

**Environmental Sustainability in Higher Education:
Stakeholder Perceptions and Reported Behavior at Clark University**

Stephanie Parent

May 2007

A THESIS

**Submitted to the faculty of Clark University, Worcester,
Massachusetts, in partial fulfillment of the requirements for
the degree of Master of Arts in the department of International
Development, Community and Environment**

And accepted on the recommendation of

Rob Goble, Chief Instructor

ABSTRACT

Environmental Sustainability in Higher Education: Stakeholder Perceptions at Clark University

Stephanie Parent

This research examines perceptions of a culture of environmental sustainability in higher education using a case study of Clark University. It focuses on the areas of dialogue, sense of community and engagement, and reflection and how these elements might be needed to create a culture of environmental sustainability. This study includes interviews with members of the Clark University Environmental Sustainability (CUES) Task Force and a survey of students, faculty, staff and administrators to assess interests, values, and reported behavior. These findings provide insight as to how stakeholders perceive progress toward environmental sustainability in the Clark community.

Members of the Clark University community perceive that the institution is doing an average job of reducing our environmental impact and in assisting each other in becoming more environmentally sustainable. Recommendations include increasing opportunities for communication, engagement and reflection regarding sustainability for all community members.

Rob Goble, Ph.D.
Chief Instructor

Jennie Stephens, Ph.D.
Assistant Professor

ACADEMIC HISTORY

Name: Stephanie Nathalie Parent Date: May 2007

Place of Birth: Montréal, Québec Date: September 5, 1974

Baccalaureate Degree: Environmental Policy Analysis and Planning

Source: University of California, Davis Date: June 1997

Other degrees, with dates and sources:

Associate of Arts Degree: General Science with Honors

Source: Santa Monica College Date: June 1994

Occupation and Academic Connection since date of baccalaureate degree:

Environmental Professional, EIP Associates	2005
DSL Specialist, Verizon	2000-2003
Laboratory Technician, Franciscan Estates	1999
Naturalist/Facilitator, SCICON, WOLF	1997-1998

DEDICATION

This is dedicated to my family
as well as to the environment that we are all a part of.

ACKNOWLEDGEMENTS

Because I believe that who I am is a reflection of everything and everyone that touches my life, I give thanks to everything that has happened in my life and everyone that has contributed to it, whether through my family, friendships, education or employment.

In particular, I would like to thank my mom Nicole, my dad Bertrand, my sister Barbara, and my extended family; Telisa Chai, Erin Donnell, Halina Duraj, Leslie Porter, and Kaya Taylor for helping me get to graduate school and/or supporting me throughout the process; Rob Goble for his energetic, enthusiastic support; Jennie Stephens for her responsiveness and feedback, Dave Bell for his straightforward attitude, Jodi Lasseter for her immense help on a weekly basis with planning, time management, editing, and therapeutic encouragement and support, Halina Brown for her insightful thoughts, Rachael Shea for bringing community fire circles to Clark University, Cheryl Elwell for her help getting the survey online, and my classmates who helped design the pilot survey; Dilma Lucena, Paula Hall, Connie Whitehead-Hanks, Laura Kaub, Maureen Shenberger, Kate Lowe, Preeti Verma, Donna Wysokenski, Evan Wilson, Tara O'Connor and Hamil Pearsall, Rebekah Christensen, Mark Leary, Shirley Siegel, Gail Jennings, those who took my survey, CUES Task Force members, and my new found international friends and colleagues who have taught me about culture and sustainability. But I even have to thank those less close to me, such as strangers who have helped me and done kind things for me, those that I may have had conflicts with in the past, because they have taught me important lessons about truth, who I am and want to be.

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1. Introduction

Within the last twelve months sustainability has come into the mainstream. It seems to be everywhere in the media – articles regarding energy efficiency, our dependence on fossil fuels, green buildings, documentaries on global climate change and electric cars, and special “green” issues of magazines (See for example N'East April 2007; Outside: The Green Issue, April 2007 and Vanity Fair April 2006). Many institutions of higher education are also getting on the bandwagon of sustainability. The Association for the Advancement of Sustainability in Higher Education (AASHE) reports that membership quintupled in 2006 (J. Dautremont-Smith, personal communication, March 16, 2007). A myriad of reasons exist for why institutions of higher education are working toward sustainability. Some of these reasons may include monetary savings in the face of currently high energy prices, increased reputation and the ability to attract new students and research funding, or the realization that they must reduce their impact on the planet and the important role they play in teaching people how to be sustainable or unsustainable citizens.

To show they are working toward sustainability, institutions of higher education are implementing energy efficiency measures, conducting audits of their operations and erecting green buildings, and engaging in many other sustainability initiatives (AASHE 2007). However, it could be argued that some are neglecting to get at the heart of their operations and the issue of sustainability because they are not directly examining the behavior of their community members – students, employees, even alumni and business

clients. Any sustainability initiatives, whether technological, institutional policy, or other methods, need some level of human action and interaction to be successful.

1.1 Environmental Sustainability

Sustainability is often described as the intersection of three domains – environmental, economic and social equity. These are further defined as the maintenance of biodiversity and the health of biological systems in a region, the production of goods and services to support livelihoods of a population, and social justice for people, respectively (Holmberg & Sandbrook 1992 as cited in Barlett & Chase 2004).

The Brundtland Report offers a common but vague definition: “sustainable development meets the needs of the present, without compromising the ability of future generations to meet their own needs” (Brundtland 1987). This definition has spurred debate regarding what sustainability means. There is no commonly accepted definition, speaking to the fact that sustainability is a complex, interdisciplinary process surrounded by contention because, for some, its ecological and equity aspects are co-opted by entities such as the World Bank. As Walter Filho points out, we need a broader interpretation of sustainability because the Brundtland report definition is not easily understood (Filho 2000). It brings up questions such as: What does long-term really mean? What does it have to do with my lifestyle? And, what do I have to do to support sustainability? (Filho 2000). Environmental sustainability is the focus of this paper but will be referred to as sustainability throughout.

1.2 Sustainability in Higher Education

The Sustainability in Higher Education (SHE) movement began in North America following the first Earth Day celebration in 1970, a largely student motivated event (Calder & Clugston 2003). Many campus greening efforts since then have stemmed from concerned and dedicated students pushing for institutional change (Wright 2003 as cited in Beringer 2006). But many of these student efforts are never fully successful because students, and sometimes staff and faculty, realize they can only do so much to create systemic change on campuses of higher education.

Those in leadership positions in higher education are more easily able to implement institutional policy than individuals such as students, faculty and staff. One step in the process of institutionalizing sustainability in higher education is for their presidents to commit to sustainability by signing a declaration such as the Talloires Declaration. This declaration, developed in 1990 through a meeting in Talloires, France, allows university leaders, through the University Leaders for a Sustainable Future organization, to commit their institutions to environmental education, leadership and research (Fisher 2003) through a ten-point voluntary action plan (ULSF 2001). Three hundred and twenty-eight institutions around the world and 130 institutions in the U.S. and Canada have signed the Talloires Declaration as of March 2006 (ULSF 2006). However, the U.S. alone has over 4,000 institutions of higher education (Thompson & Green 2005) so the number of signatories represents a small fraction of the total. On top of that, there is more to commitment than signing one of the many declarations – action for change is also needed.

Not all of the signatories are implementing policy and projects to increase campus sustainability, but signing a declaration can be one step toward commitment that can spur communication, sense of community/engagement and reflection regarding sustainability.

Besides written sustainability commitments, initiatives need to be pursued on campuses. These can range from simple measures such as encouraging the use of reusable mugs to more complex initiatives such as increasing the efficiency of energy systems or buildings. Costs can vary greatly and the funding of more complex and costly initiatives can be bolstered by a revolving loan fund. Revolving loan funds earmark money for environmental projects on campus and are interest free. Some examples include Harvard University's Green Campus Loan Fund or Yale's revolving loan fund (U.S. EPA 2003). These revolving funds allow more freedom for campus stakeholders to think creatively, outside the box and increases opportunity for dialogue among them regarding sustainable projects.

Two other possibilities for increasing funding for campus environmental sustainability include earmarking endowment funding for sustainability initiatives and investing in socially responsible investments.

Sustainable Institutions of Higher Education are identified as institutions possessing characteristics that are moving them toward sustainability. These include aspects such as institutional policy, outreach and service, curriculum, research, management practices, development training and rewards that promote and enhance sustainability, and opportunities to gain an understanding of institutional sustainability

practices (Howard et al. 2000, Calder & Clugston 2002, Jucker 2002, & Wals & Jickling 2002 all as cited in Heck 2005: 56). It means not only sustaining the institution monetarily via student tuition, research grants and endowments, but also sustaining it environmentally and socially. The institution needs to exist in harmony with its environment, local community and the world community. World community is included here because universities educate and employ citizens from across the globe, people who either return to their countries with the experiences and knowledge gained from these institutions, or remain in the U.S., bringing their immediate families with them, yet still interacting with their extended families and communities back home.

1.3 Justification for the Research

This research is an attempt to fill the gap between institutions and their stakeholders. It connects awareness of the sustainability issue to our everyday lives, activities and habits and the larger remedies and tools to measure progress such as technological innovation and operational audits by examining human action and interaction.

My motivation for this research is to work on a project that has a direct connection to my everyday life. I also wanted a project that I could work on in an experiential manner because I prefer and gain more value from learning by doing. I chose to examine sustainability at the institutional level because if I look at sustainability issues at the world level, like many people, I find it overwhelming. Looking at the community level of institutions of higher education is more manageable and it can also contribute to the larger,

world-scale of the problem. Because I try to live my own life in a more sustainable manner, I am involved in sustainability initiatives on campus, from my Master's program in Environmental Science and Policy, my membership on the Clark University Environmental Sustainability (CUES) Task Force and in the Clark Sustainability Initiative (CSI) club, and my initiative and leadership in the International Development, Community and Environment (IDCE) Student Association Sustainability Committee. I like to be involved and engaged in my community because I believe that it makes it a better place to live, work and play in and it empowers me to create changes that will better the quality of the community and quality of life for community members, whether that is myself, others, wildlife, or natural resources.

This research examines how we might create a culture of sustainability via communication, a sense of community/engagement and reflection by individuals and individuals collectively in the Clark University community.

2. Background

The background section discusses sustainability at Clark University. The themes of communication, sense of community/engagement and reflection are also presented because they relate to and are important components to creating a culture of sustainability on campus.

2.1 Clark University

Clark University is a small, not-for-profit, private liberal arts college located in the urban area of Worcester, Massachusetts. It was founded in 1887 and is the second oldest graduate school in the United States. Its community consists of natural, human and financial resources.

2.2 History of Clark Sustainability Initiatives

Clark University's awareness of and involvement in environmental initiatives dates back to the 1971-1972 academic year when Science, Technology, and Society (STS) became an academic program on campus (DeCarolis et al 2000). In 1982, the university, with the involvement of students and a federal grant from the Department of Energy (DOE), installed a cogeneration plant to produce energy and use the waste heat for space heating. Two students began campus recycling in 1990 in conjunction with Physical Plant staff (Goble et al. 2005; P. Bottis, personal communication, December 11, 2006). In 1995

Clark University became a signatory of the Talloires Declaration (ULFS 1996), previously described in the section “Sustainability in Higher Education.”

The Sustainable University course was started in the fall of 2005. It is an undergraduate course that incorporates experiential learning by allowing students to focus on sustainability aspects of the university for the production of the annual Sustainable University Report. Professor Rob Goble taught the course the first year and the second year it was taught by Assistant Professor Jennie Stephens.

More recently in the spring of 2006, the Clark Sustainability Initiative (CSI), a mostly student-run organization, solicited 10% (approximately 300 members) of the student population to voluntarily contribute to cleaner energy by purchasing Renewable Energy Certificates (RECs). RECs support developing wind projects of the New England Wind Fund and contribute to an offset of emissions from non-renewable fossil fuels used on campus. Over \$10,300 was raised by and from students. The money raised was matched twice by the State of Massachusetts through the Clean Energy Choice program ®. The first match went to the City of Worcester for renewable energy projects and the second went to low-income residents in the State of Massachusetts (AASHE 2007).

In the spring of 2006, Clark University President John Bassett formally launched the Clark University Environmental Sustainability Task Force (CUES) (Bassett 2006), based on a student-motivated proposal that was supported by university leadership. The mission of the task force is to promote environmental sustainability at Clark University. The task force proposes to achieve this mission by 1) increasing awareness of

environmental and sustainability issues on campus, 2) researching environmental impacts of University activities along with options for improvement, 3) developing recommendations for the President and appropriate University committees on actions and policies to improve the environmental sustainability of the University, and 4) coordinating activities related to environmental sustainability of the University. The Task Force hopes to produce its first annual Sustainability Report Card by the end of the 2006-2007 academic year. This report card will set a baseline for resource consumption on campus such as energy, waste and recycling, water, food, and paper use.

The leadership has also shown commitment in recent years through the construction of three environmentally friendly buildings – the Dolan Field House¹, the Lasry Center for Biosciences and Blackstone Hall. Some of these buildings are certified as Leadership in Energy and Environmental Design (LEED) buildings or certification application is sought. LEED certification is a rating scheme for environmentally friendly buildings based on a system of points earned for various rating levels (U.S. Green Building Council 2007). The Lasry Center may be certified as a LEED-certified silver or gold building² by the U.S. Green Building Council. Certification is sought for the new dormitory, Blackstone Hall, which is scheduled to open fall 2007.

Besides CSI, there also exists the International Development, Community and Environment (IDCE) Department's Student Association Sustainability Committee, which

¹ The Dolan Field House is not LEED certified possibly because there was lack of awareness of the program when it was built (Bottis 2007).

² It is very challenging to find information on Clark University's or the U.S. Green Building Council websites regarding the university's green buildings and their certification levels.

emerged in January of 2006 in response to a request by the Student Association for someone to work on departmental recycling issues. Its mission is to encourage sustainability among faculty, staff and students in IDCE. Specific initiatives include increasing awareness regarding resource conservation such as energy and waste. Signs reminding people to turn off lights and computer monitors are posted. Signs have also been posted instructing people how to clear paper jams and bringing to their attention the ink and paper that was wasted after a paper jam occurred where many had not cleared out their print jobs.

The IDCE Student Association Sustainability Committee has also increased the amount of reusable dishware available in the kitchen to encourage its use. It is also working on reconfiguring the waste system in the kitchen for ease-of-use and correct disposal of waste.

The Sustainability Committee has also held a brown bag session to increase awareness and allow participants to share successes and challenges to being sustainable. It has helped to augment the sustainability of departmental events such as the annual winter holiday party and a reception held before the commencement of a new course titled People and/or Profits. This course is a joint venture between IDCE and the Graduate School of Management (GSOM).

2.3 Clark University Resources

Clark University has resources that do or can help it to work toward sustainability. These include natural resources, human resources and financial resources.

2.3.1 Natural Resources

While Clark University is located in an urban setting, there are natural resources located on the campus such as water, native vegetation and wildlife. It is located in the Tatnuck Brook Watershed, which serves as one of the major headwaters of the Blackstone River (TBWA n.d.). This watershed feeds into Beaver Brook, which is located near Clark University's Dolan Field House, one of Clark's recreational facilities.

No vegetation or wildlife inventories exist for the entire Clark campus though two inventories exist for the Hadwen Arboretum described in the next paragraph (R. Bertin, personal communication, March 14, 2007; M. Linn, personal communication, March 16, 2007; D. Robertson, personal communication, March 13, 2007; D. Woodcock, personal communication, March 14, 2007). Therefore, I provide some examples here from my own knowledge. Trees native to the Worcester area include Sugar Maple and Beech trees (Illinois State Academy of Sciences 1999). At least three Beech trees exist on campus, though some may be American Beeches and others European Beeches (R. Goble, personal communication, March 13, 2007; D. Wysokenski, personal communication, September 5, 2006). Vegetation native to the area includes willows, asters, grasses and orchids (New England Wildflower Society n.d.) though I am not certain of what we have on campus. Native wildlife includes the monarch butterfly (Butterflies and Moths of North America n.d.), red-winged blackbirds and Downey woodpeckers.

Besides the natural resources that may be directly present on campus, Clark also owns the Hadwen Arboretum located approximately 1 mile northwest of campus near May

and Lovell Streets (MapQuest 2007). It consists of 40 acres, but is not solely comprised of native trees and vegetation since many non-native species were planted in the 1800s (City of Worcester 2000). Obadiah Hadwen, a horticulturalist who bequeathed the arboretum to Clark University for the sole purpose of education, planted the vegetation (Koelsch 1987). Past efforts to sell the arboretum have failed, apparently because Hadwen wrote such an ironclad will, making its sale very challenging. As previously mentioned, two inventories of the Hadwen Arboretum do exist (Calloway et al 1971; Brigham and Prince n.d.). An herbarium of samples currently resides at the Delta Institute of Natural History in Bowdoin, Maine (R. Bertin, personal communication, March 14, 2007). Currently, Clark University uses the arboretum to compost yard and landscape waste (Clark University n.d.) and there is a small, community garden for people to grow produce that is managed by the Regional Environmental Council.

