

Environmental Education at the University of Richmond and Proposal for a Stewardship/ Sustainability Themed First Year Experience

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1. Introduction

In the *University Strategic Plan 2017*: in the fifth value, *Stewardship in A Changing World*, The University of Richmond has set the goal to be a leader in innovative practices that sustain our environmental, human and financial resources in response to emerging

environmental and financial challenges globally. The *University Strategic Plan 2017* proposes three key initiatives aiming to help the community to achieve the goal of sustainability. First, the University and the Office of Sustainability will complete a Sustainability Strategic Plan that guides the University to build a more sustainable and environmentally friendly campus through the development and implementation of strategies with measurable objectives. Secondly, the University will transform the campus management, operation and consumption into a green and sustainable model and move away from stressing the environmental, human and financial resources. The third proposed initiative, which we specifically focus on in this research, is that the University will physically and financially support innovative academic programs that educate high-achieving students today and in future generations about sustainability, responsibility and environmental challenges at different scales.

We highly agree that environmental education can greatly contribute to the goal of achieving campus sustainability and creating responsible environmental stewardship in this rapidly changing world. As defined in the University of Richmond's 2016 Sustainability report, sustainability means "creating environmental, social, and economic conditions that foster the health and wellbeing of people and the natural world in this generation and generations to come" (UR Sustainability Report, 2016). As defined within the environmental framework, stewardship involves responsible planning, use, and protection of earth's natural resources, both biotic and abiotic. We also recognize the University has great potential to improve and increase environmental education, and raise environmental awareness, particularly of the science and ramifications of climate change. Therefore, we propose to incorporate sustainability as a curriculum theme into the first year Experience, more specifically the Living and Learning Program, as outlined in the current University Quality Enhancement Plan (QEP) in accordance with the University Strategic Plan.

We also believe a new sustainability curriculum theme will ultimately contribute to another goal of the University Strategic Plan: to increase academic excellence. The Strategic Plan specifies that the University will provide students the "knowledge, insight, and skills needed to understand, navigate, and contribute to a rapidly changing world" (Strategic Plan, 2017). Environmental education can help the University to develop a signature first year experience that will immerse students into an intellectual community,

which respects life, nature and the earth. A sustainability curriculum also helps the University fulfill its vision as stated in the Strategic Plan “to provide students with the best possible preparation for lifelong learning, success in their chosen profession, and meaningful contributions to addressing the world’s problems” (Strategic Plan, 2017).

In 2016, Rob Andrejewski from the office of Sustainability at the University of Richmond collected data on the number and distribution of undergraduate classes that include a topic or are fully about sustainability. The office of sustainability also graded the University of Richmond in 9 different areas of air and climate, buildings, energy, dining, purchasing, transportation, grounds, waster, and water on their sustainability levels (Sustainability Report, 2016). When addressing the current opportunities on campus Dr. Crutcher said “We must not miss the opportunity to provide educational experiences that lend themselves to the creation of a more just, humane, and sustainable society” (Sustainability Report, 2016).

Therefore, in this research, we intend to analyze current environmental education on different scales at campus and other schools. Specifically we will discuss the perceptions professors and students have about sustainability and climate change activities and involvement on campus, the degree and type of communication between professors and students about environmental issues and topics, and sustainability programs of other competing schools. We begin our research with a literature review before methods, then results, additionally discussion, where we offer a concrete and specific proposal on a sustainability curriculum theme of First Year Experience program as part of the QEP, and finally conclusion.

2. Literature Review

2.1 Problem-Based Learning and Transdisciplinary Approach

Our literature review covers several books discussing the incorporation of climate change into the classroom using a transdisciplinary approach, the importance on climate education, and perceptions on climate change in colleges around the world. In the book, *Climate Change Across the Curriculum*, Fretz (2016) argues for problem based learning and

the transdisciplinary approach. Fretz (2016) believes climate change needs to be connected to politics, religion, culture, economics, ethics and social life inside the classroom and in everyday life in order for people to fully internalize the issues. Aligning the first year experience at the University of Richmond with the UR Strategic Plan, through sustainability, stewardship and environmental awareness, paves the way to incorporate many excursions, lectures and activities that engage the students in such dialogues.

