to be an issue as 15 out of the 18 participants listed their comfort levels as a 3, 4, or 5 on the 1-5 scale. Instead of comfort, the opportunity to speak with students about sustainability may have been limited. Additionally, as holders of both formal and informal authority in relationships with students, it appeared vital that the participants take it upon themselves to start sustainability conversations with students.

The final area in which I was interested in learning more about the participants' thoughts, conversations, and comfort levels was the academic sphere. I have found that as a graduate student it can be challenging at times for me to embrace my identity as a student because my energy is focused on my professional work. After some reflection, I realized that the intersection between academics and sustainability has a lot of untapped potential. When reviewing the data regarding the GGI's section on the participants; academic lives, it seems that my peers shared my initial sentiments.

When asked if sustainability was present in their academic lives, only two out of the 18 participants agreed, and no one strongly agreed with the statement. Additionally, four participants strongly disagreed, and three participants disagreed with the proposed statement. When asked to describe how sustainability is present in their academic lives, the participants gave noticeably shorter answers with far fewer details. One participant went as far as to write, "I am not sure if it even is?" One major theme that was present in this section was paper use and printing. A participant explained, "I do print a lot of readings rather than reading it on my laptop due to personal reference. I like to write my notes on paper than on the computer, and I like using post its and using different colored pens." I used these comments to inform what my conversations would look like during the campus tour and sustainability game events. It was important to me that I did not shame the students for printing. Instead, I wanted to focus on

ensuring that they printed necessary documents and that they knew what to do after they printed their papers.

Following the mindset that urged me to ask whether or not the participants had been involved in conversations regarding sustainability with professional staff members and students, recording the presence of discussions with faculty members and participants comfort in having these conversations was important to me. In the GGI it was clear that participants overwhelmingly felt comfortable in having these conversations, 15 out of 18 answered with a 3, 4, or 5, yet only 2 participants had had a conversation with a faculty member about sustainability. Disentangling the association between one's comfort in having sustainability conversations with faculty members and the number of respondents who had these conversations required me to reexamine my interpretation of the data. Similarly to the participant's responses to questions regarding sustainability conversations with students, it is the case that participants may need to actively seek out faculty members during office hours to have these conversations.

The final area of interest in the GGI was questions aimed at understanding the participants' feelings and ideas of what the University of San Diego is doing regarding sustainability. To better gauge this subject I asked the participants to rank their perceptions of the University of San Diego's commitment to sustainability on a 1-5 scale and to describe what ways the USD demonstrates its commitment to sustainability.

The participants determined that USD is committed to sustainability. Only one individual disagreed agreed with the proposed statement whereas five participants agreed and one person strongly agreed. The majority, 11 out of 18, rated the university as a 3 out of 5 concerning commitment to sustainability. Participants' described that USD's commitment to sustainability was present in many different areas. One student proclaimed that they noticed,

"Solar-powered mechanisms, prevalence of recycling bins, removing patches of grass for water conservation, putting less water-hungry grass in Plaza de Colachis."

As I shifted from the Discovery to the Dream portion of my process, the questions I integrated into the end of the GGI began to develop and shape my vision of the sustainability campus tour. Specifically, I was interested in learning more about where on campus the participants noticed USD's commitment to sustainability. These answers would help me finalize my campus tour route to ensure that I was reaching as many important spots as I could. Themes emerged in the answers that focused my attention on-campus dining, waste in regards to compost and recycling, and energy in the form of solar panels. These themes were further cemented by the next question that asked what sustainability topics the participants were interested in learning more. Sustainability information about Waste, Energy, Food, and Water Conservation were most prevalent to participants, reinforcing my plans to integrate those topics into the next steps of the project.

Utilizing an appreciative lens, the last question of the GGI asked participants to think critically about what they were looking to gain from this experience. As an entirely voluntary process that would spend precious hours that could be utilized in countless other ways, it was vital to me that I understood what the participants' hopes were. Many voices echoed similar sentiments, nicely represented by one participant who wrote they were "hoping to gain more knowledge on how I can be as sustainable as possible and how to encourage my family/peers/students to do the same."

Sustainability Campus Tour

In the period between Monday, September 11th, and Friday, October 13th I conducted 18 individualized sustainability campus tours for the participants who had completed the Green

Graduate Inventory. The goal of these campus tours was to give the participants hands-on experiences regarding what the University of San Diego was pursuing concerning sustainability. I chose to conduct these tours in a one on one setting because I wanted to cultivate a space in which no question was too basic to ask. In these environments, I strived to focus all of my attention on the specific questions and needs of each participant.

The itinerary of the sustainability campus was something that I deliberated over for some time because I wanted to balance my desire to show participants all that USD has to offer with time and ability boundaries. Initially, I hoped to be able to take folks up to the roof of Mother Rosalie Hill Hall to see our solar panels, down the hill to visit the Electronics Recycling Center, and even to an energy meter reading room in Palomar Hall. For practicality sake, I integrated information about the function of all these areas into the tour but decided not to visit any of these sites physically.

The sustainability campus tours began outside of the Student Life Pavilion (SLP) where I would meet the participant. After explaining the plan and expectations of the tour, we would start walking and talking. I aimed to integrate as much dialogue and space for questions as possible, rather than oversaturating the participants with facts and figures. The first stop of the tour was right outside of the dining area in the SLP. Here I asked the participant if they knew of any sustainable actions of the SLP. This question set the interactive tone of the tour. Answers varied, yet every participant engaged in the issue and shared their thoughts whether or not they were 100% sure of their answers. Topics of conversation here included the Biohitech Digester, the Sustainabottle campaign, the dining tray policy, and USD's Fair Trade Campus Designation. After explaining the details of these initiatives, I asked the participants questions about their knowledge and thoughts of the concepts.

Moving on from the dining hall, the next stop on the tour was the Mission Parking Structure. Here the topic of transportation was approached. Not always perceived as an area of sustainability for the participants, we had discussions about the impact that our vehicles have on the environment. One space that USD has focused on regarding transportation is limiting the number of single occupancy vehicles on campus. As we walked, the participant and I talked about the impact our transportation choices have on the environment as well as our physical and mental health. Passing the Mission Parking Structure, we walked by a bike rack where I emphasized the benefits of biking, as well as the work USD, has done to making cycling more accessible on campus.

The next stop on the tour was the community garden located in the Mission Crossroads residence halls. A highlight of the tour for some participants, this landmark gave us the opportunity to discuss the topics of producing and consuming local food as well as water conservation techniques the garden was using. Participants of the tour were surprised to learn that USD had a community garden. One subject matter that was particularly salient concerning the community garden was the partnership between the garden club and the food pantry located in the SLP. This realization of the impact that the community garden was making on the USD community was particularly compelling for a multitude of participants. We also explored the rain barrel located in the community garden, and I explained the function of the device and its role in conserving water.