2.3.2 Human Resources

Clark University has a population of approximately 3,400 people who are considered full-time equivalent³ (FTE)⁴ and is comprised of 2,800 undergraduate and graduate students and approximately 600 employees (faculty, staff and administrators). It has a diverse population of domestic and international students, people from a broad range of socio-economic levels, and varying religious and political backgrounds. It prides itself

³ It was determined for this study that only those members of the Clark community who are considered full-time equivalent would be used. There are approximately 400 people who are not full-time equivalent, bringing the total population closer to 3,800 people.

⁴ Full-Time Equivalent refers to any student that attends the university full-time (4 course units for undergraduate students and 3 course units for graduate students) or to any employee that works for the university full-time (at least 35 hours).

on student engagement by being among one of the 40 colleges that change lives (Pope 2000) and uses the motto “challenge convention, change our world.” Clark University is listed among these schools because of its “commitment to undergraduate research, diversity, civic values, social change, and unique program of liberal studies that fosters student engagement and supports life-long learning” (Clark University 2007a). Students, faculty and staff are offered the opportunity to get involved in the local community through the Community Engagement and Volunteering (CEV) Center.

The university is part of the community within Worcester known as South Main which consists of many Catholic, blue collar workers who suffered from the moving of factories and jobs to other locations in the late 1960s (Carriere and Saltmarsh 2006), but also from the health effects these factories left behind (Clark University 2007b). South Main is also a very diverse community, located on land once populated by the Nipmuc Native American tribes (TBWA n.d.). Later, it served as a community for Irish immigrants and French Canadian Catholics (S. Hanson, personal communication, October 11, 2005; E. Bernier, personal communication, August 22, 2006). Currently, it houses a diverse population of 23,773 people, comprised of 65.4% whites, 23.8% Hispanic or Latino (of any race), 9.2% Blacks or African Americans, 7.4% Asians and 0.2% Native Americans or Alaska Natives (U.S. Census Bureau 2000).

2.3.3 Financial Resources

Like many institutions of higher education, Clark uses an endowment for funding. It uses the return on investment to pay for operating the university and the rest of it is

reinvested for growth (Walker 2006). The endowment is currently worth approximately \$230 million, having grown from \$20 million in the 1980s. The money is used to pay faculty salaries, graduate teaching fellowships and undergraduate scholarships. The cost for these was approximately \$9 million in 2005. The endowment includes special funds such as the Kyei Atupem '82 International Endowed Internship Fund, the Attiat F. Ott Fund for Economics and the Stevenish Gift to Venture Fund (Clark University 2007c). These funds are earmarked for certain purposes. However, Clark does not have any funds earmarked for sustainability initiatives on campus.

2.4 Communication Regarding Sustainability

Communication is an important aspect to campus sustainability and encompasses many forms, such as verbal, written, visual (e.g., individuals and institutions setting examples of good behavior), and auditory.

One major reason for communication about sustainability is to formulate a shared vision of what sustainability means for an organization. Herremans and Allwright refer to this as commitment (Herremans and Allwright 2000). The communication is not only about the difficult issues of what sustainability means, but also about what is meant by sustainability research, teaching, learning and service (Moore 2005a). Periodic environmental forums can be offered to foster sustainability discussions (Fisher 2003: 150). One example of where this is being implemented is the Difficult Dialogues initiative launched on campuses throughout the nation in the fall of 2006, including Clark University. This initiative is funded by a major grant from the Ford Foundation. The

dialogues provide opportunities for people to speak about difficult issues on campus. In the future, they may enable discussions regarding sustainability on campus.

There is also a new campus partnership between a Clark University librarian, Rachael Shea, and CSI for hosting monthly community fire circles to communicate, share and listen to ideas regarding sustainability. Ms. Shea came up with the idea for this partnership. She belongs to a monthly community fire circle outside of Clark University. Ms. Shea follows the Huichol tradition of the Native Americans of the Sierra Madre, though community fire circles are non-denominational and are welcome to all beliefs since it is believed they all contain aspects of fire and spirituality. She asked her elder how Clark University could be more sustainable and he responded that nothing is ever truly sustainable without a component of spirituality. The first community fire circle at Clark University was held on March 21, 2007.

Communication is important to sustainability because better communication leads to broad awareness. Even if people disagree, at least they are talking about sustainability so that hopefully someday we will have broad agreement. The dialogue can be tailored to different audiences to more easily reach them and sensitize them to sustainability (Filho 2000). However, much communication and no action do not get us very far in making progress toward sustainability. People have been talking about sustainability since the 1970s and 1980s (e.g., Schumacher 1974; WCED 1987). Individuals must take action. Institutions must set an example in their behavior as well (Herremans and Allwright 2000: 5).

2.5 Sense of Community/Engagement Regarding Sustainability

Sense of community and engagement come from involvement in the local community, in this case, the university community. While engagement can be extended further to the local community, it is not the main focus of this paper and is left to future research. Within the campus environment, sense of community is created through learning by all members and through the use of experiential learning.

Everyone is a student of sustainability. While many campus sustainability efforts focus on curriculum for students, it is not only important that students learn about sustainability, but also that faculty, staff and administrators learn about it (Gough et al 2001; Heck 2005). By educating all members of an institution, sustainability efforts have a chance at achieving success.

Experiential learning is hands on, learning by doing. Therefore, the use of audit tools and report cards by institutions can be used to teach sustainability at universities (Beringer 2006) not only for students, but also for employees. It has been found that not only do students learn well through experiential education, but they also appreciate project-based learning (Beringer 2006: 447). Experiential learning is further enhanced by the idea that sustainability in higher education needs to be transformative (Moore 2005b) and, in 1999, it was suggested that a radical shift in education was needed to stop the ecological crisis (O'Sullivan as cited in Moore 2005b). Members of institutions need to reconsider the process and content of education. Three learning models to achieve this have been suggested: cooperative, collaborative and transformative learning (Moore 2005b). These

require learners to work together in an interdisciplinary manner to construct a shared knowledge through listening and understanding and through real world experiences. This real world experience, in turn, helps to create a culture where students and employees are engaged in sustainability.

Sustainability can only be achieved if the entire community is working toward it (Krasny & Lee 2002). These authors further state that specialists cannot be the only ones solving problems or giving information to people because everyone has to be empowered to make changes that will move us toward sustainability (Krasny & Lee 2002).

2.6 Reflection for Sustainability

Communication, reflecting upon discussions and actions is important in achieving sustainability. It is somewhat common in curriculum, at least in some disciplines (Egan & Orr 1992; Ballard 2005; Cranton 1996 as cited in Moore 2005b; and Wright 2005 as cited in Beringer 2006). For example, Beringer notes that reflection journals were used in class and students “welcomed the possibility of ‘making a difference’ and contributing to real, practical change on ‘their’ campus” (Beringer 2006: 447).

Yet while reflection is somewhat common in curriculum (e.g., the use of student journaling to write pre- and post-lecture), it is not common throughout the university for faculty, staff and administrators. One recommendation from the International Organisation

from Standardisation (ISO) 14001⁵ environmental audit at International Pacific College in Australia was that “it may be useful to provide an opportunity for staff to reflect on and consider ways in which environmental education can be incorporated into the holistic experience which is the college’s major strength” (Fisher 2003: 150). The lack of reflection throughout institutions of higher education may, in part, be due to the culture and lifestyle of industrialized nations – that of busy lives lacking time for such activities as reflection. However, reflection is a crucial and necessary activity to better understand what is working well and what needs to be improved upon to move toward sustainability.

⁵ ISO 14001 builds off of ISO 14001, a series of environmental standards that are applied internationally. ISO 14001 allows for the establishment of an Environmental Management System in steps rather than all at once.

3. Methodology

3.1 General Overview

In an exploratory examination of how we might create a culture of sustainability at Clark University, I am using three tools – a survey, interviews and participant observation – to triangulate and synthesize data, reflect on it and the whole process of this research project. It is exploratory because the issue of sustainability is not a defined problem with a single answer and because I am using this research to learn about the methods used and to see how well they work in answering the question of how to create a culture of sustainability on campus. First I will discuss triangulation, synthesis and reflection. More detail about the three tools will then be provided, as well as thoughts on their strengths and weaknesses and the challenges I foresaw in using them.

3.1.1 Triangulation

Triangulation is the process of analyzing various data sources for the presence of common themes, adding to the trustworthiness and credibility of the data (Creswell 2003). The use of triangulation allows me to better focus the picture of sustainability at Clark University. It allows us to see where there are commonalities and differences among the various stakeholders and stakeholder groups on campus.

A weakness of triangulation is that it is not necessarily an exact science in which you can pinpoint one right answer. However, it can help narrow the scope.

3.1.2 Synthesis

Synthesis is the process of putting various perspectives together to form a coherent picture (Ritchey 1991). Here it is used to allow for discussion of the various stakeholder perspectives through the themes previously described – communication, sense of community/engagement and reflection. Including a survey, interviews and participant observation allows for gaining a better understanding of the existing situation at Clark University so we can then think about how we might create a culture of sustainability within our community. This synthesis allows for combining the perspectives of members of the broader Clark community, a small group of people designated with the task of working on sustainability at Clark, and the perspective of one individual.

Synthesis and triangulation are intertwined and the two together allow for the verification of how coherent and consistent the theories and stakeholder perspectives are on campus. This verification is especially true when using participant observation because it allows for the checking of information. For example, whether what survey respondents report matches what takes place in actuality.

A potential weakness of synthesis is making connections or causal inferences where none exist. A second weakness is trying to synthesize so much information that the process gets bogged down.

3.1.3 Reflection

Reflection is the process of introspection with the aim of learning and improving, whether individually or through a project or program. It is commonly used as an

educational tool, in Adaptive Management for natural resources (Lee 1993) and in evaluation methods (Bakewell 2003). Reflection is used here for learning and improvement on three fronts. One is in the hope to better sustainability at Clark University on a community or collective basis, another is for my own personal betterment, and a third is to set an example of using the tools discussed – walking the talk.

Weaknesses of reflection include potential bias of those participating in the reflection process and being so reflective that progress is impeded. It is possible that those participating in reflection wish to report that everything is going well and to pose their project, program or learning process in a good light.

3.2 Methodology in Detail

3.2.1 Survey

Using the Ultimate Survey software, an online stratified random sample survey of the Clark community was conducted for approximately one week at the beginning of December 2006 (See Appendix A Survey Questions and Appendix B Survey Results). The justification for this survey was the desire to obtain a better understanding of the interest and value the Clark community places on sustainability, their reported behavior and their perceptions of how Clark is doing in relation to sustainability.

The design of the survey built upon a pilot survey regarding environmental sustainability constructed by a team of classmates – Alimasi Ainiwaer, Marcia Davitt, Ashley Fortune, Mukesh Gupta, Donna Wysokenski, and myself in Tim Downs' Project

and Professional Development course in the spring of 2006. This pilot survey was distributed to the IDCE community to gain a better understanding of people's interest and willingness to be sustainable as well as their reported behavior. From this survey, we learned that respondents are interested and willing to be environmentally friendly, but their reported behavior does not always match their level of interest and willingness. Feedback gained from the pilot survey helped to improve and clarify questions for the broader survey of the Clark community.

A trial of the survey was established to test the online survey function and to ensure questions were appropriate and clear. This trial group consisted of 6 individuals – 1 staff person, 2 students, 1 alumnus, and 1 professor. The participants represented a variety of males and females, undergraduate, graduate, staff, faculty, international, domestic and disabled participants.

The goal for the stratified random sample survey was to survey 10% of the full-time equivalent (FTE) sub-populations at Clark University. These sub-populations consisted of freshmen, sophomores, juniors, seniors, graduate students, faculty, staff and administrators and were disaggregated this way to determine where commonalities and variations among the various groups exist and to allow us to better determine how to address them. Another reason for disaggregating the sub-populations in this way, rather than as students and employees, was to diffuse the “us” versus “them” mentality that is sometimes present at institutions of higher education between students and employees. The

reason for diffusing this mentality is because I view sustainability as a community issue that affects all individuals and groups within it.

Approximately 300 people were emailed and invited to participate in the online survey. Cheryl Elwell, Director of Academic Technology Services for Clark's Information Technology Services, generated the distribution list by (See Table 1 for a breakdown).

Table 1. Survey Distribution Breakdown

59 freshmen	71 graduate students
55 sophomores	20 faculty
50 juniors	31 staff
48 seniors	9 administrators

Source: Adapted from IPEDS information supplied by Jeff Himmelberger, Clark University

The strength of using survey methodology is that it provides a broad overview of the sample population. A challenge related to survey methodology is that the survey sample may not be representative of the population. That is why I chose to conduct a stratified random sample. There is also the issue of self-selection bias in which those choosing to participate in the survey may be doing so because they are already interested in sustainability. Other reasons for bias may include those who wish to bolster or hinder Clark University's progress toward sustainability.

The potential for technological difficulties of conducting an online survey was of concern. To overcome this challenge, I conducted a trial run of the online survey with a small group, as previously described.

Whether or not a good response rate would be achieved was also a concern. I pondered whether or not to offer an incentive for people to take the survey in order to

potentially obtain a good response rate. My initial inclination was to see what the response rate for an online survey would be without offering an incentive. After consultation with a professor, it was determined that no incentive would be offered since I did not have funding for this.

Since I did not offer an incentive to take the survey, it is possible that an added level of honesty may have been present (i.e., people were not just filling out the survey for a chance to win a free Apple iPod and not caring about the answers they provided). Other reasons for respondents' motivations for taking the survey may include an interest in survey research or a distraction from work or studies. A myriad of possibilities exists.

3.2.2 Interviews

Interviews of the CUES Task Force members were conducted within the first half of December 2006 (See Appendix C Interview Questions⁶). The purpose of the interviews was to gain a better understanding of the commonalities and/or differences among task force members regarding campus sustainability, how we can measure Clark University's progress toward it, and what we can learn from our actions.

In the fall of 2006, the CUES Task Force consisted of 12 members: 3 undergraduate students, 2 graduate students, 2 faculty, 3 staff and 2 senior administrators. The goal was to survey 11 of the 12 members. The reason for not interviewing the twelfth

⁶ Full transcripts of the interview question are not provided so as to protect the confidentiality of interviewees.

member is because I am that member. I also felt that by interviewing task force members I would make the process of exploring sustainability at Clark more participatory.

Interview methodology allows a researcher to obtain more detailed information than one is able to achieve using survey methodology. When conducting one-on-one interviews, one always faces the challenge of whether or not interviewees will feel comfortable with you and therefore will provide you with truthful answers or answers they think you want to hear. I attempted to overcome this by interviewing task force members at a location in which they felt comfortable. For most of the employees their location of choice was their office, with one employee choosing the hustle and bustle of Annie's Clark Brunch, a local diner just around the corner from Clark University. The students were interviewed at various locations of their choosing on campus. One interview was held in the IDCE Library, one was held on the front porch of IDCE with the church bells chiming in the background and a third was held in a computer lab in the Geography building.

Another way I tried to ensure interviewees were comfortable and would provide honest responses was to try to feel comfortable and present myself in a sincere and honest manner during the interviews. This was not difficult since I am a member of the task force and had gotten to know the other members during the course of the fall 2006 semester.

3.2.3 Participant Observation

Participant observation is a research method that allows you to immerse yourself in a culture, learn what you want about it and use any kind of data collection methods you wish (Bernard 2006). One can be a participant observer or a participating observer. The

former definition is used here because a participant observer can be an insider who observes and records some aspects of life around them (Bernard 2006). I chose to use participant observation for this research by integrally involving myself in sustainability at Clark University. This participation presents itself through my membership in CSI since my first semester on campus in the fall of 2005, leading the IDCE Student Association's Sustainability Committee since January 2006 and as a graduate representative for the CUES Task Force since September 2006. For this research, I draw on the experiences and knowledge gained while a member of the Clark University community.

Strengths of participant observation include granting the researcher access to information that an outsider would not be privy to and allowing the researcher to become an instrument for data collection and analysis through his or her own experience. The challenge is that you have to be able to remove yourself so that you can intellectualize what you have seen and heard, put it into perspective and write about it convincingly (Bernard 2006: 344). Another weakness is that participant observation is a craft; becoming skilled at it takes time and practice. Some might argue that participant observation decreases objectivity, but Bernard uses the example of how those who immigrate to developed nations are expected to assimilate to a particular culture. Some of these immigrants may become anthropologists and no one ever questions their objectivity. No human can ever be completely objective, nor would we want to be (Bernard 2006).

3.3 Tradeoffs and Challenges

This methodology of triangulation, synthesis and reflection through the use of a survey, interviews and participant observation is complex. This is because the issue of sustainability is complex and because the question I am addressing does not necessarily have one specific answer. The methods used on their own may not allow one to make strong causal statements or to generalize. Therefore, triangulation, synthesis and reflection are used. Surveys allow for generalizing among a population while interviews allow for more in-depth discussion and results. Participant observation may be seen as one's own personal opinion, but can be checked through surveys and interviews.

Alternatives to using these methods may have included a formal study of observation of people's behavior or a formal monitoring and evaluation of the campus sustainability program. These alternatives will be further discussed in the "Future Research and Reflection" section.

Other general challenges inherent in graduate research include lack of time and funding. I spent a great deal of time planning the survey and interview questions and working out logistics of the online survey. I could have obtained a larger number of survey responses if I had left the survey open for a longer period of time or sent reminder emails or invitations to a new distribution list. I did not interview all of the task force members. I struggled with time since my goal was to complete the survey and interviews prior to the winter holiday.