Fretz (2016) discusses how writing and talking are two main forms of communication of ideas that college curriculums focus on inside the classroom. If classes are going to leave a lasting impression on students, then the teachers must center their classroom around critical thinking, analysis, and discussion, all of which are key components of active learning. A student who is not actively learning is not reaching their full potential in the classroom. First year students need activities in which they will be challenged to think critically about the world they live in and how they make an impact. The goal is not to create better writing and test scores, but rather better writing and thinking skills, skills that will carry with them throughout their lives. The application of problems and corresponding solutions from literature to real life encourage students to think for themselves and begin to understand the larger world in which they live in (Fretz 2016).

Taylor and Getty (2016) argue that quantitative reasoning and critical thinking are key factors in the foundation of a liberal arts college. Students need to understand how to correctly interpret data. However, some students do not learn how to correctly interpret data, thus inhibiting them from fully understanding scientific research in the future. Here in lies the problem. Are liberal arts colleges failing society if they do not produce students who are able to think critically? We believe that we are only harming ourselves and our future generations when we do fail to learn critical thinking. "Similarly, analyzing arguments about climate change requires the ability to distinguish sound arguments from fallacies, an understanding of correlation versus causation, and the ability to evaluate the assumptions, functional forms, sensitivity, and interpretation of models" (Fretz 2016, 83). Students who cannot distinguish between a sound argument and a fallacy will end up settling for something less than the full truth, because they do not know better. How can we, as a University, invite first year students into activities where they can develop vital

critical thinking skills? Therefore, teachers and professors should cultivate these tools and techniques within the students so that they may use the critical analysis skill learned inside the classroom in the workplace, home and social life.

There is direct correlation between the content of the information an individual converses about and the type of worldview they hold fast to. Knowing information in your head is only half of the step. It is not until you fully understand the knowledge in your heart that you can truly embody the belief. Kleier (2016) challenges teachers to stop the rote memorization and educate their students on how their lessons about climate change are critical to their lives. A teacher's goal is to show their students why learning any information in school is worthwhile. What larger life lessons can be applied everyday inside the classroom?

Whether Professors teach for a month or two weeks on climate change or environmental issues, the key is to make sure that students leave class with an understanding of why we as humans have a duty to take care of our planet. The Information Processing Model explains how sensory input goes into sensory memory, short-term memory (STM), and then into long-term memory (LTM) (Cullata 2011). Information in STM can only stay there for about 20 seconds. However, there are several methods that can be used in order to increase the chance that information will stay in short term memory longer (Hassan 2017). Our goal to create a proposal for teachers to incorporate sustainability and stewardship into the new first year experience, will be fruitless, unless the students actually engage in the dialogue and remember the information. The technique called maintenance rehearsal involves saying information aloud or silently over and over again (Hassan 2017). Students should engage in argumentative discussions with their peers about their contrasting views on activities they have done as a class and lectures attended. Students should then be prepared to supply evidence to back up their claims.

2.2 The Importance of Environmental Education at All Levels

When researching why environmental education is important throughout a person's life, we analyzed the book *Earth in Mind: On Education, Environment, and the Human*

Prospect by Dr. David Orr. Dr. Orr (2004) points out that the contemporary market-oriented education that lacks environmental education and alienates us from the ecological system is one of the biggest challenges to the environment and many global environmental issues today. Dr. Orr (2004) argues that many of us have acknowledged the rapid changes in our ecosystem. But still, there are many of us who have not realized that a lot of seeming independent problems, such as natural disasters, economic crises, hunger, and poverty, are actually interconnected with and act as results of a whole disordering ecological system. Failing to educate people to recognize the wholeness of our planet, the interdependence between human and nature, and that humans are part of rather than the dominators of nature, is the reason for many of our environmentally destructive economic and political actions.

As a professor of Environmental Studies and Politics at Oberlin College, Dr. Orr (2004) has observed that our educational system has been teaching students as if there was no planetary emergency, instead focusing on a prevalent perception that the business-as-usual type of exploitation, production and consumption seems fine. Education institutions have not made enough effort to help the emerging future leaders understand the ecological system and to recognize the planetary limits that we are soon about to break. Instead, students are still trained to prioritize development and economic growth over the protection of environment, responsible use of natural resources and resilience of worldwide vulnerable communities. However, as Dr. David Orr (2004, page 27) says “The skills, aptitudes, and attitudes necessary to industrialize the earth, however, are not necessarily the same as those that will be needed to heal the earth or to build durable economy and good communities.”