The next scheduled stop after departing from the garden was the Maher Garden. Before arriving up the hill, I pointed out a couple of different areas that we passed by that were incorporating sustainability into their ethos. The first landmark was the Outdoor Adventures (OA) office. While we did not physically stop in the office, I highlighted the work that OA was

doing to live out their Leave No Trace policy and how this policy directly related to USD's zero waste goals. Additionally, we talked about what environmental justice is as well as the environmental justice trips that OA has organized. As we walked up a path overlooking Tecolote Canyon dialogue ensued about the recently dedicated Kumeyaay Garden. I questioned the participant about the benefits of cultivating native plants and discussed some of the efforts that USD has undertaken to reduce its water consumption.

When we arrived in Maher Garden, I briefly stopped to check in to see how the participant was feeling. We had just climbed a substantial hill, and I wanted us both to have a chance to catch our breath before proceeding. While stopped in the Maher Garden, I asked the participant if they had heard of the legend of the Maher Seal. From my understanding, the story is that if you step on the University of San Diego's Seal that is located in the central entryway in Maher Hall that you will not graduate in four years. I had worked in Maher Hall long before I heard this legend and had stepped on the seal about every day. Understanding the lore of the legend I gave the participant an opportunity to test fate by stepping on the seal. This fun intervention at approximately the halfway mark of the tour served as a quick break from the intense sustainability conversations, as well as a moment to talk about a cool USD tradition.

Exiting Maher Hall either cursed to not graduate on time or spared from this terrible fate depending on the verdict the participant reached, we then began to talk about Serra Hall and the International Center the building houses. It was here that we talked about the significance of study abroad experiences as well as the carbon costs that are associated with traveling. In general, the participants had a strong grasp of the importance of study abroad trips to USD, yet still, participants were surprised to hear that approximately 60% of undergraduate students study abroad. An integral and mandatory aspect of our shared Higher Education Leadership program,

we discussed strategies that the participant could employ to mitigate their impact on the environment when studying abroad. Conversations about the concept of global citizenship arose, and we spoke about what it meant to be a responsible steward of our resources and the environment.

The next stop of the tour was the Immaculata, the Catholic Church on campus. It was here that we discussed the intersections of the Catholic faith and the concept of sustainability. USD has focused much of its attention to regarding sustainability following Pope Francis' encyclical, "Laudato Si'." With this framework defined and in mind, I implored the participant to examine what caring for our common home represented to them. Additionally, we spoke about USD's strategic plan, Envisioning 2024, and how the pathway of Care For Our Common Home would play into the implementation of the strategic plan.

Mother Rosalie Hill Hall home of the School of Leadership and Education Sciences was the next destination on the tour. With a sizable distance between Mother Rosalie Hill Hall and the Immaculata, I used this time to discuss some areas of campus sustainability that we did not have the time to visit personally. The first subject I mentioned was the Electrics Recycling Center (ERC). A community collaboration and one of the distinguishing factors of USD sustainability, the ERC aims, "to extend the useful life of donated electronics to re-use, re-purpose, re-sell, re-imagine, and as a last resort, to responsibly recycle" (ERC). As a tangible resource they could utilize and share with the students they work with, participants valued hearing about the work that was being done in the ERC. Another topic of conversation was the solar panels USD has installed across the rooftops on campus. Participants were asked to guess the total number of solar panels as well as the percentage of energy the solar panels accounted

for at USD. This was eye-opening for many students serving as a reminder that even though USD has made great strides to conserve energy, there is always room for growth.

When the participant and I finally arrived at Mother Rosalie Hill Hall the first point of the conversation centered on the SOLES Sustainability Committee. This is a group of graduate students, administrators, and faculty who come together to discuss sustainability topics and design sustainability programs. Next, we walked out to the dumpsters outside of the building and viewed the compost tumblers. I gave the participants option to look into the compost bins and to spin the tumblers. Here we discussed what items are compostable and what we do with the compost when it matures.

Nearing the home stretch of the tour, I asked if the participant had any questions or areas in which they were interested in learning more about. I answered logistical questions about the next steps of the research project as we made our way to the Office of Sustainability. Nestled in Facilities, the Office of Sustainability is difficult to locate for folks. It was important to me to end the tour here because by indicating the whereabouts of the Office of Sustainability, the participant would be able to communicate its location to any student they were working with who wanted to learn more about sustainability at USD. The tour ended at a scenic overlook of the Tecolote Canyon where I presented the participant with a succulent housed in a reused glass jar.

Throughout the process of conducting these sustainability campus tours, I altered aspects of the tour to meet the developing needs of the participants I was working with. One such example of this was my addition of non-sustainability related conversation between the community garden and Maher Garden. I found that this was a great time to learn more about how the participant was feeling regarding their classes and professional positions. This

information helped me build a stronger connection with the participant and gave the tour a more holistic lens.

Another adaptation that occurred during the campus tours was my embrace of integrating campus events into the tour. Because the events took place at different times and dates, there were some various active and passive events that were taking place on the tour route. Specific examples of these integrations occurred during the Kumeyaay Garden Dedication event and the International Peace Day event. Participants had the chance to involve themselves in these events that added a new dimension to the tour. In addition to university-sponsored events, I took great joy in the spontaneous circumstances that added depth to the experiential learning. During one campus tour the president of the garden club and Office of Sustainability intern, Jeff Stephens, was working on the garden while I was administering a campus tour. Jeff's passion for the community garden was evident as he led the participant and me on a detailed journey of the garden.

Cycle II

Cycle two was informed by the data that was collected in cycle one and consisted of a sustainability campus tour survey that followed the campus tour undertaken in cycle one and the educational intervention I titled the sustainability game events. In a similar fashion to cycle one, the sustainability campus tour survey was where I embarked the Discover and Dream stages of AI. The sustainability campus tour survey information helped me discover what aspects of the tour were productive. This information would inform what types of interactions I wanted to see in the sustainability game events. The sustainability game events were the vessels for the Design and Destiny portions of the AI process. Here participants and I collaboratively talked through

complex sustainability issues and shared best practices that everyone could implement into their lives.

Campus Tour Survey

The campus sustainability tour survey was emailed to participants immediately after they completed the campus sustainability tour. The survey was comprised of four demographic questions, asking the participants to identify their name, academic year, age, and gender, four open-ended questions about their experience with the tour, and two logistical questions that would inform the administration of the sustainability game events.