Any money spent on this project came out of my own pocket since I did not obtain funding to carry out this research. Therefore, I kept costs to a minimum by not offering an incentive for people to take the survey. I did bring Cheryl Elwell and interviewees baked goods as tokens of appreciation for their time.

4. Findings

This section of the research presents general findings for two of the three methodological tools – survey and interview findings. The discussion section includes the third methodological tool – participant observation – and the three tools are synthesized.

4.1 Survey Findings

General demographic information regarding the survey respondents is presented in the survey findings. Then I present highlights of the survey findings.

4.1.1 General Demographics of Survey Respondents

As previously mentioned, the Clark community has a population of approximately 3,400 people. For this research, I chose to focus on those who are considered to have a status of full-time equivalent (FTE). This population comprises 586 freshmen, 550 sophomores, 499 juniors, 479 seniors, 705 graduate students, 200 faculty, 312 staff and 87 administrators. Sixty-one people responded to the survey. The survey respondents include 12 freshmen, 10 sophomores, 3 juniors, 7 seniors, 10 graduate students, 4 faculty, 11 staff and 4 administrators. (See Table 2 for a comparison).

The number of graduate student, faculty, freshman, sophomore, senior and administrator respondents closely reflects the Clark population when comparing number of people within each sub-population. Junior respondents, on the other hand, are not representative of the Clark population since the proportion of respondents was much lower,

Table 2. Comparison of the Clark Population and Survey Respondents

	Clark Population (%)	Survey Respondents (%)
Freshmen	17.2	19.7
Sophomores	16.2	16.4
Juniors	14.6	4.9
Seniors	14.1	11.5
Graduate students	20.7	16.4
Faculty	5.9	6.6
Staff	9.2	18.0
Administrators	2.6	6.6
Total	100	100

Source: Parent, S. 2007

represented in the survey. Staff members comprise 9.2% of the Clark population, but the staff portion of the survey responses made up 18.0% of the survey population.

I merged these sub-populations into 2 groups of 42 (68.9%) students and 19 (31.1%) employees to increase the robustness of data from which to discuss findings. Comparing this to Clark University demographics – a total population of approximately 3,400 people broken down into 2,800 (82.4%) students and approximately 600 (17.6%) employees – we see that the survey respondents are not quite representative of the population. This is because there are fewer student respondents and too many employee respondents that do not match the distribution of the Clark population.

4.1.2 Survey Highlights

Survey highlights are presented as four categories. These include: 1) Sustainability Definition and CUES Task Force Awareness, 2) Sustainability Interest and Value, 3)

Reported Behavior and 4) Perceptions. Sustainability Definition and CUES Task Force Awareness look at respondents' familiarity with sustainability and the Task Force. Sustainability Interest and Value looks at respondents' interest in environmental sustainability and the value they place on the three aspects of sustainability – environment, economic and social equity. Reported Behavior examines respondents' activity involvement and the frequency of performing certain sustainability behaviors. Lastly, Perceptions explores how respondents rate Clark regarding sustainability and whether or not respondents perceive communication opportunities regarding sustainability.

4.1.2.1 Sustainability Definition and CUES Task Force Awareness

The survey presented respondents with this sustainability definition:

“Sustainability is sometimes defined as actions that foster environmental responsibility, economic vitality (growth) and social equity (fairness). The Brundtland Report states sustainable development is development that "meets the needs of the present, without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). This survey focuses on environmental sustainability.”

The majority of survey respondents, 62.3%, reported they were familiar with the definition of sustainability based on how it was provided in the survey. More employees and students were familiar than unfamiliar with the definition (Figure 1). In comparing the two groups, the pattern is similar, where approximately 68.4% of employees and 60.1% of students were familiar with the definition.

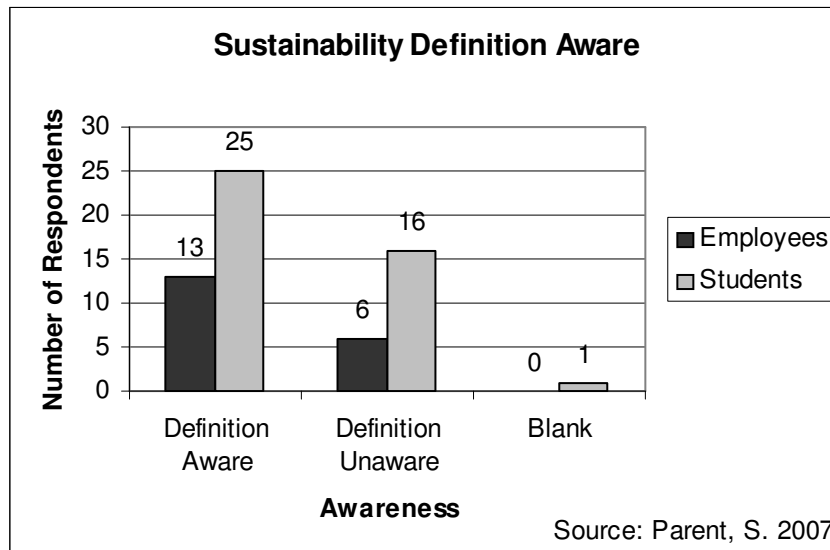


Figure 1. Have you heard of sustainability according to the definition provided in this survey?

Many survey respondents were not aware of the formation of the CUES Task Force in the spring of 2006. Thirty-seven and seven-tenths percent of respondents reported they were aware of the task force and 62.3% reported they were unaware of it. Upon further analysis, many students, 71.4%, were unaware of the formation of the task force (Figure 2). More students were unaware than employees. The employees are split approximately in half between those who were aware and unaware of the formation of the task force.

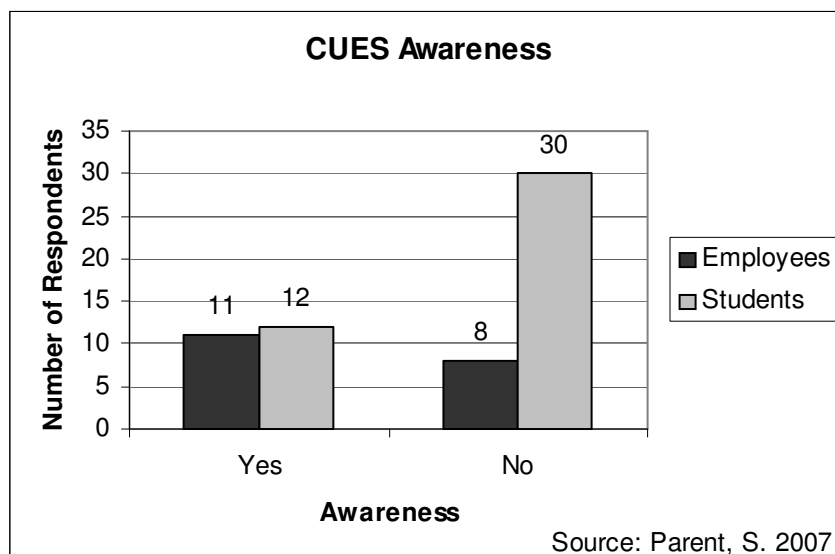


Figure 2. Are you aware that Clark University formed the Environmental Sustainability Task Force comprised of students, faculty, staff and administrators in Spring 2006?

4.1.2.2 Sustainability Interest and Value

The survey asked respondents to state their level of interest in environmental sustainability. Slightly more than 70% of survey respondents reported they were “very interested” or “interested” in sustainability. Most of the survey respondents, 41.0%, were “interested” in environmental sustainability, while 29.5% were “very interested,” 9.8% were “not interested” and 19.7% were “neutral” in regard to environmental sustainability.

The results for the employees were pretty evenly split among “very interested” (36.8%) and “interested” (42.1%) and those reporting “neutral” (21.0%) (Figure 3). None of the employees chose “not very interested” or “not at all interested.” Almost all of the employees reported they were interested on some level, and a few reported they were neutral.

More students were “interested” than “very interested” in environmental sustainability, though they were pretty evenly divided across the categories “very interested,” “neutral” and “not very interested.” Neither the employees nor students reported they were “not at all interested.”

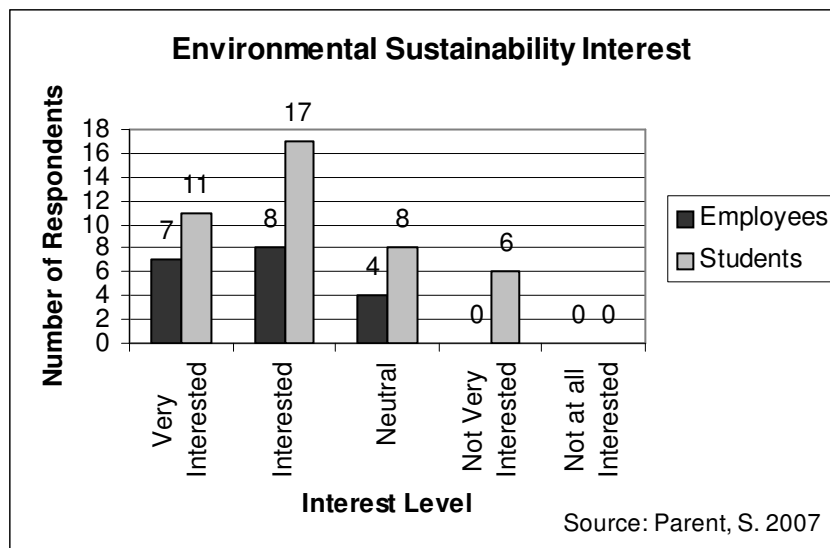


Figure 3. What is your level of interest in environmental sustainability?

The survey assessed the value respondents place on sustainability’s three aspects – environmental, economic and social equity. It allowed respondents to choose the same rating for each aspect, making it possible for respondents to value all three as very important. Indeed, most survey respondents reported that the environment (78.7%), economics (65.6%) and social equity (73.8) were very important to them. There was a pretty even split among employee respondents who valued the environment as “somewhat important” and those who stated they were “neutral” (Figure 4).

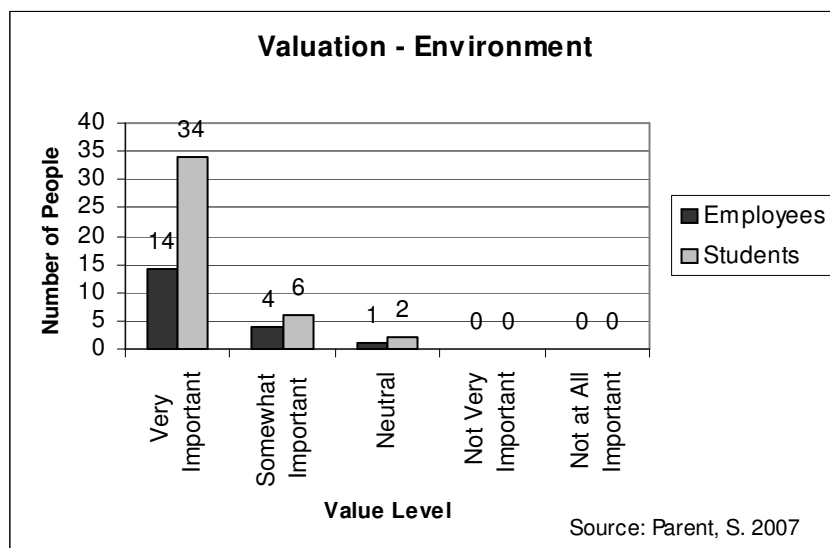


Figure 4. How do you value the following sustainability attributes?

However, many more employee respondents (73.7%) than student respondents valued the environment as “very important.” The same pattern holds true for the student respondents. None of the respondents chose “not very important” or “not at all important” in describing how they value the environmental aspect of sustainability.

In regard to economic valuation, most employee respondents (63.2%) stated that the economic aspect of sustainability was “very important” (Figure 5). Again, they were somewhat evenly split among “somewhat important” and “neutral.” Similarly, the majority of employee respondents, 23 or 66.7%, reported that the economic aspect was “very important.”

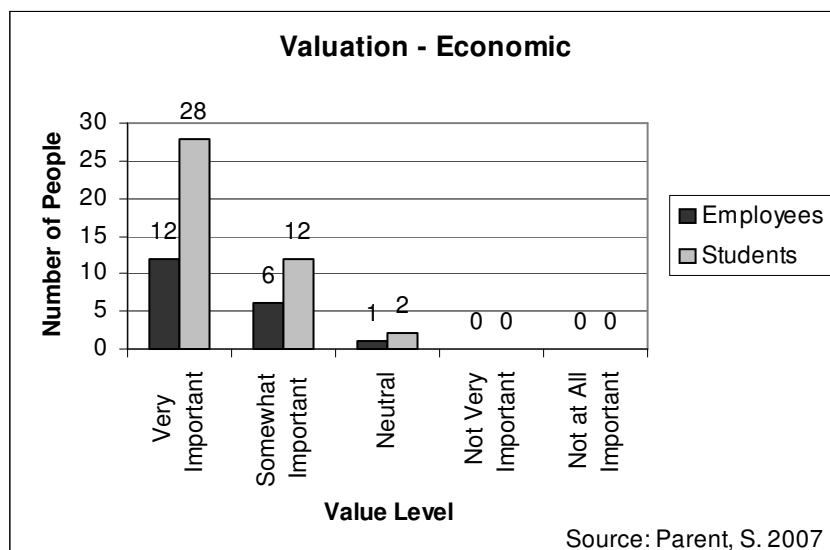


Figure 5. How do you value the following sustainability attributes?

Student respondents varied in how they valued the economic aspect of sustainability. The majority of student respondents (66.7%) reported that the economic aspect of sustainability was “very important,” while 28.6% reported it was “somewhat important” and 4.8% reported they were neutral. Again, none of the respondents chose “not very important” or “not at all important” in their value of the economic aspect of sustainability.

There was a pretty even split among employee respondents who reported they value the equity aspect of sustainability as “somewhat important” and those that reported they were “neutral.” More employee respondents reported they value equity as “very important” (Figure 6). There was a pretty even distribution among student respondents who valued equity as “somewhat important” or “neutral.” Most of the student respondents, 33 or 78.6%, reported that equity was “very important.”

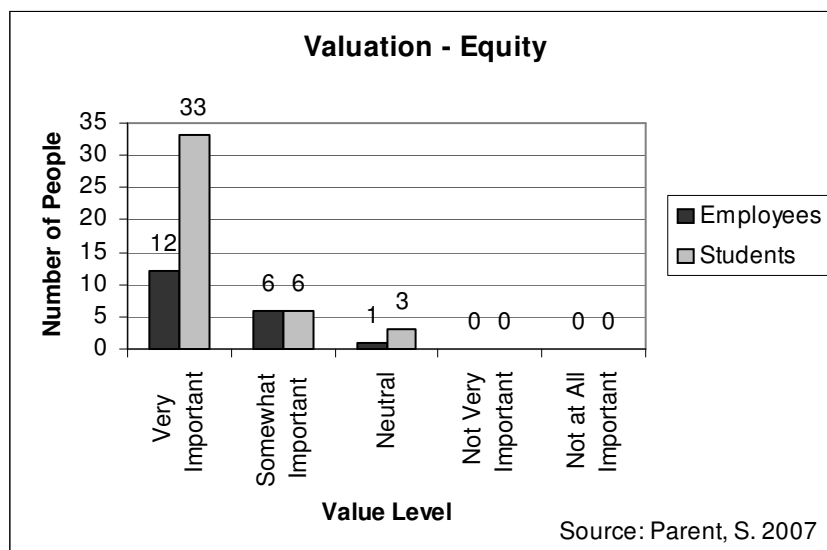


Figure 6. How do you value the following sustainability attributes?

The trend that equity was “very important” is similar among employee and student respondents, though much more drastic among students respondents (i.e., there is a much larger difference between 33 and 6 than there is between 12 and 6). Again, none of the respondents chose “not very important” or “not at all important” in their valuation of the equity aspect of sustainability.

The survey also asked respondents if there is another aspect of sustainability they felt was important to include. While only two respondents answered this question, one response worthy of mention is from a female employee: “Efficiency - balancing those three concerns [environmental, economic and social equity] while not imposing onerous measures for small net outcome.”

4.1.2.3 Reported Behavior

Survey respondents reported the frequency with which they perform certain behaviors. These ranged from behaviors related to their engagement in learning, activities, and behavior related to resource conservation.

4.1.2.3.1 Learning

Behavior related to learning included taking or teaching courses and educating others regarding sustainability.

There was a pretty even split among employee respondents reporting that they do not take or teach courses because they are staff and those who reported “other” (Figure 7). No employees reported they were unaware that these types of courses are offered. It appears that only three employees stated they were not interested in these types of courses.