Environmental education, as Dr. Orr (2004) proposes, is necessary at all levels. The purpose of environmental education is not to convert everyone into an environmental activist or anti-capitalist, but to teach each student to care about and form an affinity with the ecological system that we very much depend on. In such a way, students can carry on the environmental consciousness throughout their academic life and have an impact on their future careers across all kinds of industries. The people who respect life, nature and the earth will also act as important parts of public education by raising awareness about environmental issues, and as a powerful force when making future decisions.

2.3 Climate Change Perceptions Among Colleges Students

By surveying 826 and 773 college students respectively, Jamelske et al. (2013) shows differences in the climate change awareness, perceptions and beliefs of young adults in the U.S and China. Since the U.S and China are the world's largest CO₂ emitters, largest economies and most powerful countries, the public opinions of climate change in the two countries are critical in terms of pushing forward both national and international climate change policies and education (Jamekse et al., 2013).

In the survey, though most of the U.S (76.8%) and the Chinese (87.2%) students believed that climate change is happening, the U.S students were much less likely to believe in, according to scientists, the anthropogenic climate change compared to the Chinese students. In addition, the survey shows that the U.S student ranked the economy much higher than the environment as a government propriety, while the Chinese student ranked the economy and environment as equally important. However, the results also indicate that the majority of students in both countries agreed that the U.S/China should join an international agreement to address climate change (Jamekse et al., 2013).

According to Jamekse et al. (2013), their paper contains similar survey results to previous research on the climate change public opinions of U.S students, which triggers educators and researchers to think about the challenges ahead of the effective climate change communication between U.S students, students and professors, students and communities, etc. U.S. student are believed to have the best flow of information, technology and education, but why they seem more likely to be uncertain about the existence of climate change and less likely to see human activities as the primary cause of climate change? Jamekse et al. (2013) concludes in the paper that the main reason to explain the results is difference in the the political system of two countries. However, the results encourage us to reflect on environmental education regarding climate change, because the participants were all college students (Jamekse et al., 2013).

Therefore, following the survey model in the Jamekse et al. (2013) paper, we conducted a customized survey targeting students with different majors and professors in different departments on campus, asking their opinions on climate change. We also asked

the frequency of environment related topics being mentioned, discussed, or taught in class. Based on the findings, we further analyzed the results, and came up with solutions and suggestions to help the University to increase environmental education and climate change communication in classes across majors.

3. Methods

3.1 Climate Change Education Survey at University of Richmond

An eight question survey was created and sent out to the current undergraduate students at the University of Richmond in order to gauge current student interest and experiences with stewardship, sustainability and climate change inside the classroom. We submitted an expedited review form for survey occurring minimal harm to participants at the University of Richmond Institutional Review Board (IRB). All surveys to be sent out to anybody at the University of Richmond must be submitted and receive approval from the IRB. We received permission from the IRB, giving us the green light to send out our survey. The survey was created using Google forms and contains an electronic consent form. The first attempt was to email both the Richmond College Dean (Joe Boehman) and the Westhampton College Dean (Mia Reinoso Genoni). They declined our request to send the student survey out using the Richmond College listserv and the Westhampton college listserv, saying they try to use the respective list serves only for very important emails, as to not overload the students with emails. Without these list serves, the names and email address of each administrative coordinator for each department was collected. Each administrative coordinator was sent an email explaining the purpose and goal of the survey, and asked if they would please send the live link to their respective department listserv. However, this method leaves the administrative coordinators to their own discretion on whether to send out the survey or not, and even then many of the students receiving the email will not fill out the survey. The survey was modeled after the 2014 climate change survey conducted by the Environmental Studies and Geography senior capstone, so that results could be compared.

A survey was created and sent out to all of the faculty at the University of Richmond in order to gauge professors' thoughts on the inclusion of climate change into the

classroom and current distribution and amount of teaching involving stewardship, sustainability, and climate change. I emailed Laura Harrison, Assistant to the Provost, explaining the purpose and goal of our survey and capstone project and inquired if she might be willing to send out the live link of our survey to the faculty list serve. Mrs. Harrison replied that she loved our project and would be happy to send out our survey, the only caveat being that there is not just an undergraduate listserv only a complete faculty list serve, as some professors teach in both the undergraduate and graduate schools. Mrs. Harrison also provided some suggestions about our survey and the body of the email being sent out to the professors. After the survey was sent out, about 15 different professors emailed a combination of Minyao, Megan, Mrs. Harrison and myself with comments and suggestions about our survey. We were pleasantly surprised by this, because it meant that a number of different professors cared enough about our survey to email us about how we could improve it. Some of the changes we were able to implement, however some of them we chose not to implement because it would change the wording too much, which would invalidate the previous results. Mrs. Harrison generously forwarded on any emails with comments that had been sent to her.