Staying true to the Appreciative Inquiry model that I used to frame my project, my first open-ended question asked the participant to identify the aspects of the tour that positively impacted them. A few different factors were brought to the surface and participants wrote about the positive impact that visiting the community garden had on them. With great enthusiasm, one student wrote that they liked, "seeing the cool garden!" While another participant stated that they "enjoyed finding out about the community garden that has been established on campus. I will also be more mindful of how my actions can contribute to the sustainable efforts that are already in place throughout the campus community."

Another theme that emerged when reviewing responses to the end of campus sustainability tour survey was the participants' recognition of and appreciation for the efforts USD has undertaken to become more sustainable. This sentiment was represented in one participant's words remarking that they came out of the tour "knowing that USD is much more sustainable than I thought so." Having the opportunity to see first hand the different sustainability initiatives on campus made a positive impact on many participants.

After the tour, one of my goals was to encourage critical thinking on sustainability. One way I approached this objective was to ask if there were any other areas on campus that needed to be recognized for their sustainability efforts. I wanted to highlight destinations that we had visited on the tour as well as areas that we did not discuss. Three areas that stood out as potential spots to include information on in the tours were Residential Life, Athletics, and Copley Library. Other answers aimed to highlight sections of the tour that positively impacted them including the community garden and the Electronics Recycling Center.

Throughout the project, I was concerned with the participants' expectations of what sustainability is and what USD is doing to create sustainable change. With that in mind, I was intrigued to learn what aspects of the tour surprised the participants. This question yielded detailed and dense responses that singled out the community garden and the solar panels. The solar panel answers were informative because the respondents provided a few different outlooks on the topic. One participant wrote that they were surprised by, "the fact that we (USD) have so many solar panels," while in direct contrast another participant noted that they, "thought we (USD) would have more solar panels." This idea that the participants could have different values on sustainability and the actions USD is taking to be more sustainable affected my facilitation of the sustainability game events. I realized that it was essential for me to give the participants a chance to state their initial thoughts and expectations at the beginning of the game events.

The last open-ended question challenged participants to make suggestions of what areas of the tour could be improved upon in the future. The responses that stood out to me regarding areas of growth were focused on the methods and application of the tour. One goal of the tour was to display sustainability information in a fashion that diverted from the standard presentation model. A participant appreciated this component of the project explaining, "it was helpful to

walk and see the practices instead of just a PowerPoint or something." An unintended consequence of my pedagogical choice was that the application of the campus tour was accessible to all parties. I did my best to check in with the participants to ensure their comfort throughout the tour yet the route of the tour proved to be challenging for some folks. One participant explained that the tour was, "A little long, but that's only because I'm more aware of ability after this year," while another participant recommended, "next time, we could possibly take a golf cart!"

The final two questions of the end of campus sustainability tour survey were designed to help me plan the sustainability game events. First, it was important to include a question that would establish dates and times for groups to join together for the sustainability games. Next, I asked if the participant had ever played the board game the Settlers of Catan. The sustainability game events would feature a sustainability-focused version of this game, and it was necessary for me to know the background experience of the participants. This data was used in the group forming decision-making process as I strived to sort groups based on their knowledge of this game. In total 7 of the 18 participants, approximately 39%, of the participants were familiar with the game. My plans for the game night would have changed if none of the participants were familiar with the game, simplifying the process.

Sustainability Game Events

In the time between Sunday, November 5th, 2017 and Friday, November 17th, 2017, I facilitated four sustainability game events for 16 participants. The purpose was to bring participants together in groups of 3-5 to play sustainability-themed games aimed at increasing the participants of complex sustainability concepts. The structure of the game events was fluid and adapted based on the particular needs of the participants in the room. The process started

with me setting up the games and picking up the pizzas ten minutes before the event. Next I facilitated introductions, an icebreaker, a card game, a board game, and a post-game conversation.

Before the games started, it was necessary for me to be prepared and have all the required materials laid out so that no time was wasted during the game session. My role of upholding and maintaining time boundaries was critical to the success of the game events because I truly valued the time the participants were spending with me and I had a strong desire to demonstrate my respect of their time. Another choice that affected the pre-game process was my decision to order pizza for the participants. My rationale behind ordering pizza was to make the game event feel as comforting and inviting as possible. Learning from the responses to the campus tour survey, I did my best to understand and accommodate dietary preferences and necessities the participants noted.

With slices of pizza on plates, game materials in place, and participants gathered around the table I began the introduction process. Although I knew everyone in the room from the sustainability campus tours and outside encounters, I introduced myself including information about my name, hometown, and my favorite thing about the University of San Diego. Additionally, I reminded the participants that their involvement in the research project was voluntary and they could opt out at any point. Next, I encouraged the participants to introduce themselves following my prompt of their name, hometown, and favorite thing about USD.

Staying in line with the appreciative inquiry lens that guided my project, I found it important to include a question about the participants' positive experiences at USD. Answers to this question served as a tone-setter for the remainder of the event. Themes were surrounding

the ideas of the community, campus, and opportunities the participants had emerged in their answers. With this positive mindset, we proceeded to an icebreaker designed to loosen the participants up for more in-depth conversations.

The icebreaker I chose to facilitate is called Meld-A-Mind. The goal of this game is to say the exact same word at the exact same time as a partner. A seemingly daunting task, the participants looked puzzled yet intrigued. After a quick demonstration of how to play, I gave groups of two or three participants three minutes to perform the task. I observed as the participants worked in concert with one another after failed attempts and eventually began to smile and beam with excitement when they accomplished their mission. The reason I had them play Meld-A-Mind is that I relate the seemingly impossible task of the game to our perceptions of sustainability. At first, it seems that there is no way we can achieve the goal and that sustainability is too complicated of an idea to even begin to search for a solution. Through the game, participants found that through collaboration and communication they could get on the same page and make an impact.

Transitioning from the icebreaker, the next activity on the agenda was to play, "Offset the Card Game." When attending the Association for the Advancement of Sustainability in Higher Education (AASHE) conference in October 2017, I had the chance to play a prototype of a carbon offset card game developed by Jason Elliot and the Carbon Offset Initiatives team at Duke University. A highlight of my conference experience, I was inspired to incorporate this game into my project. In March 2017, I contacted Jason with the idea to utilize his game in my project, and he graciously accepted. We stayed in touch throughout the summer and autumn, and Jason sent me a copy of the game with instructions on how to lead a session of the game. An instrumental tool to the success of the project, "Offset the Card Game" gave participants the

chance to learn about carbon offsets and the tough decisions university administrators make when forming sustainability policies and projects.

My facilitation process of "Offset the Card Game" included three steps. First I would explain the rules of the game. Next, I observed and distributed cards and information when necessary, and finally, I would lead a post-game conversation. When explaining the rules, I found it helpful to frame the game as a story and to insert each participant into the role that they would be assuming.