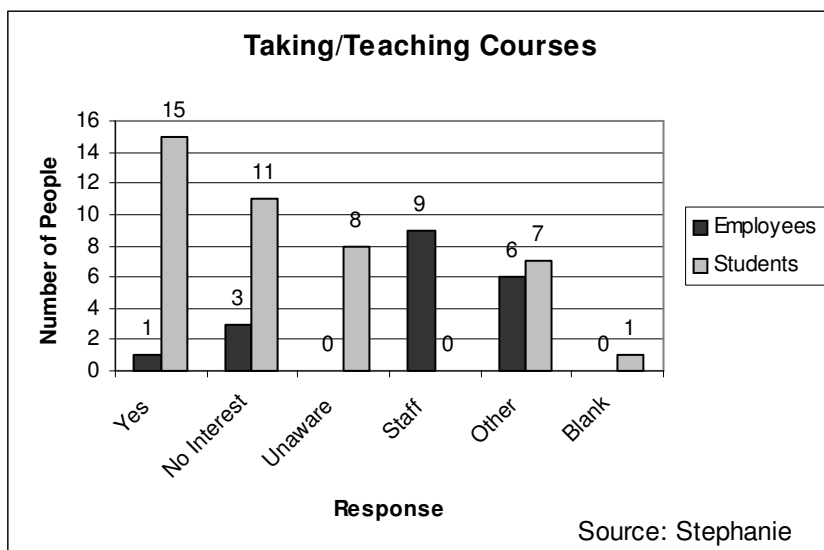


Figure 7. Have you, or are you currently, taking or teaching courses that include topics on practices and/or policies that support an environmentally sustainable lifestyle?

However, upon viewing the qualitative “other” responses, we see some responses that can be related to or considered similar to “not interested.” Some examples of the responses provided include:

- “Not relevant to my field.” – male professor
- “Topic is not relevant to the courses I teach” – male administrator
- “Not my field - but still very interested and allied with this kind of work” – male professor
- “Don't fit schedule” – male staff member

The student responses were pretty evenly spread between “yes” and “no interest.” There was also a pretty even split among “no interest,” “unaware,” and “other.” Twenty-six and two-tenths of a percent of student respondents were not interested in taking these types of courses and 19.0% were unaware. Some of the qualitative “other” responses for students included:

- “Currently I am working on my distertation [*sic*] in Ohio.”
- “Unrelated to my majors”
- “They wouldn't fit in with my double-major schedule”

The survey measured the frequency with which respondents report educating others about environmental sustainability. Survey respondents most frequently reported doing this sometimes (26.2%), rarely (21.3%) or never (23.0%). There was a pretty even split among employee respondents stating they “always,” “often,” “sometimes,” or “rarely” educate others (Figure 8). Looking at the results from a different perspective, the employee respondents were pretty evenly distributed among “always,” “often,” “never,” and “not applicable.”

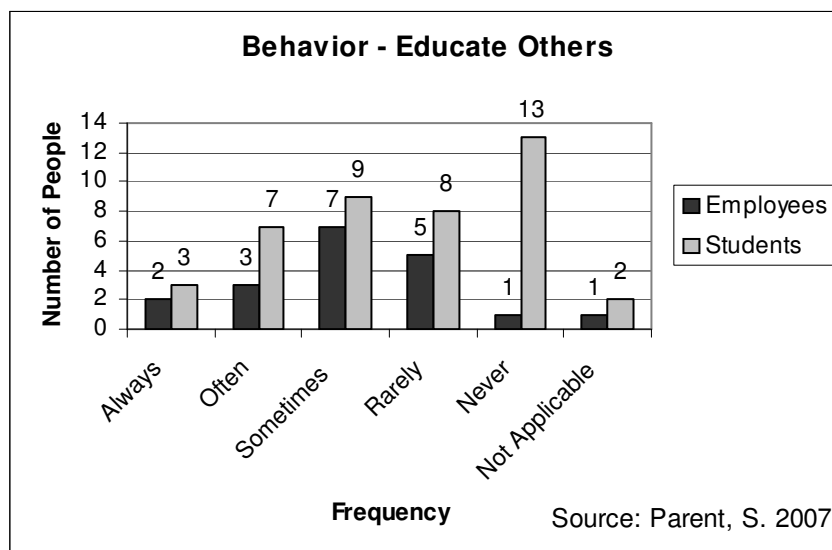


Figure 8. What is your typical behavior? I educate others about environmental sustainability or one or more of its components (i.e., reducing consumption)...

Student respondents were pretty evenly split among those reporting “often,” “sometimes,” and “rarely.” The responses were also fairly equally spread among “sometimes,” “rarely,” and “never.” There was a large variation between the employee and student respondents in their choice of “never,” where only one employee reported they “never” educate others and 13 student respondents who reported they “never” educate others. The high percentage of faculty respondents might account for this difference. However, only 4 of the 19 employee respondents were faculty. It may be due to the student interpretation of the question since I did not specify what types of education. When creating the question, I meant any type of learning, such as formal, non-formal and/or informal education.

I asked survey respondents if they participate in activities, such as organizations or volunteer or paid work, that deal with practices and/or policies that support an

environmentally sustainable lifestyle. Thirty-four and four tenths of a percent of respondents reported that they participate in sustainable activities and 36.1% reported “other.” It appears that many respondents, mostly students, chose this category, possibly because they were dissatisfied with the answer choices, and therefore better identified with “other.” There was a pretty even spread among employee respondents who reported “yes,” “other,” and those who chose not to respond to the question regarding their behavior in relation to activities they participate in (Figure 9). Looking at the results a different way, employee respondents were pretty equally divided among “no interest,” “other” and those that provided no response.

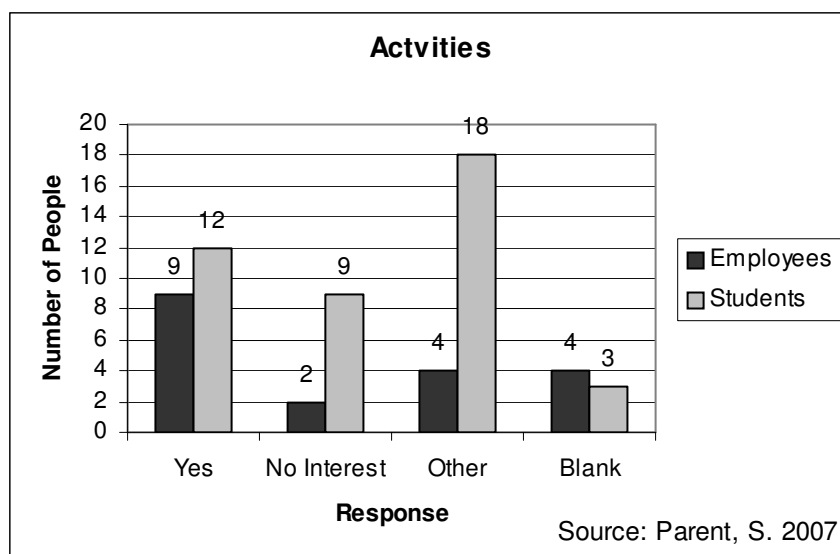


Figure 9. Are you involved in activities such as organizations or volunteer or paid work that deal with practices and/or policies that support an environmentally sustainable lifestyle?

The survey revealed no clear variation among student respondents in reporting “yes,” or “no interest” in sustainability activities. The largest frequency of student

responses (18 or 42.9%) fell in the “other” category. Some of the qualitative “other”

responses included:

- “No, because when i [*sic*] joined masspirg i [*sic*] found them to be overbearing” – male undergraduate student
- “No.” – male staff, male graduate student, male undergraduate student
- “Your “no” option is a bit loaded presumptuous. I am not involved, but why does that mean I’m disinterested?” – male undergraduate
- “A little bit” – male graduate student

I asked survey respondents if there were other ways they are involved in sustainability activities that they would like to share. Fifteen of the 61 respondents (24.6%) reported that they are involved in activities. Some summarized examples of how they are involved include:

- **Agriculture** - Maine Organic Farmers and Gardeners Association (MOFGA); Membership in Rabbits Dance Farm, a community supported agriculture (CSA) in Cumberland, RI; Northeast Organic Farmers Association
- **Clark University Clubs** – CSI, crew, MassPIRG, Outing Club
- **Events, services, personal initiatives** - Earth Day, community clean-up activities, hospice, outreach projects for classes, purchase green energy
- **Organizations** - Amnesty, Appalachian Mountain Club, Building Economic Strength Together (BEST) in Ohio, CityYear, Greater Worcester Land Trust, Marilyn Hyland Agency (Ohio), Mass Action Network, Planned Parenthood, Webster Recycling Commission (Mass.)
- **Religious affiliations** - green committee at church that updates green pages for the congregation, Unitarian Universalist

4.1.2.4 Resource Conservation Behavior

Lastly, some of the behaviors that survey respondents were asked to self-report on related to resource conservation include:

- I turn off the lights when I leave a room for more than 10 minutes to conserve energy
- I shut off the lights in community bathrooms when I am the last one to leave

- When I leave campus at the end of the day I manually shut off the computer MONITOR⁷ to save energy⁸
- I read books, journals and on-line materials, rather than printing them, to save paper
- I set the computer to print double-sided if it is not already set to this
- When purchasing goods, I take packaging into account (i.e., purchasing little or no packaging or purchasing plastics based on what my city accepts since some do not collect all plastics)
- When purchasing goods, I take into account the distance from which it traveled since transportation uses non-renewable fossil fuels and creates air pollution

There was little variation among survey respondents who reported “always” (41.0%) and “often” (42.6%) turning off the lights when leaving a room for more than 10 minutes. Upon further analysis of the disaggregated groups, we see that the largest number of employees 11 (57.9%) reported “often” performing this behavior (Figure 10).

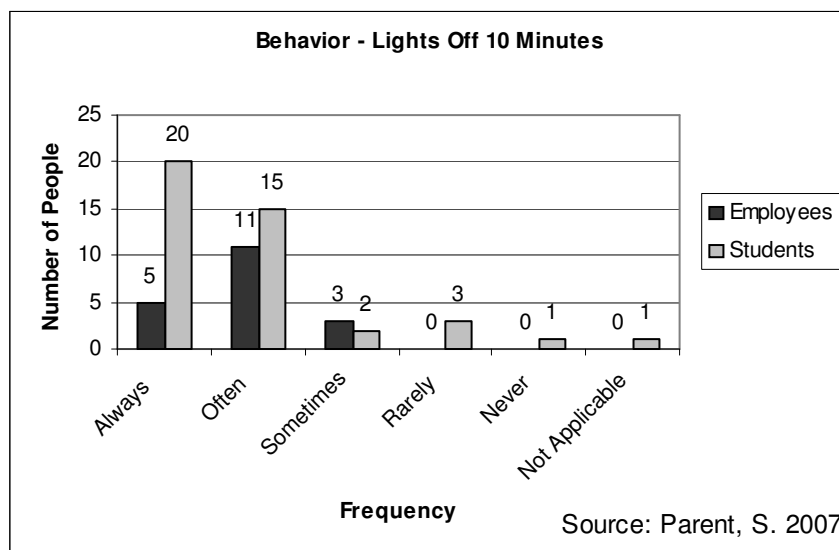


Figure 10. What is your typical behavior? I turn off the lights when I leave a room for more than 10 minutes to conserve energy...

⁷ MONITOR is capitalized here because it was capitalized in the survey to bring to survey respondents' attention that I was asking about the computer monitor rather than the entire computer.

⁸ Current Clark University Information Technology Services (ITS) policy states that computers are not to be turned off at the end of the day due to the need to update computers at night.

Employee respondents were pretty evenly divided among the responses for their reported behavior of “always” and “sometimes” turning off the lights when leaving a room for more than 10 minutes. None of the employees reported “rarely,” “never,” or “not applicable.”

The student responses were pretty evenly split among those reporting that they “always,” and “often,” turn off the lights when leaving a room for more than 10 minutes. The trend is that both groups report doing this behavior “often,” but more of the employee respondents report doing this “often” while more of the student respondents report doing this “always.”

Survey respondents most frequently reported “always” turning off the lights in community bathrooms when they are the last to leave. The spread among employee respondents was pretty equally divided among those who reported “always,” “often,” and “never” (Figure 11). There was also a pretty even spread among the categories “often,” “sometimes,” “rarely,” and “never.”

The student respondents pretty equally chose “always” (28.6%) and “sometimes” (26.2%) turning off lights in community bathrooms. The student respondents were also pretty evenly split between those reporting “often,” “rarely,” “never” and “not applicable.” The trend is generally similar among employee and student respondents, except that many more student respondents reported “sometimes” than employee respondents.

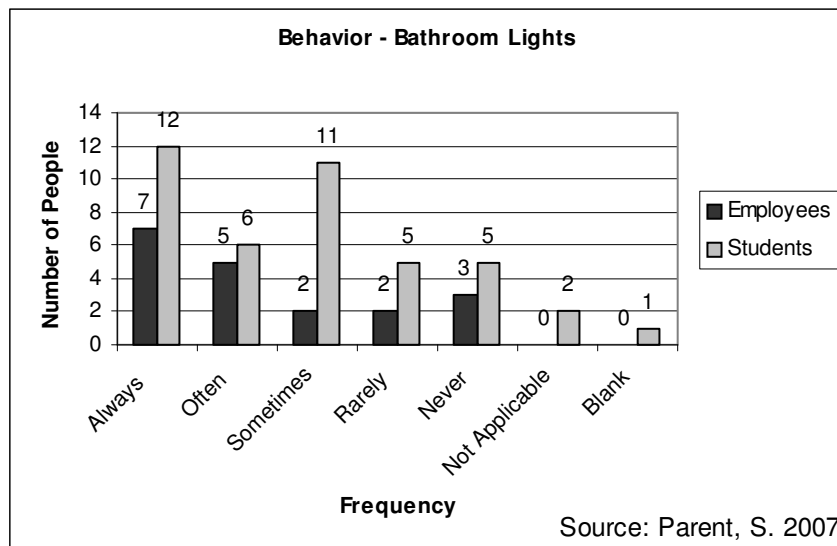


Figure 11. What is your typical behavior? I shut off the lights in community bathrooms when I am the last one to leave...

In regard to turning off the computer monitor when leaving campus at the end of the day, the two most frequent responses were “always” (17) and “often” (14). Employee respondents were pretty evenly split between “always” and “often” (Figure 12).

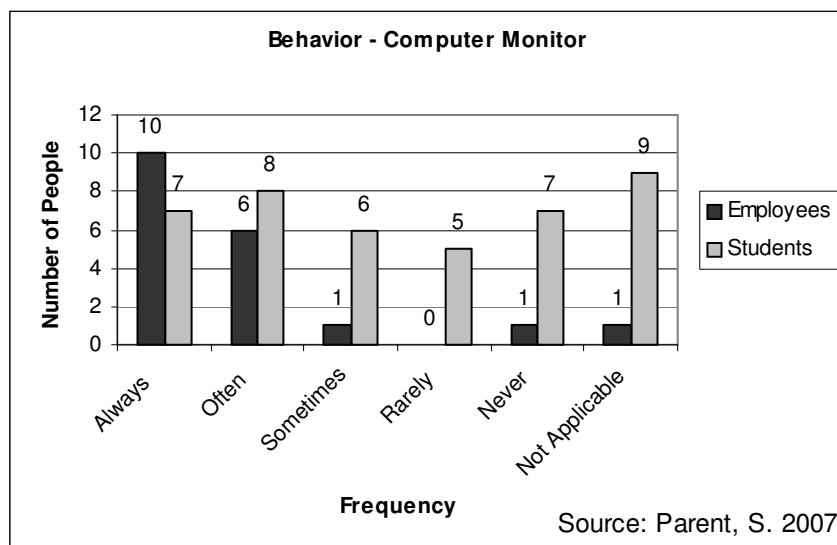


Figure 12. What is your typical behavior? When I leave campus at the end of the day I manually shut off the computer MONITOR to save energy...

Student respondents, on the other hand, were pretty evenly divided among all answer categories, ranging from “always” to “never” and “not applicable.” Therefore, the trend among employee and student respondents is dissimilar regarding their behavior for turning off the computer monitor when leaving campus at the end of the day. This difference may be due to the fact that employees are more likely to have a dedicated computer they are responsible for while many students use the computer labs with public computers. It may also be because many students, approximately 70% of undergraduates, live on campus and therefore do not “leave campus” at the end of the day.

The two most frequent responses regarding reading materials were “often” and “sometimes” and respondents were pretty evenly split between the two. This pattern is similar for both employee and student respondents (Figure 13).

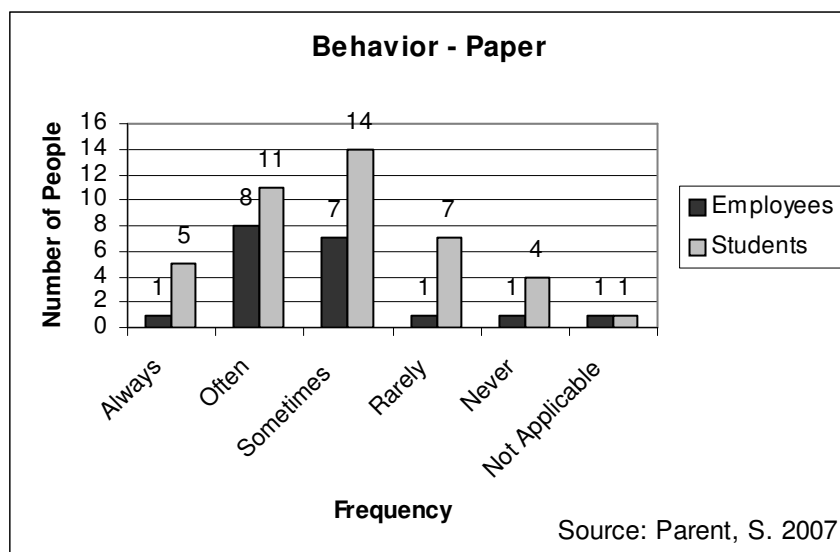


Figure 13. What is your typical behavior? I read books, journals and on-line materials, rather than printing them, to save paper...