3.2 Research on sustainability-related Programs of Competing Universities

We researched on the sustainability programs and first year focused programs of three competing schools: University of Virginia (UVA), Virginia Commonwealth University (VCU) and Oberlin College along with the core values of the institutions. At a local scale, with shared geographical and cultural characteristics, UVA and VCU are the reasonable proximate comparable Higher Education Institutions for inquiries regarding sustainable development. At a national scale, with similar human and financial resources, and a great reputation for an environmental-friendly community, Oberlin College can be a successful model for the University of Richmond.

We analyzed the reports, strategic plans and other related materials available on the official websites. We also collected information by interviewing current undergraduate students of the schools. We intend to compare and contrast University of Richmond's effort

on sustainability and environmental education with other schools. In such a way, we will be able to locate the position of the University of Richmond's leadership on sustainability and environmental education, and generate a more comprehensive plan for the University to include Sustainability as a curriculum theme into the QEP.

4. Results

4.1 Survey Results

A total of 221 undergraduate students filled out our environmental education survey on stewardship and sustainability. As depicted in figure 1, 25.3% were seniors, 26.7% were Juniors, 21.3% were sophomores, and 26.7% were freshmen.

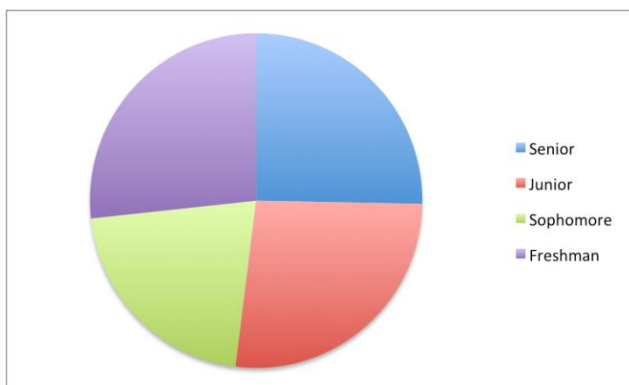


Figure 1. A chart depicting the percentages of each class level at the University of Richmond that the participants are a part of at the university of Richmond.

When asked to select what they believed were consequences of climate change 95.5% of the respondents replied that they believe that ice cap melting is a side effect, while only 62.4% of respondents picked changes in the ocean's salt content. When asked to select all the departments in which they have taken at least one class that at least mentions stewardship, sustainability, or climate change only 14% (31 people) replied none. 62 respondents (28.05%) indicated that they had taken an FYS related to sustainability and stewardship. As depicted in figure 2, 72.8% of respondents indicated that they strongly believe that global climate change is accelerated by human actions. A total of 96.4% of the respondents indicated that they either believe or strongly believe that global climate change is accelerated due to human actions.

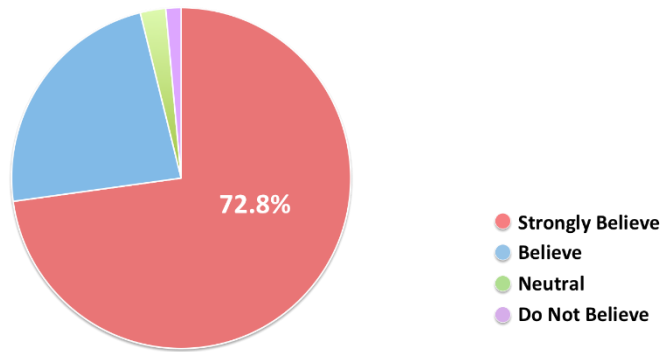


Figure 2. Graph depicting student respondents answers to the question “To what extent do you believe that the global climate change is accelerated by humans?”

As depicted in Figure 3, A total of 97.9% of respondents believe that human accelerated climate change is a threat. 81.1% of the respondents believe that human accelerated climate change is a threat that needs to be addressed immediately.