Every participant received a school card that gave the name of their college or university, the annual budget of the school, and their carbon offset goal (Duke). Players took actions to reach their goals by implementing sustainable infrastructure also known as internal reductions, like installing solar panels or replacing their central boiler, or by purchasing carbon offsets, funding projects like wind energy or urban forestry projects. Each action had a cost and a carbon savings unit attached to it (Duke). Players had autonomy to find the right mixes of internal reductions and carbon offsets to meet their schools personalized budget and carbon emissions goal. At the end of each turn, marked as a year in the game, I would read an action card that either helped or hurt the players chance to reach their goals. This aspect highlighted the need for adaptability in campus sustainability.

One adjustment that I made after the first sustainability game event was to encourage participants to read out loud the internal reduction and carbon offset cards. Through this action, the participants were able to gain a better understanding of the types of projects colleges and universities undertake to reduce their carbon footprints. This change also promoted deeper sustainability thinking rather than participants focusing on the math challenges concerning balancing the carbon and financial numbers.

After the game, I was interested in hearing how the participants experienced the game. A majority of the participants seemed to enjoy the game and found it helpful to build upon their sustainability education foundation. As higher education master students, one aspect of the game that a number of the participants enjoyed was the college and university administration aspect of the game. Participants noted that they appreciated learning about the complexities and nuances that come with making decisions about a school's energy portfolio.

A connection that I highlighted to the groups after the games were USD's plans to address our carbon footprint. I explained that USD has added solar panels, completed lighting retrofits, and built a fuel cell among other projects. We also discussed the Climate Action Plan (CAP) that USD completed in November of 2016. This document highlights benchmarks and goals the university has to reduce energy and water consumption. One aspect of the CAP particularly salient to "Offset the Card Game" is the area of study abroad. With study abroad as a strong component of the academic experience at USD, the CAP investigates strategies the university will take in the future to mitigate the impacts of our carbon consumption.

After participants' discussion regarding "Offset the Card Game" had ceased, we transitioned into the next phase of the game event. The next game on the schedule was "Settlers of Catan Oil Springs" which is a scenario by Erik Assadourian and Ty Hansen for Klaus Teuber original game, "The Settlers of Catan." A board game in which participants utilize strategy to collect and trade resources to build roads, settlements, and cities while gaining points used to reach victory, the "The Settlers of Catan" has long been a favorite past time of mine. While playing the game, I have learned collaborative communication skills to further my goals and have contemplated complex ideas of resource management and sustainable development. For

these reasons, I was intrigued to see how this game might contribute to the sustainability education and experience of the participants in the project (Catan: Oil Springs).

I chose to utilize the scenario, "Settlers of Catan Oil Springs," because of the game's integration of the oil resource. In addition to the five original resources of hay, stone, clay, wood, and wool, players could now access oil that could rapidly increase player's production capabilities at cost. Oil could be converted into other resources or could be used to upgrade a player's city into a metropolis, a structure worth more victory points and immune to environmental calamities. The downside to using oil was that after five total uses, the island of Catan would suffer an environmental calamity. This event could destroy resources and settlements across the board. Additionally, players could decide to sequester their oil, returning the resource to the game manager. The player who sequesters the most oil was given the "Champion of the Environment" token that was worth two victory points (Catan: Oil Springs). These new aspects of the game keep the interest of even experienced players of the game.

Upon reaching the end of the game by a player earning ten victory points or reaching a pre-established time boundary, I asked the participants a few questions about their experience with the game. I was interested in discovering how the game went for each participant, what aspects of the game they enjoyed, and what if anything did they learn from their experience with the game. Participants answered with a great deal of energy explaining their strategies and things they would have done differently. After coming down from the intensity of the action of the game, participants began to connect the themes they experienced in the game with the broader ideas of sustainability, resource management, and environmental policy. I thanked the individuals for their participation throughout the game event as we moved to our post-game

conversation. For the post-game discussion I asked participants to think critically about what we can do to engage in sustainable behaviors across the different roles we play in our lives. Specifically, I aimed to connect these questions to the topics that were brought up in the Green Graduate Inventory, so I asked about the intersection of sustainability in their personal, academic, and professional roles.

It is my view that our academic and professional behaviors stem from the foundation established in our day to day lives, so it was important for me to start with the question of what we can do as individuals to live sustainably. With the completion of the GGI and the sustainability campus tours, it was evident that we were more confident in their response to this question. One participant exclaimed that "holding each other accountable, doing our part by being more mindful of our blueprint" was something that we could do to live more sustainably. This response was echoed by other participants, which indicated that sustainability awareness is an excellent first step to combat sustainability issues yet it is also necessary for us to hold ourselves as well as others accountable to reach our shared sustainability goals.

When asked to discuss what the participants could do as graduate students and as future higher education professionals to promote sustainability, participants harped on the need to understand campus resources and to role model sustainability behaviors. Each participant demonstrated a desire to share sustainability information within their sphere of influence. An example of this sentiment came from a participant who said that we could "talk with our students and change our expectations around programing." Participants also connected their answers to these questions to their experiences on the sustainability campus tours.

After the first sustainability game event, I implemented a few changes to the itinerary of the event. The post-game conversation was an area in which I wanted to improve because of the

potential impact these discussions could have. To help participants prepare for the post-game conversation, I asked the participants to write down their answers to these questions at the beginning of the game events. By starting with their personal internal reflection questions, participants were able to communicate their ideas more efficiently at the end of the event. These questions also laid out a framework that guided the participant's engagement throughout the event. I became more cognizant of my role as a facilitator of the events with each passing event. I aimed to balance the organic development of the events with the need to keep the events on schedule.

Green Graduate Inventory Review

Modeled after the Green Graduate Inventory (GGI), the final step of the project was to administer another survey titled the Green Graduate Inventory Review (GGIR). After answering identifying questions such as the participant's name, academic year, age, and gender, the GGIR shifts to asking participants questions that mirrored the initial GGI. Included in these questions were the themes of definition, the presence of sustainability in their personal, professional, and academic lives as well as the participant's views on what ways USD demonstrates its commitment to sustainability. At the end of the GGIR, I asked participants to reflect upon and share some of their positive takeaways from their experience in the project. The link to the GGIR was sent to the participants the day after the sustainability game events and was comprised of 22 questions.

As with the GGI, the GGIR began with the question of how the participants define sustainability. Participants answered this question with a broader lens of what sustainability is compared to their responses in the GGI. The three major themes present in the participant's replies concerned issues of the environment, resources, and the future. From their responses, it

was evident that the participants had taken the time to investigate what sustainability means to them and began applying these definitions to their lives. An example of the extra research that the participants embarked upon was found in one participant's definition as they stated that they, "read this online and really liked this definition. 'Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs.'" This is the primary definition I use when explaining what sustainability is to classes and groups on campus during presentations. To see that a participant took the time to research sustainability definitions outside of the scope of the project is emblematic of the increase in the participant's commitment to sustainability.