The response to the question of whether individuals print double-sided (using both sides of the page) is mixed. For the survey respondents overall, they are pretty evenly divided among “always,” “often,” “sometimes,” “rarely,” and “never.” When comparing employee and student respondents, we see that employees are pretty evenly split among the answer choices “always,” “sometimes,” “rarely,” and “never” (Figure 14). The trend among employee and student respondents is pretty similar, though more students than employees reported “often” printing double-sided. The trend for students is similar to the overall response trend. Reasons for these differences include that employees may know how to change computer settings whereas students may not and employees may feel empowered to make such changes whereas students may not. Another possibility is that both employees and students, though most likely students, may not have access to printers that have the capability to print double-sided.

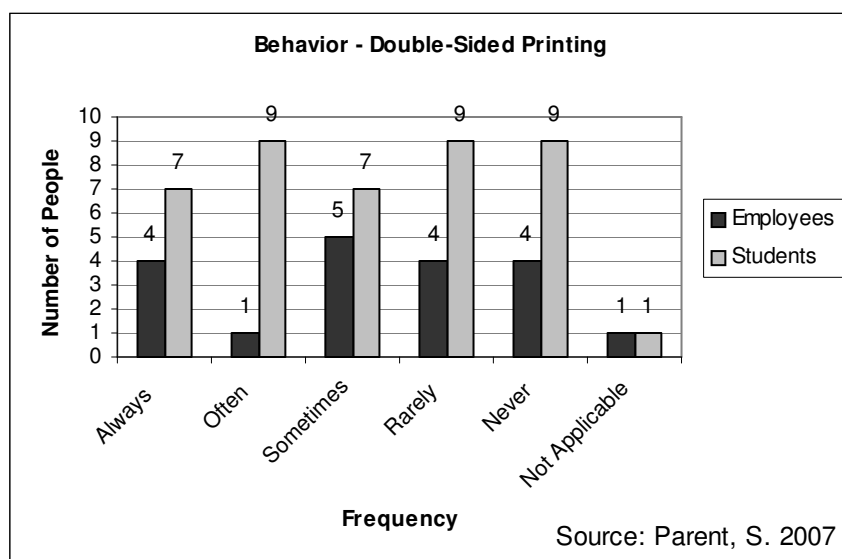


Figure 14. What is your typical behavior? I set the computer to print double-sided if it is not already set to this...

The two most frequent responses in regard to considering the packaging of goods when purchasing them were “sometimes” and “rarely.” Among employee respondents, there was a pretty even spread among the responses for “always,” “often,” “sometimes,” “rarely,” and “never” (Figure 15).

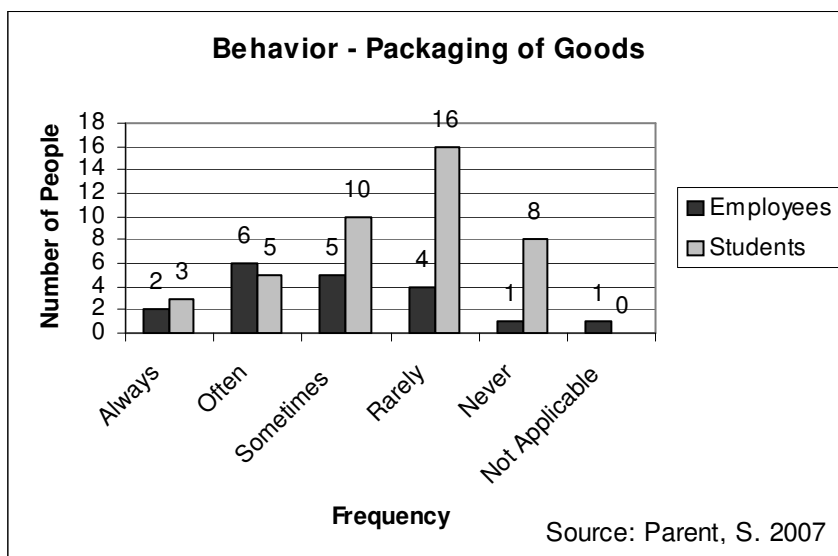


Figure 15. What is your typical behavior? When purchasing goods, I take packaging into account (i.e., purchasing little or no packaging or purchasing plastics based on what my city accepts since some do not collect all plastics)...

The student responses are pretty equally divided among “often,” “sometimes,” and “never” with a spike in “rarely” of 16 (38.1%) student responses. Therefore, it appears that employee respondents more often take packaging into account than student respondents. This may be because employees have been shopping for themselves longer than students have.

Survey respondents were asked to report how often they consider the distance from which goods travel when purchasing them. The majority of respondents were pretty evenly

divided between “rarely” and “never.” There is a pretty even spread among employee respondents reporting that they “sometimes,” “rarely,” or “never” take into account the distance from which goods travel when purchasing them (Figure 16).

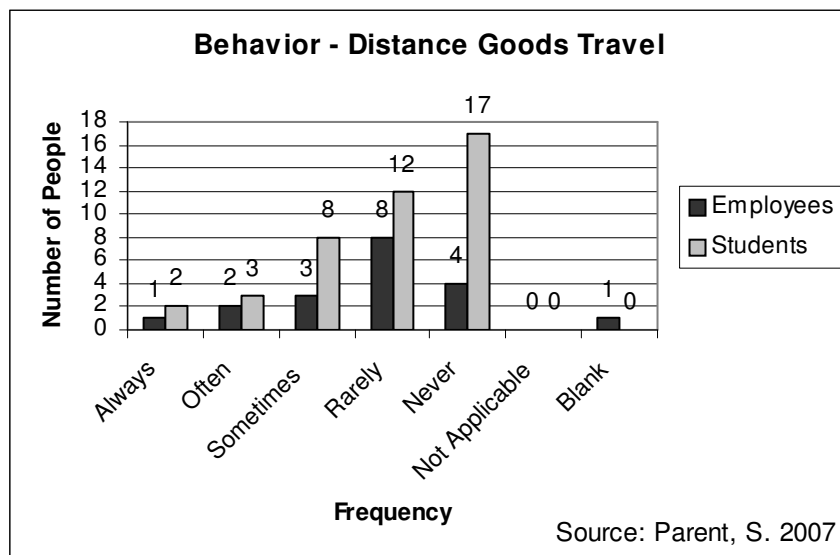


Figure 16. What is your typical behavior? When purchasing goods, I take into account the distance from which it traveled since transportation uses non-renewable fossil fuels and creates air pollution...

For the student respondents, the spread is pretty even among those respondents who reported “sometimes” or “rarely.” There are a larger number of students who reported “never” taking into account the distance from which goods travel. The trend is pretty similar among employee and student respondents except for the “never” category, where the trend declines for employee respondents but increases for student respondents.

4.1.3 Perceptions of Communication Systems, Incorporation and Environmental Impact

I asked survey respondents if there are systems in place to facilitate communication regarding Clark University's environmental sustainability issues or initiatives. Thirty-nine percent (39.0%) of respondents stated there are systems in place, while 55.9% reported they were uncertain.

There is a pretty even split between employee respondents who reported "yes" and "not sure" (Figure 17). There is a slight difference in the student respondents who reported "yes" and "not sure."

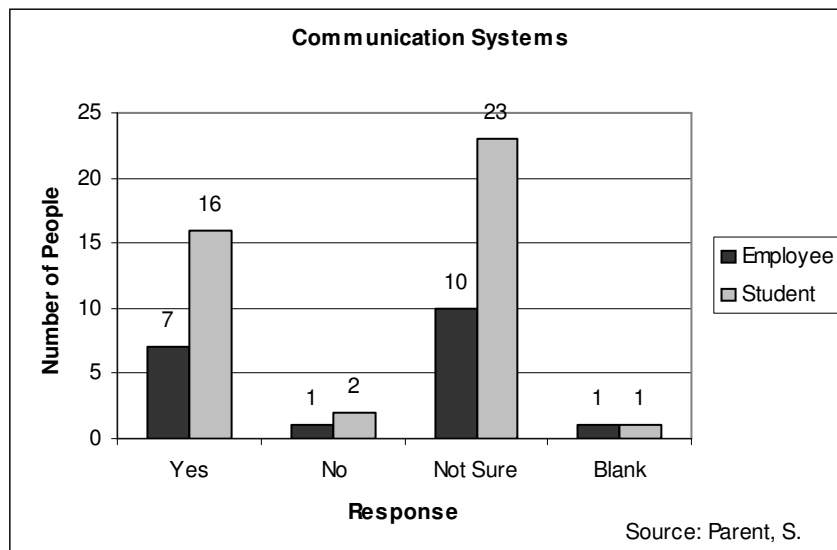


Figure 17. Are there systems in place to facilitate communication on Clark University's environmental sustainability issues or initiatives?

It seems that the trend is similar among employee and student respondents in that more were not sure than sure that systems are in place to facilitate communication on Clark University's environmental sustainability issues or initiatives.

I encouraged survey respondents to share how they envision communication systems regardless of their response to the question regarding whether or not they felt communication systems exist on campus. Forty-three percent of the Clark community provided suggestions. These include:

- “Talk and listen. Think each action through to the end.” - male employee
- Speakers/Difficult Dialogues panel, films and group discussions
- Campus and Student Digest newsletters having Green Columns
- Introductory information and training sessions for new students and employees
- “I think there should be an open list of current hotspots on campus for wasted energy consumption. For example, it is frequently the case that instructors or lab proctors leave projectors on overnight in JC. This wastes an enormous amount of energy, not to mention the cost of replacing the bulbs when they burn out prematurely. I think a public list of major energy-use issues on campus would clue people in that their individual actions matter in the larger scale.” – male student
- Increase awareness of issues, visibility and publicity of campus efforts such as organizations and Campus Sustainability Day, use of Clark Campus Network on campus and in the Worcester community
- “I hate Clark so I don't care.” – female graduate student
- “Not overzealous and forced on random people in the UC. Seriously [*sic*], chill out, guys.” – male student

The last two comments were included because they demonstrate the complexity of factors that contribute to individual's perceptions of sustainability.

Survey respondents felt that we, the Clark community, are doing above average (36%) or average (33%) in regard to helping students and employees incorporate environmental sustainability into their lives. Employee respondents were pretty evenly split in rating our incorporation as “above average,” “average,” “fair,” and “poor” (Figure 18).

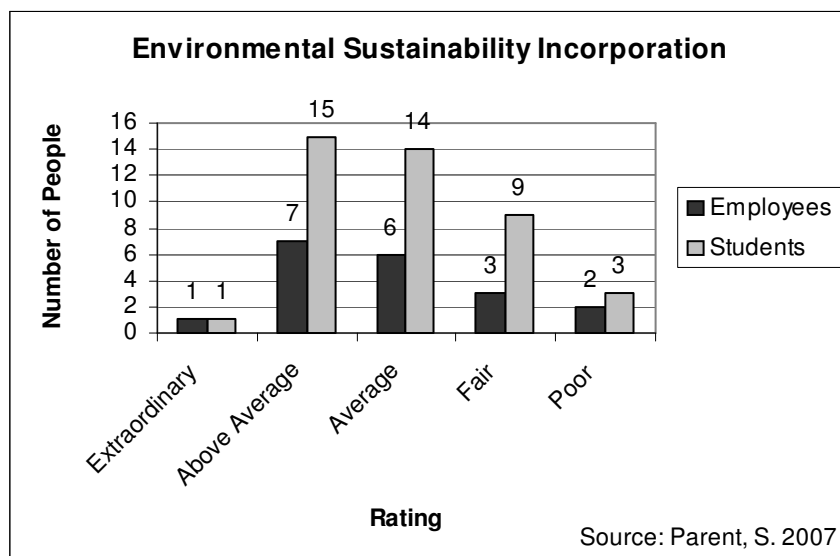


Figure 18. How do you feel that we, the Clark University community, are doing in regard to helping students, faculty and staff learn about and incorporate environmental sustainability into our academic, professional and personal lives?

Student respondents were pretty evenly spread out among the categories of “above average,” and “average” and “fair.” Very few respondents rated us as “extraordinary” or “poor.” The trend was similar among employee and student respondents in that a slight majority rated us as “above average” with the next largest majority rating us as “average,” followed by “fair.”

Survey respondents were also asked to rate how the Clark community is doing to reduce our environmental impact. Thirty-one respondents (50.8%) rated us as “average,” 26.2% rated us as “above average” and 16.4% rated us as “fair.” There is a pretty even division among the employees who rated us as “above average,” “average,” and “fair” (Figure 19).

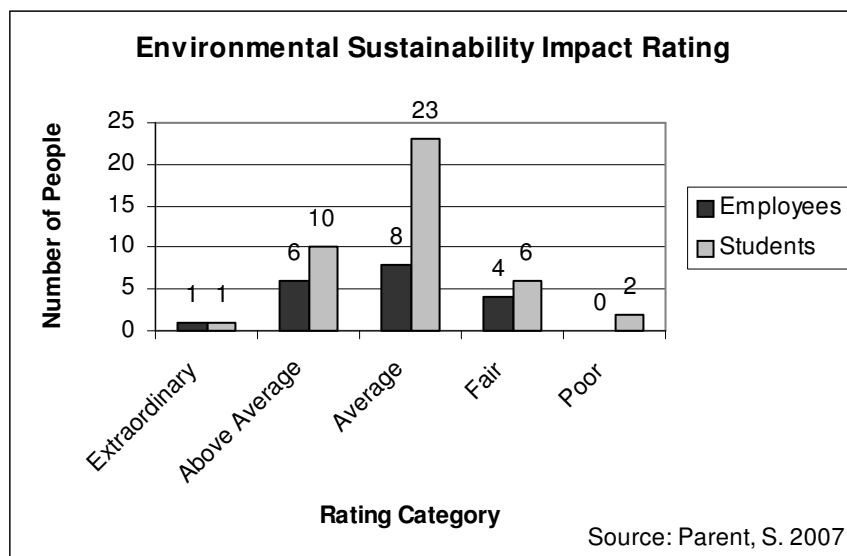


Figure 19. How do you feel that we, the Clark University community, are doing in regard to reducing our environmental impact?

The students were pretty evenly split among “above average” and “fair,” but the majority of students rated us as “average.” Maybe students rated our environmental impact more poorly because they are less aware of our sustainability initiatives. One example in support of this hypothesis is their lack of awareness regarding the CUES Task Force.

The frequency with which the survey results are pretty evenly split is very noticeable. Reasons for this may be that it reflects that we live in a divided society of those who support sustainability and those who do not, it may be because of the survey tool and how people resist extremes (i.e., not wanting to commit to an “always” response), it could be due to lack of statistical sophistication in the research analysis or that statistics are inherently biased against variation.

4.2 Interview Findings

Interview results consist of 10 interviews of 3 undergraduate students, 3 staff, 2 faculty, and 2 senior administrators. I did not interview all Task Force members. Ten of the 12 members were interviewed; the two not interviewed includes one member who was not able to attend many meetings due to other obligations and myself. No graduate student representation is present in the interview responses. Also, I added to the interview questions or better clarified the questions throughout the interview process. My intent was to go back to 2 interviewees and offer them the opportunity to provide answers or clarifications for these questions but this did not occur due to lack of time.

4.2.1 Interview Highlights

4.2.1.1 Sustainability Definition

The first question that I asked interviewees was:

Varying definitions of sustainability exist. It is sometimes defined to include actions that foster ecological integrity, economic vitality and social equity. The Brundtland Report defines sustainable development as "development that meets the needs of the present, without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). How do you define sustainability?

Overall, interviewees agreed on the environmental aspect of the sustainability definition. They either explicitly agreed with the ecological integrity aspect of sustainability or implicitly through examples of their own personal lives in that they value

the environment, enjoy being outdoors and appreciate nature. Some interviewees were in agreement that we should only use what we need.

4.2.1.2 Measuring Progress Toward Sustainability and Reflection

I asked Task Force members how they think we can measure our progress toward environmental sustainability. Overall, the interviewees agreed that a report card is a good way to measure the campus' progress toward sustainability. One interviewee also mentioned the need to measure behavior of how people interact with technology as well as people's awareness of sustainability programs.

Task force members provided their thoughts regarding what they think we will learn from this form of measurement. The main theme from the responses is that the report card will provide us with a good baseline. We may see that we are doing average compared to other institutions and non-profits, yet probably not as poorly as we may have thought. Some interviewees also hold the belief that we will discover good things that we are doing that we did not even realize and we will also uncover areas for improvement.

Some thoughts that emerged from the interview responses include that we will learn about the drivers or motives for people to be environmentally sustainable, that we need to be proactive to reduce resource consumption, and, hopefully, our efforts will lead to cultural change on campus. One interviewee commented "we know a lot about the ecological footprint, but the real question is who are we when the rubber hits the road as far as our values and behaviors? The REC⁹ program was surprising because of the

⁹ REC stands for Renewable Energy Certificates previously described in the background section.

willingness of the students to participate. It says a lot about the possibilities on our campus.” One interviewee felt we would learn that our vocabulary needs improvement so that everyone possesses a good and similar understanding of the environmental sustainability vernacular. Furthermore, the interviewee felt we would learn that we need to conduct “good research,” that we need to think of the “big picture,” and that we need to conduct life cycle analyses¹⁰.