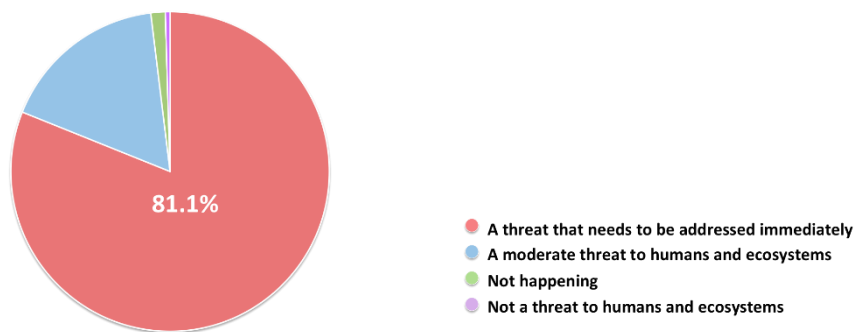


Figure 3. A graph depicting the student responses to the question ‘Human accelerated climate change is...’

A total of 79 professors completed the environmental education survey stemming from 36 different departments at the University of Richmond. As depicted in Figure 4, when asked if they believed that the global climate was changing, 79.7% said that they strongly believe the global climate is changing. While, 8.9% of the respondents indicated that they believe that the global climate is changing.

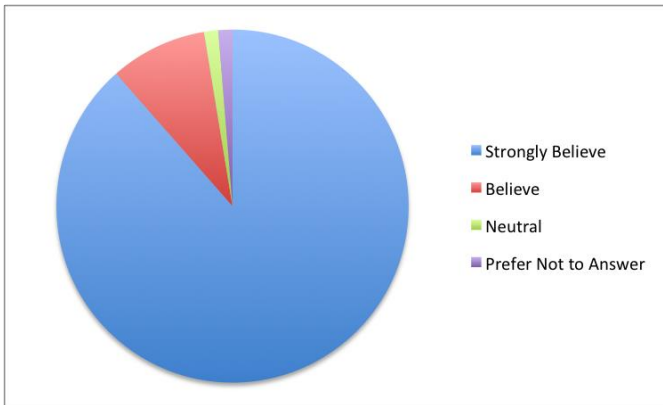


Figure 4. A graph depicting professor answers to the question 'Do you believe that the global climate is changing?'

As depicted in Figure 5, 79.7% of the professor respondents strongly agree that it is important for students to learn about climate change while at the University. A total of 96.1% of the professor respondents indicated on some level that they agree that it is important for University students to learn about climate change while they are at University. Professors were also asked their opinions of the current efforts to promote living sustainably at the University of Richmond.

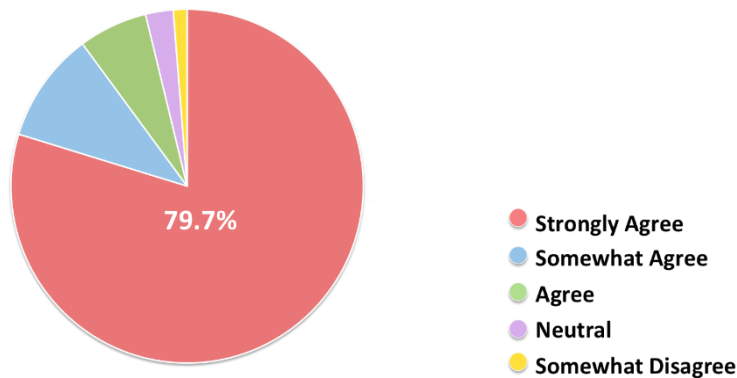


Figure 5. A graph depicting the professors' answers to the question 'To what extent do you believe that it is important for University students to learn about climate change while at University?'

Professors were asked for their opinions on how well the sustainability efforts on campus are working. As depicted in figure 6, 45.6% of the respondents believe the University of Richmond's effort to be 'fair', while 41.8% believe the effort to be 'good'. As depicted in figure 6, two professors (2.5%) indicated that they have not noticed any efforts on campus to promote living sustainably.