The question of sustainability's presence in participants daily lives showed that a majority of participants either agreed, eight out of 16, or strongly agreed, one out of 16, that sustainability is present in their daily lives. The mean of these responses was a 3.6 out of 5 as compared to the 2.55 out of 5 mean found when asked the same question in the GGI. In the GGI words like try and attempt were frequently used when asked to describe how sustainability was present in the participant's daily lives, whereas terms like consciously, actively, and change were used in higher frequencies.

The data regarding the next question of sustainability's presence in the participant's professional life yielded thought-provoking findings. While the mean in both the GGI and the GGIR were a solid 3 out of 5, the distribution of answers varied. In the GGI, participants answered everywhere from strongly disagreeing to strongly agreeing with the proposition. Additionally, most participants found themselves either agreeing or disagreeing with the proposal, balancing the mean to a neutral stance. In the GGIR, there was no representation for the strongly disagreed answer and the most prevalent answer was 3 out of

5. This data indicates that there is room for growth to increase the presence of sustainability in participants' professional settings.

Sustainability conversations in participant's professional live demonstrated growth regarding the participant's comfort levels when having these conversations. Seven participants reported having conversations with students, and eight participants reported having conversations with professional staff members. These numbers remained mostly unchanged from the GGI. While the number of conversations remained unchanged, participants indicated that they felt confident in their comfort levels regarding professional sustainability interactions. Mean data from questions about participants' comfort of having sustainability conversations with students were 4.1 out of 5 and professional staff members landed at 4.06 out of 5, up from 3.33 out of 5 and 3.05 out of 5 respectively when asked the same question on the GGI.

An area of interesting concerning the participants' comfort levels in having sustainability conversations with students and professional staff members is every participant ranked their comfort level as at least 3 out of 5. This data indicates that while every participant is not wholly comfortable, they have a solid foundation of sustainability knowledge they can utilize in these conversations. Additionally, the number of participants who strongly agree that they are comfortable in having sustainability conversations with students and professional staff members increased significantly.

Academic sustainability presence was a problematic area for some participants in the GGI, which was further highlighted in the GGIR. While three participants still marked themselves as a 2 out of 5 concerning sustainability presence in their academic lives, the vast majority of responses indicated growth. Whereas in the GGI only two students rated the

presence of sustainability in their academic lives as a 4 out of 5, in the GGIR five participants rated themselves as a 4 out of 5 and one participant marked themselves as a 5 out of 5.

When asked to describe how sustainability was present in their academic lives, participants centered on the themes of printing once again. Other participants wrote about the impact of conversations with their peers and raising sustainability awareness. One participant wrote, "I am in classes with both Sustainability GA's so that helps. But whenever paper is over used, students tend to make comments or jokes for awareness purposes." Jokes about offending the sustainability graduate assistants because of paper consumption served as an entryway for sustainability to emerge in the classroom for both students and professors. Starting conversations in this friendly way provides all parties with an opportunity to learn about sustainability without the typical shame that might hold folks back from engaging in these conversations.

Aside from the newfound confidence in their sustainability knowledge, participants also demonstrated greater appreciation for the work USD has conducted in regards to sustainability. When asked if USD is committed to sustainability, participants' answers averaged to a 3.75 out of 5 score. This mean was higher than the participants' answers in the GGI that averaged 3.33 out of 5. Participants referenced landmarks highlighted in the sustainability campus tour to justify their rankings of USD's commitment to sustainability. One participant explained that USD is committed to sustainability:

In a lot more ways that I had known. I have become more familiar with some of the initiatives around campus that I would never have known or come to know about had it not been for the tour we took.

Other participants cited the Office of Sustainability, the community garden, and the Electronic Recycle Center as areas on campus where USD demonstrates its commitment to sustainability.

In the final section of the GGIR, I asked the participants to write down some positive takeaways from their experience with the project. In alignment with the appreciative inquiry lens that informed the whole project, I found it fitting to end the project on a high note.

Participants gave terrific feedback and reflections hitting on the topics of their personal sustainability knowledge, the sustainability campus tours, and the sustainability game events.

The data collected throughout the GGIR was reaffirmed by the participant's positive takeaways. One participant commented that:

I feel more confident in sustainability and my ability to affect it on all levels in my life.

For instance, I can work at a national, local, institutional and personal level without it being overwhelming. I can change my habits so that being more personally sustainable is more and more natural.

Other participants explained that they learned that sustainability is an area in which they can make positive changes shared this sentiment.

The sustainability campus tours were a highlight for a number of the participants. Learning what USD is doing to promote sustainability and having the chance to see these different areas in person made a lasting impact. A participant went into further detail explaining:

I enjoyed the campus tour because it was a nice way to get to see the campus as a graduate student and learn about what USD is doing. I think the tour would be a fun activity going forward for graduate students as it takes us to places that we wouldn't necessarily go, like Crossroads for example

Participants also noted that they had a greater appreciation for the complexities that campus sustainability presents. Shifting from a personal sustainability perspective to a campus sustainability perspective proved to be valuable to the future higher education professionals.

When developing the project I wanted to create spaces that were fun and interactive. I had found that when I creatively engaged folks that people were more receptive to the information that I presented. For this reason, I was excited to introduce project participants to the concept of sustainability games. One participant showed appreciation for the sustainability games writing:

I enjoyed the game we played because it did a really great job introducing concepts to someone who doesn't know a lot about sustainability beyond unplugging electronics and using reusable water bottles. I feel like there is a lot to sustainability and it can get a little overwhelming to think through everything all the time so it helps to have a fun low-risk way to engage with the topic.

This mindset was shared by other participants and has encouraged me to believe that alternative forms of sustainability education can be successful. Other participants echoed these thoughts writing that the project "was fun and interactive and informative" and that they learned that "sustainability can be fun!"

After comparing answers from the GGI and the GGIR, it is evident that participants experienced significant changes in the presence of sustainability in their lives, the comfort level of having sustainability conversations, and their views of the University of San Diego's commitment to sustainability. I conducted a hypothesis test in which the null hypothesis stated that there is no significant difference in sustainability presence, comfort, and university commitment before and after the educational interventions. Using a paired t-Test to compare the

findings of the GGI and the GGIR, the p-value was found to be 0.0158 and less than the alpha level of 0.05, thus we reject the null hypothesis. There is sufficient evidence that educational interventions affected presence, comfort, and university commitment to sustainability.