4.2.1.3 Defining Hard-to-Reach Groups and How to Approach Them

Task force members were asked to define hard to reach groups and how those groups may be approached. From the interviewee responses, hard to reach groups can be defined in various ways, the definition of which could depend on what definition of sustainability one is using. Common themes in the interview responses regarding hard to reach groups include that hard to reach groups are those consisting of people who perceive a lack of time to participate in environmentally sustainable activities or those whose priorities lie in other areas.

Task force members suggested that these groups might be addressed through various approaches that may work for or speak to different people. One way is to increase awareness of the easy things people can do toward environmental sustainability but not making them so easy that people do not have to think about being sustainable (e.g., using motion-sensor lights rather than having people turn lights off manually). In addressing these groups, it is important to learn people’s stories, what drives or motivates them, where

¹⁰ Life Cycle Analysis is the process of examining the entire life cycle of a product or process.

they are coming from, and it is important to build connections with them. Specific activities suggested include competitions and a sustainability pledge.

4.2.1.4 Technology and Policy

Most interviewees agreed that a combination of technological innovation, institutional policy and human behavior are needed to increase campus sustainability. Interviewees also mentioned the importance of the institution in setting a good example and the need to document and publicize success. Interviewees felt it is important to raise awareness, increase volunteerism/involvement, to have dialogue and that the CUES Task Force members are making efforts toward this.

4.2.1.5 Role and Contribution

Task Force members feel it is their responsibility to serve on the Task Force and work on campus sustainability issues. They value their role of providing different perspectives in regard to environmental sustainability. Many interviewees felt that even if they were not on the task force, they would still participate in ways to increase campus sustainability.

Some of the CUES student members reflected wanting greater involvement with research and data collection for projects such as the first annual sustainability report card.

4.2.1.6 Sustainability Value

I asked interviewees to think about the value of sustainability beyond their role on the task force. Some interviewees said that a balance of the environment, economics and equity is needed. Some said the environment is most valued. Some felt our first priority is

financial sustainability – getting and maintaining a student body followed by the environment. One interviewee felt that the environment and economic pieces are nicely aligned so that we do not have to choose between the two.

In relation to the value placed on environmental sustainability, some interviewees agreed that we are trying to provide a good quality of life for the Clark community – a safe, clean, comfortable place to work, live and grow in.

4.2.1.7 Hope to Learn

Task force members shared what they hope to learn from the collective interviews. There still exist concerns regarding the role of the group and its goals. There are thoughts regarding the life of the body because it is believed that it will always be needed. Interviewees were interested to know each other's thoughts and reflections and one commented that they are interested to learn why people are serving on the task force.

4.2.1.8 Other Questions

Lastly, I asked Task Force members to imagine themselves as the interviewer and to think of questions they would ask that I had not. Some of the questions included:

- Do we see the group as being successful? How do we define success?
- What are other universities doing? Where do we fit on the spectrum of sustainability?
- Is the work we do on the task force separate from work or schoolwork? How much time can people devote to this effort?
- How do students fit into the process and what can they do that they're not already doing?
- What are we learning about ourselves? Our community?
- If there were a donation of money, what would we do with it? What's our wish list?

5. Discussion

This section synthesizes the survey and interview findings as well as participant observation. The three themes of communication, sense of community/engagement and reflection are used in this synthesis. This process helps to bring the picture of sustainability at Clark University into better focus in attempting to answer the question of how we can create a culture of sustainability on campus.

5.1 Communication

Communication encompasses many forms such as written, verbal, visual and auditory. It is viewed from the three perspectives of survey respondents, interviewees and participant observation to gain a better understanding of communication regarding sustainability at Clark University.

From the survey findings we see that respondents are aware of the definition of sustainability. The fact that at least 60% of respondents were familiar with the definition indicates that there is a nucleus of people in the Clark community who are aware and are sustainably minded.

We can also see from the interview findings that interviewees are familiar with the definition of sustainability. They generally seemed to agree on the environmental aspect of sustainability, at least from the perspective that the Task Force is chartered to work on environmental sustainability. However, they do have varying definitions of sustainability or lack awareness of some of the common definitions. Yet even with this lack of definition,

Task Force members have a common understanding and awareness of sustainability (i.e., you do not have to know the Brundtland Report definition by heart). Part of the reason for these different perspectives is because the Task Force did not have discussions regarding the meaning of sustainability. The discussion conducted at the first CUES Task Force meeting¹¹ was about what aspect of sustainability the Task Force would focus on. The meeting participants decided to focus on the environmental aspect of sustainability because they felt that social equity was too broad for their initial focus.

A participant observation, and one that was previously described in the background section, is the Difficult Dialogues Initiative began at Clark University in the fall of 2006. While none of the events have specifically centered on sustainability, the potential exists for this initiative to enable communication regarding the topic of sustainability. The Difficult Dialogues Initiative also allows for courses that have a Difficult Dialogues component. Assistant Professor Jennie Stephens has proposed to teach the Sustainable University course with a Difficult Dialogues emphasis in the fall of 2007.

Another observation that was also mentioned in the background section is the monthly community fire circles. This is a potential avenue for increasing dialogue regarding sustainability.

While many survey respondents were familiar with the definition of sustainability, they were not aware of the CUES Task Force. This was especially true for student respondents. So, while survey respondents were conceptually and theoretically familiar

¹¹ I did not attend this meeting.

with sustainability, they were less familiar with at least one of the sustainability initiatives on campus.

We also know from the survey findings that many respondents were not sure if there are opportunities on campus to discuss sustainability. The lack of student awareness regarding the Task Force and the lack of overall knowledge regarding communication opportunities points to the opportunity for various forms of communication to meet the needs of different audiences.

Participant observation supports this need for various forms of communication regarding campus sustainability initiatives. In the spring of 2006, President Bassett emailed a memo to the Clark community announcing the formation of the CUES Task Force. However, this is one of the few, if not the only, instance of communication regarding the Task Force.

Another participant observation focuses on the opportunity for communication regarding the campuses green buildings. It was very challenging to find solid information on Clark's website regarding its own green buildings and exactly what ratings they hold or are seeking. Further, as was pointed out by the Sustainable University course in the fall of 2005, the Lasry Center for BioSciences does not have any easily visible information, such as a plaque, announcing its LEED certification level.

5.2 Sense of Community/Engagement

One participant observation is that Clark University, like most institutions of higher education, has a shared vision from the perspective that most stakeholders are focused on

the mission of education. Clark also has a culture of engagement because it is a liberal arts college and because of programs such as that offered through the Community Engagement and Volunteering (CEV) Center that was described in the background section. These aspects help to establish a good basis for a sense of community.

Looking at the survey findings, we see that respondents are interested in environmental sustainability and they highly value its three aspects – environment, economics and social equity. From the interview findings, we also see that Task Force members are interested in and value sustainability.

Sense of community/Engagement around sustainability occurs when there is shared vision. Currently at Clark University, it appears that we may lack shared vision regarding sustainability. While the university signed the Talloires Declaration since 1995, there is nothing on the institution's website regarding its signatory status. The institution may not be as strong as it could be in all of the actions of the 10 Point Action Plan, particularly, 1) Increase awareness of environmentally sustainable development, 5) Practice Institutional Ecology, and 8) Enhance Capacity of Primary and Secondary Schools (ULSF 1990).

Another reason for the lack of shared vision centers on the Clark community members themselves. While we see from the survey findings that respondents are interested in environmental sustainability and highly value it, we also see that their reported behavior does not always match this level of interest or value of importance. For example, while respondents reported a high frequency of turning off the lights when leaving a room for more than 10 minutes, they varied from “always” to “never” on printing

double-sided. If members of the Clark community, as represented through the survey responses, value sustainability and are interested in it, why do we not see them practicing sustainable behaviors more often in their daily lives?

A commitment from leadership is an important component to a sense of community/engagement and shared vision of sustainability, but more importantly, it takes the people within a community to take action and to feel empowered to create change on campus through their own behavior. This holds true for students, faculty, staff and administrators. It takes everyone within a community to make successful progress toward sustainability.

5.3 Reflection

Reflection is closely tied with dialogue and learning. It can be formal, informal, written, verbal or personal.

From the interview findings, we see that when asked, Task Force members participate in the process of reflection. Task force members did so via the question on what we will learn from measuring sustainability in the way(s) they mentioned and also in the ways in which we might address hard to reach groups.

A participant observation regarding reflection involves CSI. In the fall of 2006, CSI began a process of reflection at the end of the semester by having everyone present at the meeting reflect on how things went that semester and what could be improved upon for the next semester.

From the survey findings, we see that respondents' reflection regarding how Clark University is doing to incorporate sustainability into the lives of its stakeholders is okay but not extraordinary¹². Further, in reflecting how Clark University is doing to reduce its environmental impact, respondents rated the institution as average.

My observation about our reflection on sustainability is that as an institution on the whole, reflection is not present throughout all aspects of the university. As a campus in general, some professors incorporate reflection as part of their courses. For example, Professor Dave Bell, in his Education and Development course has students write reflection journals. Before starting each week's readings, students write in their journals regarding what they know about the topic they are going to read about. After the lecture, students again write in their journals, reflecting on what they have learned.

A final observation is that currently there is no reflection incorporated as part of the CUES Task Force. No individual or group reflection was conducted at the end of the fall 2006 semester. It is possible that we may conduct some reflection at the end of the spring 2007 semester as an annual reflection exercise, though this has not yet been mentioned. I had brought up the idea of evaluation at the beginning of the fall 2006 semester, but did not receive much response or support in this regard.

While it is possible that many people on campus may participate in personal reflection, which is great, it is hard to know whether or not this is occurring. In regard to

¹² It should be noted that the survey questions regarding our incorporation rating and environmental impact were not presented in the manner that survey respondents would rate us against other institutions, so it was left up to the respondent to determine whether this was a rating against other institutions, or a rating against ourselves.

sustainability, it is important to have community reflection, whether that is formal, informal, written, verbal or in some other form. Regardless of the form of reflection that takes place, it is important for sustainability that it is communicated as often as possible to help build a sense of community.

In looking at these aspects collectively – communication, sense of community/engagement and reflection – we see that Clark University has the elements needed to create a culture of sustainability on campus. Clark stakeholders need to take these elements and do some of them in relation to sustainability, such as Difficult Dialogues. A good first step is the incorporation of the Difficult Dialogues initiative with the Sustainable University course. The stakeholders need to take some of the elements and do more of them, such as various forms of advertising regarding our sustainability initiatives geared to different audiences.

6. Reflections and Future Research

In reflecting on the appropriateness of my methodology to answer the question of how a culture of sustainability might be created at Clark University, I think my ideas were good but lacked really thoughtful, in-depth planning for the quality and cohesiveness of the various methods so that, at times, it felt like I had glued disconnected experiments together. Furthermore, rather than relying on community members' reported behavior, it might have been better to observe people's behavior in a more formal manner rather than through participant observation. However, I conducted exploratory research and these challenges might be viewed as the natural consequences of such an effort. I ventured into unfamiliar territory and did not have a specified model or roadmap to follow.

Based on this exploratory investigation, some possible next steps for this research include:

- A formal process of monitoring and evaluating Clark University's sustainability initiatives,
- A revised survey of the Clark community,
- An experiment in observing the behavior of Clark community members, and
- An inventory of the campuses natural resources.

A formal process of monitoring and evaluation might bridge the gap between institutional and technological efforts with changes in individual behavior. Since the CUES Task Force is only one year in existence, this formative monitoring and evaluation process can help to clarify goals and objectives for the sustainability initiative at Clark University. Over time, it can provide a mechanism to ensure that the university is following its plan

and allow reflection on our progress toward sustainability. With a participatory monitoring and evaluation approach, the university can gather information from community members regarding their thoughts on measuring the campuses progress. Since technology, campus operations and institutional policy need to be complemented by individual behavior, why not ask community members their thoughts on what would increase their sustainability behavior, rather than guessing?

A revised survey of the Clark community may be included as part of the monitoring and evaluation plan. The questions I asked could be improved since some respondents felt that several of the answer choices were leading and biased. Since the CUES Task Force is making efforts to complete its first annual report card this spring, a survey of Clark community members' reported behavior and perceptions of our progress could serve as a complement to the measurement of campus resource consumption and operations. It will help us better understand if decreases in resource consumption are due to technological innovation, changes in individual behavior, or both.

An experiment in observing the behavior of Clark community members could be carried out in place of asking individuals to report on their actions. It could help to verify survey respondents' reported behavior. This observation might examine waste and recycling habits, frequency of turning off lights and computer monitors, the use of reusable mugs or people's shopping habits (i.e., verifying a higher reported frequency of purchasing goods with less packaging), or observing instances of informal education and learning to see if sustainability dialogue is occurring on campus.

Lastly, an inventory of the campuses natural resources could be integrated into this effort so that we may track, for example, the amount of vegetation on campus that can help reduce carbon dioxide (CO₂) in the atmosphere. Tracking increased amounts of native plants can aid us in seeing if we are using less water, pesticides and fertilizers. Since Clark University is a leader in Geographic Information Sciences (GIS), it naturally makes sense to use this tool for the inventory as well as to track land use changes.

Looking more outwardly, this research could be extended to include broader community-university partnerships and/or incorporating local K-12 educational institutions. Clark University already participates in collaborations with the local community through such programs as the Environmental Justice Project led by Assistant Professors Tim Downs and Laurie Ross. The University also has partnerships with local K-12 schools and a sustainability component could be included in Clark's Education Department.

To finance these efforts it is recommended that Clark University investigate the feasibility of a revolving loan fund to help finance sustainability initiatives. In the interim, since Clark University is a non-profit organization, an account with GoodSearch could be established.¹³ Given Clark's extensive network of people (greater than 10,000), this could result in a substantial amount of money to be used solely for sustainability initiatives.¹⁴

¹³ GoodSearch is a search engine similar to Google, allowing users to specify their favorite charity so that a small amount of money can be donated to them each time a valid search is performed.

¹⁴ The GoodSearch website shows that a large charity with 10,000 supporters could potentially raise \$73,000 per year.

7. Conclusion and Recommendations

As evidenced by my research, Clark University has the necessary elements to create a culture of sustainability on campus – communication, sense of community/engagement and reflection.

I recommend that the university increase communication regarding campus sustainability initiatives. This can occur through verbal, visual, written or auditory approaches. It can be formal or informal. Building on the Difficult Dialogues initiative, community members can discuss what sustainability means to them so that we may work toward creating a shared vision. The university can communicate its sustainability successes and progress. Increasing website content is one way to achieve this. It can also occur more formally through public announcements. Verbally, and more informally, all Clark community members can discuss and engage in sustainability – whether through conversations about programs and activities they are involved in or efforts and successes they are achieving in their personal lives. The more that sustainability successes become the norm and people know they are the norm, the greater our progress toward sustainability.

Another recommendation is that the institution increase opportunities for engaging with sustainability initiatives and activities on campus. This can occur through collaborations among staff, students, faculty and administrators. For example, the next research steps suggested could be conducted by interdisciplinary groups that include various stakeholders. The CUES Task Force student representatives or students from the

Sustainable University course can have greater involvement in data collection and working with staff, faculty and administrators to gain a better understanding of university operations and gain exposure to skills such as creating charts and tables from data, applying statistical learning to real life situations or using GIS software. This already occurs on a small scale (i.e., Paul Coute, Clark University's Business Manager, is using a team of students to provide feedback on proposals from dining services companies), so increasing these opportunities around sustainability projects is recommended.

Lastly, I recommend that the institution increase opportunities for all community members to reflect on our sustainability actions in order for learning, improving and increasing our progress toward sustainability. More faculty members can incorporate reflection into their courses. Staff and administrators can make time to reflect on their progress toward sustainability. Students can take the initiative to reflect on courses and their extra-curricular activities. All community members can take time to reflect on their daily habits and how these affect sustainability.

In summary, communication, sense of community/engagement and reflection are crucial elements in the creation of a culture of sustainability on campus. By helping people connect concepts and theory to their everyday lives and personal actions, these elements will assist Clark University in increasing its progress and success toward sustainability.

Appendix A

Clark Sustainability Survey

*Survey has been modified from its online version so that answer choices may be visible in print.

Welcome!

Please take 5-10 minutes to complete this anonymous, voluntary survey that consists of approximately 20 questions. Please do NOT include any identifying information. You do not have to answer all the questions, and you may conclude taking the survey at any time. Choosing not to fill out the survey will not affect your Clark University standing.

Sustainability is sometimes defined as actions that foster environmental responsibility, economic vitality (growth) and social equity (fairness). The Brundtland Report states sustainable development is development that "meets the needs of the present, without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). This survey focuses on environmental sustainability.

I am Stephanie Parent, a Clark Environmental Science & Policy graduate student working to help the Clark community improve its sustainability. Your responses will help me gain a better understanding of our community's current knowledge, behavior and willingness regarding sustainability. Please call my advisor, Rob Goble, Professor in International Development, Community and Environment (IDCE), at 508-751-4612, with questions. Please email me at sparent@clarku.edu with functional survey issues.