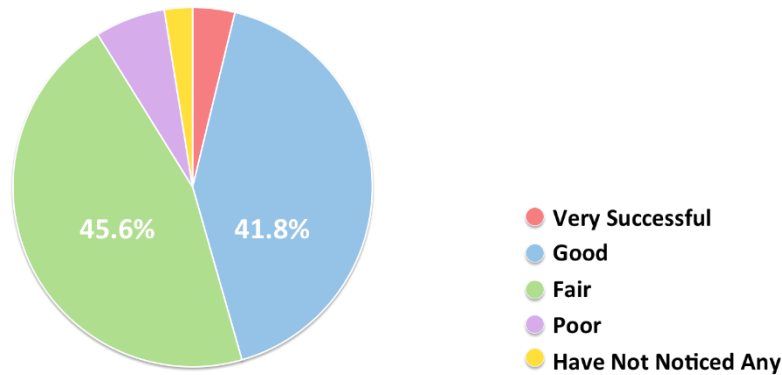


Figure 6. A graph depicting the professors' answers to the question "How do you view the University of Richmond's efforts on promoting living sustainably on campus (for example, recycling, saving water/electricity, renewable energy, food waste, sustainable dining)?"

4.2 University Programs Research Results

4.2.1 University of Virginia (UVA)

Office for Sustainability

At UVA, all 11 undergraduate and graduate schools offer various research projects and academic programs that are fully dedicated to environmental topics such as climate change, food security, energy, economy, environmental justice and equality, sustainable design etc. The mission of the Office for Sustainability at UVA is to engage the UVA communities, manage resources, and find ways to improve sustainability. Some of the approaches include partnership with University stakeholders in collaborative sustainability strategic planning and implementation and support of the integration of sustainability into the curriculum (Sustainability UVA 2017).

Academic Goals and Research

UVA is a big community with 11 schools and almost 13,000 faculty and staff. Over 100 sustainability-focused or sustainability-related courses are offered and over 200 faculty members are involved in sustainability-related research. UVA has also established the Teaching and Research Subcommittee of the Committee on Sustainability, aiming to promote interdisciplinary collaboration in curriculum development as well as research. Highlighted undergraduate programs includes Global Studies, an interdisciplinary major featuring human development, public health security and justice, environment and sustainability. Students majoring in this program address problems associated with human transformations of the earth through the combined curriculum of

environment, equity and economy. Another program is Environmental Thought and Practice. This major also teaches undergraduates to think about environmental issues within a broadly interdisciplinary framework.

Led by the school of Architecture, School of Environmental Science and the Vice President for Research, UVA has ongoing research on climate change resilience, sustainable planning and design, nitrogen footprint, food security, water quality, business and transportation, etc. Immersive experience programs includes ReCover, an architecture design studio program which aims to positively affect and promote the design and building of safe, healthy, and sustainable communities around the world; and Morven Summer academic program, rooted in interdisciplinary place-based learning. The summer program is designed for people with interests in sustainability, design, food systems, and ecology (Sustainability UVA 2017).

First Year Experience

Overall, UVA offers undergraduate students many well-designed and competitive academic programs related to sustainability and environment with a broad range of social and environmental topics. However, UVA is not actively engaged with environmental education in terms of their first year experience. UVA's first year Living and Learning program has not included a theme on sustainability. The Living and Learning communities focus more on dynamic faculty-student interaction, leadership opportunities, academic integration, social service and life, etc. UVA does not have a required first year curriculum or similar courses that specifically focus on sustainability for first year students, either. The University Seminars (USEM's) program, though designed predominantly for first- year students and expected to help students develop critical thinking skills, is not required for graduation and lacks the concentration on topics of sustainability and environmental issues. Students in the School of Arts and Science have to complete the Degree Requirement courses before graduation, and they have to choose courses from the departments of Social Sciences, Humanities, Historical Studies, Non-western language or culture, and Natural Science and Mathematics. Students could also choose to participate in a similar program called The Forum and complete the corresponding Forum requirements in the first two years at UVA. Similar to the academic structure of University of Richmond Sophomore Scholar in Residence program, each UVA forum is unique and requires

particular courses based on the prevailing problem, topic or issue. Among five themed Forums, one of them is featured in human impacts on the environment and requires 11 courses across disciplines but all related to environmental issues (Sustainability UVA 2017).