Table 1

	Sustainability is present in my daily life	Sustainability is present in my professional life	I feel comfortable having conversations with students about Sustainability	I feel comfortable having conversations with professional staff members about Sustainability	Sustainability is present in my academic life	I would feel comfortable having conversations with faculty members about Sustainability	The University of San Diego is committed to Sustainability
GGI	2.83	3	3.33	3.38	2.5	3.27	3.33
GGIR	3.6	3	4.1	4.1	3.25	3.75	3.75

Limitations

While I consider the project to be a success, there were some limitations in the project. First, it is important to note that I only targeted higher education masters students at the University of San Diego. This is a relatively small population and is segmented from even other areas of the School of Leadership and Educational Sciences. Most of the participants either currently held higher education professional positions or aspire to after graduation. For these reasons, the data and findings of this project is narrow, and application of results beyond higher education institutions should be intentional.

The project had 18 participants in total, a number that surprised me as I was expecting a maximum of 15 participants. The total project participation is a limiting factor because it would be difficult to generalize this small of a population to the vast field of student affairs.

Additionally, only 16 participants completed all aspects of the project meaning that data

presented in the Green Graduate Index Review may have been slightly altered based on the feedback of the two outstanding participants.

Finally, it is essential to mention that I had a personal relationship with many of the participants. While this factor doesn't change the results of the findings, it does bring up questions about the project's sustainability. I was able to interest higher education masters students because I shared classes with them. Gathering interest in sustainability is a difficult task because time is a limiting factor for many people. For the 18 participants who graciously donated their time to learn more about sustainability I am immensely grateful and understand convincing people that this is a worthwhile cause is a challenge that my project doesn't address in great detail.

Recommendations

Moving forward, I would recommend that the Office of Sustainability at the University of San Diego maintain outreach efforts to the School of Leadership and Educational Sciences (SOLES). Keeping individuals and groups in SOLES informed about sustainability projects USD is pursuing is important because SOLES plays a vital role on campus. Graduate students in SOLES work with students across campus multiplying the impact of educational interventions to this group. Specifically, informing the SOLES community of the Climate Action Plan and how sustainability intersects with the Envisioning 2024 strategic pathway of Care For Our Common Home, will empower potential sustainability spokespeople for USD (Care For Our Common Home).

A strategy to continue collaboration with the SOLES community is to work with the SOLES Sustainability Committee. This is a group of graduate students, administrators, and faculty who come together to discuss sustainability issues and opportunities as well as to plan

and implement events. This could be a great group to build upon the educational interventions presented in this project.

In general, I would recommend that the Office of Sustainability offer more guided and unguided campus tours. The sustainability campus tours in this project gave participants a greater appreciation and understanding of sustainability at USD. By conducting outreach to groups across campus informing them of the opportunity to take a sustainability campus tour the Office of Sustainability would have the chance to notify stakeholders of current projects and to voice any constructive feedback for how the university could take strides to be more sustainable.

Finally, I advise the Office of Sustainability to continue to utilize creativity when developing educational interventions. One of the most impactful lessons I have learned from conducting this project is the power of engaging and interactive educational opportunities. Participants in the project positively responded to my attempts to make the project fun. I believe that tapping into our creativity will not only be more effective but also more enjoyable for everyone involved.

Personal Reflection

The project challenged me to think critically about who I am as a professional. One thing that really stood out to me was my desire to implement positive change in one of my passion areas. When thinking about what I wanted my project to look like, I wanted to ensure that my work would reflect my personal and professional values. This project has reemphasized my desire to work collaboratively with others. I learned that I could engage my peers in meaningful ways that expanded their understanding of sustainability. This growth and sharing mentality will stay with me throughout my professional career.

Additionally, this project has affirmed my belief in the power of interactive education. By utilizing my creativity to plan this project I was able to connect with my participants and share my passion for sustainability. In the future I will look to incorporate hands on activities that give students the opportunity to connect to the topic. I will be mindful of diverse learning styles and be adaptive to the needs of the individuals and groups that I work with.

References

- AASHE. (2016, November 18). Retrieved from
<https://hub.aashe.org/browse/presentation/16293/offset-the-card-game>
- American College & University Presidents' Climate Commitment. (2009). Implementation Guide. Retrieved from <http://sustainability.ucr.edu/docs/acupcc-ig.pdf>
- Barlett P. F. (2002). The Emory University campus walking tour: awakening a sense of place. *International Journal of Sustainability in Higher Education*, 3(2), 105-112
- Bronfenbrenner U. (1996). *The Ecology of Human Development*. Cambridge, Massachutes
 Retrieved from
<https://0ebookcentral.proquest.com.sally.sandiego.edu/lib/sandiego/detail.action?docID=3300702>
- Care for Our Common Home. (n.d.). Retrieved from
<https://www.sandiego.edu/envisioning-2024/pathways/care-for-our-common-home.php>
- Catan: Oil Springs. (n.d.). Retrieved from <http://www.oilsprings.catan.com/>
- Cooperrider, D., Whitney, D., & Stavros, J. (2003). *Appreciative inquiry handbook: the first in a series of AI workbooks for leaders of change*. Bedford Heights, OH: Lakeshore Communications.
- Duke. (2017, February 10). Retrieved from http://sustainability.duke.edu/carbon_offsets/
- Electronics Recycling Center About Us About Us. (n.d.). Retrieved from
<http://www.sandiegoewaste.org/about-us/>
- Environmental Justice. (2017, April 10). Retrieved from
<https://www.epa.gov/environmentaljustice>
- Fall 2016 University of San Diego Climate Action Plan. (n.d.). Retrieved from

https://issuu.com/universityofsandiego/docs/nov21_usd_climate_action_plan

- Jahiel, A. R., & Harper, R. G. (2004). The green task force: Facing the challenges to environmental stewardship at a small liberal arts college. In Barlett, P. F., & Chase, G. W. (2004). *Sustainability on campus: stories and strategies for change*. Cambridge, MA: Massachusetts Institute of Technology.
- McConville J. R., Rauch S., Helgegren I., & Kain J. H. (2017). Using role-playing games to broaden engineering education. *International Journal of Sustainability in Higher Education*, 18(4), 1-19
- Mercer T. G., Kythreotis, A. P., Robinson, Z. P., Stolte, T., George S. M., & Haywood S. K. (2017). The use of educational game design and play in higher education to influence sustainable behaviour. *International Journal of Sustainability in Higher Education*, 18(3), 359-384
- Pope Francis. 2015. *Laudato si': On care for our common home*. Vatican City: Vatican Press
- Purpose & Goals. (2012). Retrieved from <http://sites.sandiego.edu/sustainability/purpose-goals/>
- Thomashow, M. (2014). Interpretation. In *The Nine Elements of a Sustainable Campus*, Cambridge, MA: MIT Press.
- Who We Are (2012). Retrieved from <http://sites.sandiego.edu/sustainability/who-we-are/>
- Wynveen, C. J., Kyle, G. T., & Tarrant, M. A. (2012). *Study abroad experiences and global citizenship*. *Journal of Studies in International Education*, 16(4), 334-352. Retrieved from <http://journals.sagepub.com/doi/pdf/10.1177/1028315311426782>