Thank you for your much needed participation!

1. What is your academic year or position at Clark University? Please select one:

- | | | |
|------------------------------------|--|--------------------------------------|
| <input type="checkbox"/> Freshman | <input type="checkbox"/> Senior | <input type="checkbox"/> Faculty |
| <input type="checkbox"/> Sophomore | <input type="checkbox"/> Graduate (Master's or PhD.) | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Junior | <input type="checkbox"/> Staff | |

2. What program, department, or discipline are you in, if any?

Please note that programs deemed to be similar have been combined.

- | | |
|---|--|
| <input type="checkbox"/> Ancient Civilization | <input type="checkbox"/> Holocaust and Genocide Studies (Strassler Family Center for), Jewish Studies |
| <input type="checkbox"/> Asian Studies | <input type="checkbox"/> Innovation and Entrepreneurship Program |
| <input type="checkbox"/> Communication and Culture | <input type="checkbox"/> International Development, Community & Environment |
| <input type="checkbox"/> Comparative Literature | <input type="checkbox"/> Law and Society |
| <input type="checkbox"/> College of Professional and Continuing Education | <input type="checkbox"/> Management |
| <input type="checkbox"/> Economics | <input type="checkbox"/> Mathematics and Computer Science (Bioinformatics, Computer Science, Math) |
| <input type="checkbox"/> Education | <input type="checkbox"/> Peace Studies |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Philosophy |
| <input type="checkbox"/> English | <input type="checkbox"/> Psychology |
| <input type="checkbox"/> Environmental Science | <input type="checkbox"/> Race and Ethnic Relations |
| <input type="checkbox"/> Ethics and Public Policy | <input type="checkbox"/> Visual and Performing Arts (Art History, Music, Screen Studies, Studio Art, Theater Arts) |
| <input type="checkbox"/> Foreign Languages and Literatures | <input type="checkbox"/> Sociology |
| <input type="checkbox"/> Geography | <input type="checkbox"/> Urban Development and Social Change |
| <input type="checkbox"/> Global Environmental Studies | <input type="checkbox"/> Women's Studies Program |
| <input type="checkbox"/> Government and International Relations | <input type="checkbox"/> Sciences (Biochemistry and Molecular Biology, Biology, Chemistry, Physics) |
| <input type="checkbox"/> Graduate School of Management | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> History | |

3. What is your gender? Please select one:

- Female Male I do not identify as female or male

4. What is your race/ethnicity? Please select one:

- | | |
|---|---|
| <input type="checkbox"/> African, African-American | <input type="checkbox"/> Korean |
| <input type="checkbox"/> American Indian or Alaskan Native | <input type="checkbox"/> Middle Eastern |
| <input type="checkbox"/> Caucasian | <input type="checkbox"/> Other Asian |
| <input type="checkbox"/> Chinese | <input type="checkbox"/> Pacific Islander (Samoan or Tongan) |
| <input type="checkbox"/> Filipino | <input type="checkbox"/> Indian, Pakistani, and other South Asians |
| <input type="checkbox"/> Hawaiian, Part-Hawaiian | <input type="checkbox"/> Portuguese |
| <input type="checkbox"/> Hispanic, Latino, Mexican-American | <input type="checkbox"/> Mixed/Other: _____ |
| <input type="checkbox"/> Japanese | <input type="checkbox"/> Not Applicable (I do not affiliate/identify with a racial group) |

5. What is your annual income? Please select one:

- Less than \$10,000 US \$40,000 – \$49,999 US \$80,000 – \$89,999 US
 \$10,000 - \$19,999 US \$50,000 – \$59,999 US \$90,000 – \$99,999 US
 \$20,000 - \$29,999 US \$60,000 – \$69,999 US \$100,000 – \$149,999 US
 \$30,000 – \$39,999 US \$70,000 – \$79,999 US Greater than \$150,000 US

6. Have you heard of sustainability according to the definition provided in this survey? Please select one:

- Yes No, not until this survey

7. Are you aware that Clark University formed the Environmental Sustainability Task Force comprised of students, faculty, staff and administrators in Spring 2006?

Please select one:

- Yes No, not until this survey

8. How do you value the following sustainability attributes?

Please select one rating for each attribute:

	Very Important	Somewhat Important	Neutral	Not Very Important	Not At All Important
Environment - ecosystem protection for present & future generations; the maintenance of biodiversity and the health of biological systems in a region.					
Economic – a community's capacity to be economically efficient through the production of goods and services to support livelihoods of the population.					
Equity - social justice (i.e., pollution not being concentrated in poor or marginalized communities); broad political participation.					

9. If there is another aspect of sustainability not included in the three attributes listed in the previous question that you think is important, please list it here:

10. What is your level of interest in environmental sustainability?

Please select a radio button:

- Very Interested Interested Neutral Not Very Interested
 Not at all interested

11. Have you, or are you currently, taking or teaching courses that include topics on practices and/or policies that support an environmentally sustainable lifestyle?

- Yes, I am taking a course(s)
 Yes, I am teaching a course(s)
 No, because I am not interested in taking these types of courses
 No, because I am not interested in teaching these types of courses
 No, because I was not aware that these types of courses are offered
 No, because I am staff and do not teach or wish to take these types of courses
 Other: _____

12. Are you involved in activities such as organizations or volunteer or paid work that deal with practices and/or policies that support an environmentally sustainable lifestyle?

- Yes
 No, because I am not interested in activities that support a sustainable lifestyle
 Other _____

13. If there are other ways you are involved in environmental sustainability activities that you would like to share, please list them below:

14. What is your typical behavior? Please check a radio button for each item:

	Always	Often	Sometimes	Rarely	Never	N/A
I turn off the lights when I leave a room for more than 10 minutes to conserve energy.						
I read books, journals and on-line materials, rather than printing them, to save paper.						
I set the computer to print double-sided if it is not already set to this.						
When purchasing goods, I take packaging into account (i.e., purchasing little or no packaging or purchasing plastics based on what my city accepts since some do not collect all plastics).						
When purchasing goods, I take into account the distance from which it traveled since transportation uses non-renewable fossil fuels and creates air pollution.						
I reuse items such as glass jars before recycling them to save landfill space and conserve energy that is tied to product manufacturing.						
When I leave campus at the end of the day I manually shut off the computer MONITOR to save energy.*						
I shut off the lights in community bathrooms when I am the last one to leave.						
I educate others about environmental sustainability or one or more of its components (i.e., reducing consumption).						
I minimize my use of water (i.e., don't leave the water running when doing dishes or brushing my teeth).						
I use a travel mug or reusable mug/container to reduce landfill waste from paper or foam cups.						

*Current Clark University Information Technology Services (ITS) policy states that computers are not to be turned off at the end of the day due to the need to update computers at night.

15. Are there systems in place to facilitate communication on Clark University's environmental sustainability issues or initiatives? Please select one:

___ Yes ___ No ___ Not Sure ___ Other: _____

16. Regardless of how you answered the previous question, how do you envision opportunities we might have on campus to facilitate communication on Clark University's sustainability issues or initiatives? Please describe below:

17. Incorporating Environmental Sustainability

Please choose a radio button for each question:

How do you feel that we, the Clark University community, are doing in regard to helping students, faculty and staff learn about and incorporate environmental sustainability into our academic, professional and personal lives?

Extraordinary Above Average Average Fair Poor

How do you feel that we, the Clark University community, are doing in regard to reducing our environmental impact?

Extraordinary Above Average Average Fair Poor

18. You answered "Yes" that you have or are currently taking sustainability courses.

Please list course(s) here:

19. You answered "Yes" that you participate in organizations or volunteer or paid work.

Please list organization/work here:

20. What program, department, or discipline are you in, if any?

Please note that programs deemed to be similar have been combined.

- | | |
|---|---|
| <input type="checkbox"/> Ancient Civilization | <input type="checkbox"/> History |
| <input type="checkbox"/> Asian Studies | <input type="checkbox"/> Holocaust and Genocide Studies (Strassler Family Center for), Jewish Studies |
| <input type="checkbox"/> Communication and Culture | <input type="checkbox"/> Innovation and Entrepreneurship Program |
| <input type="checkbox"/> Comparative Literature | <input type="checkbox"/> International Development, Community and Environment |
| <input type="checkbox"/> College of Professional and Continuing Education | <input type="checkbox"/> Law and Society |
| <input type="checkbox"/> Economics | <input type="checkbox"/> Management |
| <input type="checkbox"/> Education | <input type="checkbox"/> Mathematics and Computer Science (Bioinformatics, Computer Science, Math) |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Peace Studies |
| <input type="checkbox"/> English | <input type="checkbox"/> Philosophy |
| <input type="checkbox"/> Environmental Science | <input type="checkbox"/> Psychology |
| <input type="checkbox"/> Ethics and Public Policy | <input type="checkbox"/> Race and Ethnic Relations |

- | | |
|---|--|
| <input type="checkbox"/> Foreign Languages and Literatures | <input type="checkbox"/> Sociology |
| <input type="checkbox"/> Geography | <input type="checkbox"/> Visual and Performing Arts (Art History, Music, Screen Studies, Studio Art, Theater Arts) |
| <input type="checkbox"/> Global Environmental Studies | <input type="checkbox"/> Urban Development and Social Change |
| <input type="checkbox"/> Government and International Relations | <input type="checkbox"/> Women's Studies Program |
| <input type="checkbox"/> Graduate School of Management | <input type="checkbox"/> Sciences (Biochemistry and Molecular Biology, Biology, Chemistry, Physics) |

Item Conditions:

If Group 1: Answer to "What is your academic year or position at Clark University?" = Freshman
OR

If Group 2: Answer to "What is your academic year or position at Clark University?" = Sophomore
OR

If Group 3: Answer to "What is your academic year or position at Clark University?" = Junior
OR

If Group 4: Answer to "What is your academic year or position at Clark University?" = Senior
OR

If Group 5: Answer to "What is your academic year or position at Clark University?" = Graduate
OR

If Group 6: Answer to "What is your academic year or position at Clark University?" = Faculty

21. What program, department, or discipline are you in, if any?

Please note that programs deemed to be similar have been combined.

- | | |
|--|--|
| <input type="checkbox"/> Academics (Academic Advising Center, Academic Affairs, Admissions) | <input type="checkbox"/> Health Services |
| <input type="checkbox"/> Accounting (Business and Financial Services, Financial Aid, Planning & Finance) | <input type="checkbox"/> IDRISI Project |
| <input type="checkbox"/> Human Resources and Affirmative Action | <input type="checkbox"/> Intercultural Affairs |
| <input type="checkbox"/> Alumni Affairs | <input type="checkbox"/> Information Technology Services |
| <input type="checkbox"/> Athletic Department | <input type="checkbox"/> Libraries (Goddard, Jeanne X. Kasperson, Map Library) |
| <input type="checkbox"/> Dining Services (Bon Appetit Management Co.) | <input type="checkbox"/> Language Lab |
| <input type="checkbox"/> Bookstore | <input type="checkbox"/> Mail Services |
| <input type="checkbox"/> Campus Ministry | <input type="checkbox"/> Media Services |
| <input type="checkbox"/> Career Services | <input type="checkbox"/> Physical Plant |
| <input type="checkbox"/> Center for Excellence in Teaching & Learning | <input type="checkbox"/> Police |
| <input type="checkbox"/> University Communications | <input type="checkbox"/> President's Office |
| <input type="checkbox"/> Counseling Services (Peer Tutoring) | <input type="checkbox"/> Recycling |
| <input type="checkbox"/> Office of Environmental Health and Safety | <input type="checkbox"/> Residential Life and Housing |
| <input type="checkbox"/> Event Planning | <input type="checkbox"/> Writing Center |

Item Conditions:

If Group 1: Answer to "What is your academic year or position at Clark University?" = Administrator

OR

If Group 2: Answer to "What is your academic year or position at Clark University?" = Staff

Thank you for taking the survey. Your feedback is valuable and greatly appreciated.

If you would like to learn more about sustainability at Clark University please visit the under construction page at <http://www.clarku.edu/offices/environment/csi.cfm>

For more info on how you can be more environmentally-sustainable in your own life please visit: <http://www.epa.gov/sustainability/basicinfo.htm#epa>

OR

<http://www.newdream.org/consumer/>

Appendix B

Clark Sustainability Survey Raw Data¹⁵

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
1	Grad.	M	Y	N	Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Currently I am working on my distertation in Ohio.	Y
2	Soph.	F	Y	Y	Very Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Ave.	interested but dont have the time	Y
3	Fresh.	M	*	Y	Neutral	Somew hat Import.	Somew hat Import.	Somew hat Import.	Ave.	Ave.	Not interested	Not interested
4	Soph.	M	Y	N	Very Interested	Very Import.	Very Import.	Very Import.	Ave.	Above Ave.	Y	Y
5	Grad.	F	Y	N	Interested	Very Import.	Very Import.	Very Import.	Fair	Ave.	Not aware of offering	*

¹⁵ Some questions and data were omitted to protect the anonymity of survey respondents since a professor emailed stating that from the 1st five questions collectively it may be possible to determine whom some employees and graduate students are.

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
6	Junior	M	Y	Y	Not Very Interested	Very Import.	Somewhat Import.	Very Import.	Above Ave.	Above Ave.	unrelated to my majors	no, because when i joined masspirg i found them to be overbearing
7	Fresh.	F	N	N	Very Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Not interested	I am interested, just not involved yet.
8	Faculty	M	Y	Y	Very Interested	Very Import.	Very Import.	Very Import.	Extraordinary	Extraordinary	Not relevant to my field.	Y
9	Staff	F	Y	N	Neutral	Somewhat Import.	Very Import.	Somewhat Import.	Ave.	Ave.	Not interested	Y
10	Staff	F	Y	N	Interested	Somewhat Import.	Somewhat Import.	Very Import.	Above Ave.	Above Ave.	Staff	No, because I am barely getting by time-wise due to work/caretaker issues
11	Staff	F	Y	Y	Very Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Ave.	Staff	Y

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
12	Admin.	F	Y	Y	Very Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Staff without time to take a course.	*
13	Admin.	M	N	N	Very Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Y	Y
14	Admin.	M	Y	N	Interested	Very Import.	Very Import.	Very Import.	Poor	Above Ave.	topic is not relevant to the courses I teach	Y
15	Staff	M	N	Y	Interested	Very Import.	Somewhat Import.	Very Import.	Ave.	Ave.	Staff	No, not currently
16	Soph.	F	Y	N	Interested	Very Import.	Very Import.	Very Import.	Fair	Fair	Y	N
17	Grad.	F	N	N	Neutral	Very Import.	Very Import.	Very Import.	Fair	Poor	Not interested	Y
18	Grad.	M	Y	Y	Very Interested	Very Import.	Somewhat Import.	Very Import.	Fair	Ave.	Y	Y
19	Staff	F	N	N	Neutral	Somewhat Import.	Somewhat Import.	Somewhat Import.	Poor	Fair	Staff	*
20	Fresh.	F	Y	N	Interested	Very Import.	Somewhat Import.	Very Import.	Above Ave.	Ave.	Not aware of offering	I never thought about it.

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
21	Fresh.	F	N	N	Not Very Interested	Somewhat Import.	Somewhat Import.	Somewhat Import.	Ave.	Ave.	Not interested	Not interested
22	Staff	F	Y	Y	Interested	Very Import.	Very Import.	Very Import.	Fair	Fair	Staff	Y
23	Faculty	M	Y	Y	Very Interested	Very Import.	Somewhat Import.	Very Import.	Ave.	Ave.	not my field - but still very interested and allied with this kind of work	*
24	Soph.	F	Y	N	Neutral	Very Import.	Somewhat Import.	Very Import.	Ave.	Ave.	Y	Not interested
25	Grad.	F	N	N	Not Very Interested	Very Import.	Very Import.	Somewhat Import.	Fair	Ave.	Not aware of offering	I work to support myself not to support an environment ally stable lifestyle.

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
27	Faculty	F	Y	Y	Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Not interested	Y
28	Junior	F	Y	N	Very Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Ave.	Y	N
29	Grad.	M	N	N	Interested	Very Import.	Very Import.	Very Import.	Ave.	Ave.	Not aware of offering	N
30	Senior	F	Y	Y	Very Interested	Very Import.	Very Import.	Very Import.	Ave.	Ave.	Not aware of offering	Lack of time
31	Soph.	F	Y	N	Neutral	Very Import.	Very Import.	Very Import.	Ave.	Ave.	Not interested	Y
32	Soph.	M	N	N	Interested	Very Import.	Very Import.	Somewhat Import.	Above Ave.	Above Ave.	Y	Y
33	Grad.	F	Y	Y	Interested	Very Import.	Very Import.	Very Import.	Ave.	Ave.	I have taken courses in environment	I am more actively involved in social justice
34	Soph.	F	N	N	Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Y	would in the future
35	Grad.	* ¹⁶	N	N	Interested	Very Import.	Very Import.	Very Import.	Ave.	Ave.	Not interested	Not interested
36	Fresh.	M	Y	Y	Interested	Very Import.	Very Import.	Very Import.	Ave.	Ave.	Not aware of offering	Y
37	Senior	F	N	N	Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Not aware of offering	*

¹⁶ * Denotes missing data.