Appendix A: Green Graduate Inventory

Name:

Age:

Gender:

Year in Program:

1. How do you define Sustainability?
2. Sustainability is present in my daily life
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
3. Describe how Sustainability present in your daily life.
4. Sustainability is present in my professional life
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
5. Describe how is Sustainability present in your professional life.
6. Have you had any conversations with students about Sustainability?
7. I feel comfortable having conversations with students about Sustainability?
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
8. Have you had any conversations with professional staff members about Sustainability?
9. I feel comfortable having conversations with professional staff members about Sustainability
 1. Strongly Disagree
 2. Dis
 3. Neutral
 4. Agree
 5. Strongly Agree

10. Sustainability is present in my academic life
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
11. Describe how is Sustainability present in your academic life.
12. Have you had any conversations with faculty members about Sustainability?
13. I would feel comfortable having conversations with faculty members about Sustainability?
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
14. The University of San Diego is committed to Sustainability?
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
15. In what ways, if any, does the University of San Diego demonstrate its commitment to Sustainability?
16. Where on campus, if any, does the University of San Diego demonstrate its commitment to Sustainability?
17. What Sustainability topics are you interested in learning more about?
Energy Conservation, Transportation, Zero-Waste, Water Conservation, Food, Other:
18. What are you looking to gain from this experience?
19. Please list five dates and times, between Monday 9/11 and Friday 10/13, you are available to attend a campus tour of the University of San Diego

Appendix B: Sustainability Campus Tour Itinerary

Student Life Pavilion

Topics: Biohitech Digester, Sustainabottle, Trays, Fair Trade Coffee

Question: What is Gray Water?

Question: What is Fair Trade?

Source: <https://www.sandiego.edu/dining/resources/sustainability.php>

Mission Parking Structure

Topics: Parking on Campus, iCommute, Trolley

Question: Where are the Electric Vehicle Charging Stations on campus?

Question: What are the environmental impacts of using single occupancy vehicles?

Source: <http://sites.sandiego.edu/sustainability/transportation/>

Bike Racks in Mission Valley

Topic: Biking on Campus

Question: How many bike spaces are there on campus? (440)

Question: What are some of the positive effects of biking?

Source: <https://www.sandiego.edu/news/detail.php?focus=56879>

Mission Crossroads Community Garden

Topics: Local Food, Water Conservation (Bushman Tank)

Question: Who can work on the community garden? (Anyone)

Question: What are some of the benefits of eating locally?

Source: <http://sites.sandiego.edu/sustainability/community-garden/>

Outdoor Adventures Office

Topics: Leave No Trace, Environmental Justice

Question: What is Leave No Trace?

Question: What is Environmental Justice?

Source: <https://www.sandiego.edu/outdoor-adventures/about/sustainability.php>

Source: <https://lnt.org/learn/seven-principles-overview>

Source: <https://www.epa.gov/environmentaljustice>

Kumeyaay Garden

Topic: Native Plants

Question: What are the benefits of cultivating native plants?

Source:

<https://www.facebook.com/usdaux/photos/a.483053785140276.1073741827.478492188929769/1197010207077960/?type=3&theater>

Maher Garden

Topic: USD Traditions

Question: Will you step on the University of San Diego's seal?

Study Abroad Office

Topic: Carbon Emissions from Studying Abroad

Question: What percentage of undergraduate students study abroad? (60.8%)

Question: What can you do to mitigate your impact on the environment when you study abroad?

Source: <https://www.sandiego.edu/international/study-abroad/>

Immaculata

Topics: Ladato Si, Care for our Common Home, Envisioning 2024

Question: What does care for our common home mean to you?

Source: <https://www.sandiego.edu/envisioning-2024/pathways/care-for-our-common-home.php>

Electronic Waste Center (Not physically visiting but we will have a conversation about it)

Topic: Electronic Waste, Community Collaboration

Question: Where does E-Waste go?

Question: Who can use the Electronic Waste Center (Everyone)

Joan B. Kroc Institute for Peace and Justice

Topics: Energy Conservation

Question: How many Solar Panels do we have on campus? (5,000)

Question: What percentage of our energy comes from solar panels? (15%)

Source: http://live.deckmonitoring.com/?id=University_of_San_diego

Mother Rosalie Hill Hall School of Leadership and Education Sciences

Topics: SOLES Sustainability Committee, Compost

Question: What can be composted?

Question: What can compost be used for?

Office of Sustainability

Topics: End of Tour Survey, Sustainability Game Event sign up

Appendix D: Sustainability Game Event Agenda

Set Up:

- Set up pizza and plates
- Set up games

Introductions:

Name, Hometown, Favorite thing about the University of San Diego

Meld-a-Mind:

Icebreaker where the goal is to have two people say the same word at the same time. Make the connection between the apparent overwhelming nature of the task to the broad topic of sustainability. Talk about the power of collaboration in addressing difficult and complex issues

Offset the Card Game:

- Explain the rules of game
- Observe
- Facilitate post-game conversation
 1. How did the game go?
 2. What aspects of the game did you enjoy?
 3. What, if anything, did you learn from the game?

Settlers of Catan Oil Springs:

- Explain the rules of the game
- Observe
- Distribute Cards
- Facilitate post-game conversation
 1. How did the game go?
 2. What aspects of the game did you enjoy?
 3. What, if anything, did you learn from the game?

Clean Up

- Discuss Zero-Waste Events

Appendix E: Green Graduate Inventory Review

Name:

Age:

Gender:

Year in Program:

1. How do you define Sustainability?
2. Sustainability is present in my daily life
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
3. Describe how Sustainability present in your daily life.
4. Sustainability is present in my professional life
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
5. Describe how Sustainability present in your professional life.
6. Have you had any conversations with students about Sustainability?
7. I feel comfortable having conversations with students about Sustainability?
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
8. Have you had any conversations with professional staff members about Sustainability?
9. I feel comfortable having conversations with professional staff members about Sustainability?
 1. Strongly Disagree
 2. Disagree
 3. Neutral
 4. Agree
 5. Strongly Agree
10. Sustainability is present in my academic life

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

11. How is Sustainability present in your academic life?

12. Have you had any conversations with faculty members about Sustainability?

13. I would feel comfortable having conversations with faculty members about Sustainability?

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

14. The University of San Diego is committed to Sustainability?

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

15. In what ways, if any, does the University of San Diego demonstrate its commitment to Sustainability?

16. Where on campus, if any, does the University of San Diego demonstrate its commitment to Sustainability?

17. What Sustainability topics are you interested in learning more about? (Circle)
Energy Conservation, Transportation, Zero-Waste, Water Conservation, Food, Other:

18. What are some of your positive takeaways from this experience?

Appendix F: Email to Recruit Participants

Subject: Sustainability Action Research Project Participation Opportunity

Hello (Student Name),

My name is David Horber and I am a graduate student in the School of Leadership and Education Sciences studying Higher Education here at the University of San Diego. Additionally, I serve as the graduate assistant for education and outreach in the Office of Sustainability. I am reaching out with an opportunity to participate in my action research project. For the project you will complete a sustainability inventory, take a campus tour of USD highlighting some of the campus' sustainability projects, and play sustainability themed games. The total time commitment will be approximately 4 hours in total.

If you are interested in participating please contact me at dhorber@sandiego.edu

Thank you so much for your consideration and please feel free to contact me if you have any questions!

David Horber
MA Higher Education Leadership Student
University of San Diego
Graduate Assistant | Office of Sustainability
720-394-8519 | <http://www.sandiego.edu/sustainability>

Appendix H: Consent Form Email

Subject: Consent Form Completion

Hello (Student Name),

Thank you for your interest in this project!

To continue in this process it is necessary for you to complete a consent form that outlines the details of the project. If you could send me your availability to sign this consent form I would be happy to deliver you the document.

Thank you so much for your participation in this project and please feel free to contact me if you have any questions!

David Horber
MA Higher Education Leadership Student
University of San Diego
Graduate Assistant | Office of Sustainability
720-394-8519 | <http://www.sandiego.edu/sustainability>

Appendix I: Green Graduate Inventory Link Email

Subject: Green Graduate Inventory Link

Hello (Student Name),

Thank you for completing your consent form and your continued interest in this project!
Below is the link where you will be able to access the Green Graduate Inventory.

https://docs.google.com/a/sandiego.edu/forms/d/17BfgJrygCAUDNZolEQQQ9MdfY4jH6_e9sUM_1fi-eEA/edit

Please complete the Green Graduate Inventory at your earliest convenience.

Thank you so much for your participation in this project and please feel free to contact me if you have any questions!

David Horber
MA Higher Education Leadership Student
University of San Diego
Graduate Assistant | Office of Sustainability
720-394-8519 | <http://www.sandiego.edu/sustainability>

Appendix J: Sustainability Campus Tour Confirmation Email

Subject: Sustainability Campus Tour Confirmation

Hello (Student Name),

Thank you so much for completing the Green Graduate Inventory! The purpose of this email is to confirm that you have been scheduled to attend a campus sustainability tour at **time** on **date**. The tour will start near the picnic tables outside of the Student Life Pavilion and will end at the Office of Sustainability. The total time commitment for the tour will be approximately 1 hour.

Thank you so much for your participation in this project!

David Horber
MA Higher Education Leadership Student
University of San Diego
Graduate Assistant | Office of Sustainability
720-394-8519 | <http://www.sandiego.edu/sustainability>

Appendix K: Sustainability Game Event Confirmation Email

Subject: Sustainability Game Event Confirmation

Hello (Student Name),

Thank you so much for completing the sustainability campus tour! The purpose of this email is to confirm that you have been scheduled to attend a sustainability game event at **time** on **date**. The sustainability game event will take place in **location**. The total time commitment for the game event will be approximately 2 hour.

Thank you so much for your participation in this project!

David Horber
MA Higher Education Leadership Student
University of San Diego
Graduate Assistant | Office of Sustainability
720-394-8519 | <http://www.sandiego.edu/sustainability>

Appendix L: Consent Form

University of San Diego Institutional Review Board Research Participant Consent Form

For the research study entitled:

Greening the Graduate Experience: An Exploration in Sustainability Education for Higher Education Leadership Students at the University of San Diego

I. Purpose of the research study

David Horber is a graduate student in the School of Leadership and Educational Studies at the University of San Diego. You are invited to participate in the research he is conducting. The purpose of this research is to understand the impact of interactive educational interventions on sustainability engagement in graduate students studying Higher Education Leadership at the University of San Diego.

II. What you will be asked to do

If you decide to be in this study, you will be asked to:

- 1) Complete the Green Graduate Inventory
- 2) Participate in a Sustainability Campus Tour of USD
- 3) Participate in a Sustainability Game Event
- 4) Complete the Green Graduate Inventory Review

III. Foreseeable risks or discomforts

During the Sustainability Campus Tour, we will be walking around campus, which may result in dehydration or injury.

Besides the risks associated with the campus tour, this study involves no more risk than the risks you encounter in daily life. Sometimes when people are asked to think about their feelings, they feel sad or anxious. If you would like to talk to someone about your feelings at any time, you can call toll-free, 24 hours a day: San Diego Mental Health Hotline at 1-800-479-3339 or the USD Counseling Center at 619-260-4655.

IV. Benefits

If you decide to be in this study, you will receive

- 1) Choice of fruit during Sustainability Campus Tour
- 2) Succulent at the completion of Sustainability Campus Tour
- 3) Pizza at the Sustainability Game Event
- 4) The indirect benefit of more sustainability knowledge

To receive your choice of fruit, you must attend a Sustainability Campus Tour.

To receive your succulent, you must attend a Sustainability Campus Tour.

To receive pizza, you must attend a Sustainability Game Event.

V. Confidentiality

Any information provided and/or identifying records will remain confidential and kept in a locked file and/or password-protected computer file in the researcher’s office for a minimum of five years. All data collected from you will be coded with a number or pseudonym (fake name). Your real name will not be used. The results of this research project may be made public and information quoted in professional journals and meetings, but information from this study will only be reported as a group, and not individually. As a participant you will be working with the Office of Sustainability Graduate Assistant for Education and Outreach (researcher).

VI. Compensation

You will receive no compensation for your participation in the study.

VII. Voluntary Nature of this Research

Participation in this study is entirely voluntary. You do not have to do this, and you can refuse to answer any question or quit at any time. Deciding not to participate or not answering any of the questions will have no effect on any benefits you’re entitled to, like your health care, or your employment or grades. **You can withdraw from this study at any time without penalty.**

VIII. Contact Information

If you have any questions about this research, you may contact either:

1) David Horber

Email: dhorber@sandiego.edu

Phone: (720) 394-8519

2) Annie Ngo

Email: maianhngo@sandiego.edu

Phone: (858) 232-6217

I have read and understand this form, and consent to the research it describes to me. I have received a copy of this consent form for my records.

Signature of Participant Date

Name of Participant (**Printed**)

Signature of Investigator