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
38	Staff	M	Y	Y	Very Interested	Very Import.	Somew hat Import.	Somew hat Import.	Above Ave.	Ave.	don't fit schedule	Y
39	Senior	F	Y	N	Interested	Very Import.	Very Import.	Very Import.	Ave.	Ave.	No time in my schedule at the moment for this type of class.	Interested, but involved in other activities which take up most of my time.
40	Soph.	F	Y	Y	Very Interested	Very Import.	Very Import.	Very Import.	Poor	Fair	Y	*
41	Junior	F	Y	Y	Very Interested	Very Import.	Somew hat Import.	Very Import.	Above Ave.	Ave.	Not aware of offering	I would like to be.
42	Senior	M	Y	N	Very Interested	Somew hat Import.	Very Import.	Somew hat Import.	Fair	Fair	They wouldn't fit in with my double-major schedule	Your ""no"" option is a bit loaded presumptuous. I am not involved, but why does that mean I'm disinterested?
43	Staff	Doesn't ID F/M	N	Y	Neutral	Very Import.	Somew hat Import.	Somew hat Import.	Ave.	Ave.	Not interested	*

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
44	Admin.	F	Y	Y	Interested	Very Import.	Very Import.	Somewhat Import.	Fair	Fair	Staff	no readily available opportunities
45	Fresh.	F	N	N	Interested	Very Import.	Somewhat Import.	Neutral	Ave.	Ave.	No, I haven't gotten around to it yet.	No, they haven't contacted me back
46	Grad.	M	N	N	Not Very Interested	Neutral	Neutral	Neutral	Above Ave.	Above Ave.	Not interested	Not interested
47	Senior	M	N	N	Neutral	Somewhat Import.	Very Import.	Neutral	Ave.	Ave.	Y	N
48	Fresh.	F	N	N	Not Very Interested	Somewhat Import.	Somewhat Import.	Somewhat Import.	Ave.	Above Ave.	Not interested	Not interested
49	Faculty	F	Y	N	Neutral	Neutral	Neutral	Neutral	Fair	Fair	this is silly. why is there not a ""no"" category that doesn't say ""i don't care.""	as above. these answer choices seem leading (at best).
50	Fresh.	F	Y	N	Neutral	Somewhat Import.	Somewhat Import.	Very Import.	Above Ave.	Ave.	Y	Not interested
51	Staff	F	N	N	Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Staff	Not interested

ID	Q1. Yr. or Position	Q3. Gender	Familiarity & Interest			Valuation					Behavior	
			Q6. Def	Q7. CUES	Q10. Interest	Q8a. Env.	Q8b. Econ.	Q8c. Equity	Q17a. Clark Status	Q17b. Clark Impact	Q11. Taking/ Teaching Courses	Q12. Activities
52	Fresh.	M	Y	N	Interested	Very Import.	Very Import.	Very Import.	Extra-ordinary	Extra-ordinary	Y	Y
53	Soph.	F	Y	Y	Not Very Interested	Neutral	Neutral	Very Import.	Above Ave.	Ave.	Not interested	Not interested
54	Fresh.	F	N	Y	Very Interested	Very Import.	Somew hat Import.	Very Import.	Fair	Fair	Y	Y
55	Fresh.	M	Y	N	Very Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Above Ave.	Not interested	Y
56	Grad.	M	N	N	Interested	Very Import.	Very Import.	Very Import.	Fair	Fair	*	A little bit
57	Senior	F	N	N	Neutral	Very Import.	Somew hat Import.	Very Import.	Poor	Poor	Not interested	N
58	Fresh.	M	Y	Y	Interested	Very Import.	Very Import.	Very Import.	Above Ave.	Ave.	Y	Y
59	Staff	F	Y	Y	Very Interested	Very Import.	Very Import.	Very Import.	Ave.	Ave.	Staff	Y
60	Staff	F	N	N	Interested	Somew hat Import.	Very Import.	Somew hat Import.	Ave.	Ave.	Staff	Not interested
61	Soph.	M	Y	N	Interested	Very Import.	Very Import.	Very Import.	Fair	Fair	Y	Not interested

Behavior												
ID	Q14a. Lights	Q14b. Paper	Q14c. Printing	Q14d. Goods Packaging	Q14e. Goods Travel	Q14f. Reuse	Q14g. Monitor	Q14h. Bathroom Lights	Q14i. Ed.	Q14j. Water	Q14k. Travel Mug	Q18. Courses Taking
1	Rarely	Sometimes	Never	Never	Rarely	Rarely	Often	N/A	Often	Rarely	Rarely	
2	Sometimes	Rarely	Sometimes	Often	Sometimes	Rarely	Sometimes	Sometimes	Often	Always	Sometimes	
3	Often	Sometimes	Rarely	Never	Never	Rarely	Never	Never	Never	Sometimes	Sometimes	
4	Often	Often	Often	Often	Sometimes	Often	Sometimes	Always	Often	Often	Always	Earth Transformed
5	Always	Always	Always	Sometimes	Rarely	Always	Always	Always	Sometimes	Always	Always	
6	N/A	Never	Never	Rarely	Rarely	Often	Often	Often	Never	Often	Sometimes	
7	Often	Often	Never	Rarely	Sometimes	Rarely	Rarely	Never	Rarely	Always	Sometimes	
8	Often	Often	Rarely	Sometimes	Rarely	Always	Often	Often	Sometimes	Often	Always	
9	Often	Rarely	Never	Rarely	Never	Often	Often	Often	Rarely	Often	Sometimes	
10	Often	Often	Sometimes	Sometimes	Rarely	Often	Always	Never	Rarely	Often	Sometimes	
11	Sometimes	Often	Sometimes	Always	Often	Often	Sometimes	Rarely	Often	Always	Always	
12	Often	Sometimes	Sometimes	Often	Sometimes	Always	N/A	Often	Sometimes	Often	Often	
13	Often	Always	Never	Often	Always	Always	Always	Always	Always	Often	Often	
14	Often	Sometimes	Rarely	Often	Rarely	Always	Always	Sometimes	Sometimes	Often	Often	

Behavior												
ID	Q14a. Lights	Q14b. Paper	Q14c. Printing	Q14d. Goods Packaging	Q14e. Goods Travel	Q14f. Reuse	Q14g. Monitor	Q14h. Bathroom Lights	Q14i. Ed.	Q14j. Water	Q14k. Travel Mug	Q18. Courses Taking
15	Often	Often	Always	Sometimes	Rarely	Sometimes	Always	Always	Rarely	Often	Always	
16	Always	Often	Sometimes	Rarely	Never	Always	Always	Always	Rarely	Often	Always	I took intro to environmental science which discussed sustainability, and am currently taking geog 014 which is discussing land degradation
17	Sometimes	Sometimes	Often	Rarely	Often	Sometimes	Never	Rarely	Never	Sometimes	Rarely	
18	Always	Sometimes	Often	Sometimes	Sometimes	Always	N/A	Rarely	Sometimes	Sometimes	Often	IDCE Sustainability Institutions
19	Sometimes	N/A	Never	N/A	Never	Sometimes	Always	Always	N/A	Often	Often	
20	Always	Often	Rarely	Rarely	Never	Sometimes	N/A	Sometimes	Rarely	Sometimes	Rarely	
21	Always	Sometimes	N/A	Rarely	Never	Often	N/A	Rarely	Never	Always	Often	
22	Always	Sometimes	Always	Often	Sometimes	Always	Always	Always	Always	Always	Always	
23	Always	Sometimes	Always	Rarely		Sometimes	Often	Always	Often	Often	Often	

Behavior												
ID	Q14a. Lights	Q14b. Paper	Q14c. Printing	Q14d. Goods Packaging	Q14e. Goods Travel	Q14f. Reuse	Q14g. Monitor	Q14h. Bathroom Lights	Q14i. Ed.	Q14j. Water	Q14k. Travel Mug	Q18. Courses Taking
36	Often	Sometimes	Sometimes	Rarely	Rarely	Sometimes	Not Applicable	Sometimes	Sometimes	Often	Often	
37	Often	Sometimes	Never	Never	Never	Never	Never	Never	Never	Often	Often	
38	Always	Sometimes	Rarely	Often	Sometimes	Sometimes	Often	Never	Sometimes	Often	Sometimes	
39	Always	Sometimes	Rarely	Sometimes	Rarely	Often	Always	Always	Sometimes	Always	Always	
40	Always	Sometimes	Often	Often	Rarely	Often	Often	Always	Often	Always	Always	Sustainable University
41	Often	N/A	Rarely	Rarely	Never	Rarely	Often	Sometimes	N/A	Often	Often	
42	Always	Often	Always	Never	Never	Often	Often	Often	Sometimes	Sometimes	Often	
43	Often	Never	Never	Never	Rarely	Rarely	Never	Never	Never	Never	N/A	
44	Often	Often	Always	Often	Rarely	Rarely	Often	Always	Often	Sometimes	N/A	
45	Often	Often	Often	Never	Rarely	Often	N/A	Sometimes	Never	Often	Sometimes	
46	Often	Rarely	Never	Never	Never	Sometimes	Never	Sometimes	Never	Rarely	Sometimes	
47	Rarely	Always	Never	Rarely	Sometimes	Never	Often	Often	Never	Rarely	Rarely	Cities and Suburbs
48	Always	Sometimes	Never	Never	Never	Rarely	Never	Rarely	Never	Often	Often	
49	Often	Often	Sometimes	Rarely	Rarely	Often	Often	Often	Rarely	Often	N/A	

Behavior												
ID	Q14a. Lights	Q14b. Paper	Q14c. Printing	Q14d. Goods Packaging	Q14e. Goods Travel	Q14f. Reuse	Q14g. Monitor	Q14h. Bathroom Lights	Q14i. Ed.	Q14j. Water	Q14k. Travel Mug	Q18. Courses Taking
50	Often	Sometimes	Sometimes	Never	Never	Often	Sometimes	Often	Often	Always	Always	Economic GEography
51	Always	Often	N/A	Always	Often	Often	Always	Always	Sometimes	Always	Often	
52	Always	Always	Always	Always	Always	Always	Always	Always	Always	Always	Always	geography 011
53	Never	Never	Never	Never	Never	Never	Never	Sometimes	Never	Rarely	Often	
54	Always	Always	Always	Often	Rarely	Sometimes	Always	Always	Often	Always	Often	Global Warming
55	Always	Often	Sometimes	Rarely	Never	Often	N/A	Never	Sometimes	Often	Often	
56	Always	Often	Sometimes	Rarely	Sometimes	Never	Rarely	Rarely	Rarely	Sometimes	Never	
57	Often	Rarely	Rarely	Rarely	Never	Never	Never	Never	Never	Always	Rarely	
58	Often	Sometimes	Sometimes	Sometimes	Rarely	Often	Sometimes	Sometimes	Often	Sometimes	Sometimes	Global Warming: How to Respond
59	Sometimes	Sometimes	Often	Sometimes	Rarely	Often	Always	Often	Sometimes	Sometimes	Often	
60	Always	Sometimes	Sometimes	Rarely	Never	Often	Always	Rarely	Rarely	Always	Always	
61	Often	Rarely	Often	Always	Rarely	Often	Often	N/A	Rarely	Sometimes	Never	Earth Transformed, Intro to Environmental Information Systems

	Behavior	Dialogue	
ID	Q19. What Activities	Q15. Communication	Q16. Envision Communication
1	Marilyn Hyland Agency, Building Economic Strength Together (BEST)	Not sure	
2	Amnesty, Planned Parenthood, CityYear, Unitarian Universalist Mass Action Network	Not sure	Waste of energy in heating dorm rooms is horribleeeee We waste so much food
3		Yes	
4		Yes	
5		Not sure	
6		Not sure	not overzealous and forced on random people in the UC. seriously, chill out, guys.
7			Bringing speakers to Clark, hacing a ""turn off your computer"" day, and working with a bicycle shop to promote physical fitness and less fuel emissions in the air.
8		Yes	
9	earth day	Not sure	
10		Yes	
11	Northeast Organic Farmers Association	Yes	
12		Not sure	
13	Appalachian Mountain Club	Not sure	Talk and listen. Think each action through to the end.
14	green committee at church that updates green pages for the congregation; also purchase green energy	Not sure	The HR newsletters (Campus Digest) could have a Green column for each issue and make suggestions about how to cut down on consumption of energy at work and at home. University could make lo-draw lighting fixtures available at low or no cost (eg flourscent bulbs for lamps), give helpful hints about shopping for products that have less environmental impact.
15		Not sure	I'm not sure.
16		No	
17	Oops...didn't mean to endorse this...	Not sure	Have a table set up at red square and maybe a discussion/film.
18	CSI supporter, member of a community supported agriculture (Rabbits Dance Farm in Cumberland, RI)	Not sure	
19		Not sure	
20		Not sure	
21		Not sure	

	Behavior	Dialogue	
ID	Q19. What Activities	Q15. Communication	Q16. Envision Communication
22		Yes	It would be great if I felt like paper, cardboard, glass, can, plastic recycling was actually working on campus. It may from res halls, but not in offices. We have a staff volunteer who takes our glass, cans, etc home for Worcester's recycling program.
23		Not sure	
24		Yes	
25		Not sure	I hate Clark so I don't care.
26		Not sure	
27	community clean-up activities	Not sure	More priority given and more redundancy through reminders
28		Not sure	
29		Not sure	As part of the introduction week to new students.
30		Not sure	More professional speakers and group discussion.
31	masspirg	Yes	
32	crew	Not sure	
33		Yes	Have a co-opt which serves food/ drinks that is free trade certified and organically produced
34		Yes	
35		No	
36	I was in the co-president of my environmental club at my high school, and I am now on the CSI, Outing Club, and Greater Worcester Land Trust email lists and would like to do things with these organizations in the future	Yes	
37		Yes	
38		Yes	
39		Not sure	There could be a panel during one of the Difficult Dialogue programs this spring. RA's could also run programs with their residents at the beginning of the year. Emails could be periodically sent out to students as well, reminding them of some ways of conserving energy, water, etc.
40		Yes	Forums about how to be sustainable, lectures, talks, groups of students from their residence hall coming together to discuss how they can make their particular res. hall more efficient in the public spaces in their res. hall, i.e kitchen, bathrooms, perhaps facilitated by the R.A of the floor.
41		Yes	1.Composting 2.Allow students to take food out of the cafeteria, so it isn't wasted. 3.Have more recycling bins in the dorms (not just in the middle sections)

	Behavior	Dialogue	
ID	Q19. What Activities	Q15. Communication	Q16. Envision Communication
42		Yes	I think there should be an open list of current hotspots on campus for wasted energy consumption. For example, it is frequently the case that instructors or lab proctors leave projectors on overnight in JC. This wastes an enormous amount of energy, not to mention the cost of replacing the bulbs when they burn out prematurely. I think a public list of major energy-use issues on campus would clue people in that their individual actions matter in the larger scale.
43			
44		No	
45		Yes	Through Student Council.
46		Not sure	
47		Not sure	NA
48		Not sure	not sure
49		Not sure	For the question below, I would prefer a ""don't know"" category to my current choice.
50		Yes	Email the students and staff
51		Yes	
52	hospice	Not sure	I don't know
53		Yes	
54		Not sure	I think more people need to be made aware of energy issues, maybe conservation should be discussed in floor meetings at the beginning of the year. *break* Also, sustainability issues definitely need to be more visible. I'm not sure I would know about any of the organizations on campus if it wasn't for the course I'm enrolled in. I think the Campus Sustainability Fair was great but should be publicized more so more people are aware of it.
55	Webster Recycling Commission (Mass.)	Yes	put it on ccn. have more recycling bins; put some by outdoor trash cans.
56		Not sure	
57		Not sure	
58	Outreach Projects for classes	Yes	
59	MOFGA	Yes	Speakers, sharing more information about Clark's work on this issue both with those on campus and with Worcester community, highlighting seminars/classes for Clark community to attend, special activities/days devoted to a specific topic (e.g., paper recycling) that will get people actively involved in doing something, etc.
60		Not sure	Would be great for all new employees to be trained on these initiatives!
61		Not sure	

Appendix C

Clark University Environmental Sustainability Task Force Interview Questions

- 1) Varying definitions of sustainability exist. It is sometimes defined to include actions that foster ecological integrity, economic vitality and social equity. The Brundtland Report defines sustainable development as "development that meets the needs of the present, without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). How do you define sustainability?
- 2) How do you think we can measure the campus' progress toward sustainability?
- 3) What do you think we would learn from measuring the campus' progress toward sustainability in the way(s) you just mentioned?
- 4) How do you define hard to reach groups (i.e., is it those that are not interested in sustainability, those that are interested but do not have time, or something else)? How do you think we can address these groups (small events, campus-wide efforts, something else?) to increase sustainability?
- 5) Do you think that technological innovation and institutional policy are sufficient to increase campus sustainability and why or why not?
- 6) How do you see your role in campus sustainability and what would you like to contribute to campus sustainability through the rest of this year and beyond? What is your reason or motivation for being on the task force?
- 7) Beyond your role on the task force, how do you value the sustainability efforts on campus, the whole process or approach, with respect to how best to run the campus? (importance of environmental-friendliness, economics, etc.)
- 8) Is there anything you would hope to know or learn from these interviews?
- 9) If you were the interviewer, is there anything else you would ask that I have not?

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