4.2.2 Virginia Commonwealth University (VCU)

Office of Sustainability

VCU is a public research University located in Richmond with over 24,000 undergraduate students. The mission of VCU's Office of Sustainability is to be responsible for the diverse human and natural environments through education, innovation, collaboration and engagement. The VCU Office of Sustainability has published the first Sustainability Plan for 2015 to 2020. This Plan is intended to serve as a roadmap to achieving sustainability goals at VCU. Each Sustainability Committee Sub-Committee (Operations, Community Engagement, Planning and Administration, and Academics) drafted goals, actions, and timelines specific to their focus were incorporated into the Plan (VCU Office of Sustainability 2017).

Academic Goals and Research

In the Sustainability Plan, VCU commits to promote a student-centric sustainability education system and sustainability literacy through experiential learning. VCU offers 82 courses tagged with the sustainability attribute across schools. These courses are available in several disciplines from the sciences to the arts and are intended to give students an understanding of how sustainability can be incorporated into any field of study.

At VCU, research related to sustainability or the environment are mainly focusing on ecology and biodiversity. Several outstanding research projects includes Ecosystems and Climate Change, a project that calculates an ecosystem's impact on climate; Into the Woods, an investigation of the spread of West Nile Virus; Species Distribution and Climate Change project that helps the Southwestern White Pine navigate climate change and disease, etc (VCU Office of Sustainability 2017).

First Year Experience

VCU's core curriculum applies to students from all schools includes two basic writing courses and on average one course in each of the fields of quantitative literacy, academic and research writing, humanities and fine arts, social science, and

natural/physical science. Only the two basic writing courses are required to be completed in the first year. However, the basic writing course does not have a fixed theme or topical focus.

VCU offers both upperclassmen Living and Learning programs as well as freshmen Living and Learning communities. The first year programs have a variety of themes includes sustainability, arts, community services, fitness and wellness, pre-medical studies, leadership, diversity and global studies and so on. “Ecovillage” is for freshmen who have an interest in and commitment to sustainable living. Through the one-year program, students will gain personal and professional skills relating to initiating and implementing sustainable projects. Students will also be exposed to how VCU is working to become more sustainable through energy and water use reduction, community engagement and outreach, etc. Lastly, students will work closely with the VCU Office of Sustainability to identify and improve these programs to better the VCU student experience (VCU Residential Life and Housing 2017).

4.2.3 Oberlin College

Office of Sustainability

Oberlin is a select private liberal arts college located in Oberlin, Ohio. Oberlin has approximate 2,900 undergraduate students. The Office of Environmental Sustainability (OES) at Oberlin College works to facilitate the implementation of the college’s comprehensive environmental policy in line with the college’s strategic goal of sustainability and commitment to carbon neutrality. OES interacts with the administration, faculty, staff, and students to focus attention on ways to maximize the environmental performance of Oberlin College and develop the awareness and tools required to respond dynamically to issues affecting them. OES also reaches out to the wider community and provides a connection between Oberlin and regional and national activities (Oberlin OES 2017).

Academic and Research

Oberlin offers approximately 60 sustainability-related courses that include sustainability as a course component or module, or concentrate on a key sustainability principle or issue. Those across-disciplines courses concentrate on the social, economic,

and environmental dimensions of sustainability and examine an issue or topic using sustainability as a lens. At Oberlin, faculties from various departments have initiated sustainability-related and sustainability-focused research projects, including the field of Anthropology, Biology, Computer Science, Dance, Politics, Psychology, etc (Oberlin OES 2017).

First Year Experience

Oberlin offers a first year Seminar Program just as University of Richmond does. Some recent first year seminars have explored the concept of peace, conflict, and violence; black women and liberation; origins and treatment of cancer; the politics of public art and space; the genesis of controversy; and social justice in the United States. Among about 45 first year seminar courses, 2-4 courses are either directly or indirectly related to climate change, sustainability and other environmental topics. Oberlin does not require every freshmen to take the first year Seminar course, however, although the faculty strongly encourage all student to enroll in one or two seminars (Oberlin OES).

As part of Oberlin's Residential Education and Dining Services' effort to provide unique and individual housing experiences, Theme Communities are arranged across a number of campus residences and cover a variety of interests. The E.A.R.R.T.H. (Environmentally Active in Reducing use of Resources Themed Housing) House is a sustainability themed community open to students of all years. E.A.R.R.T.H House's mission is to establish a focus on individual and community based practices to reduce consumption of resources, to connect with other environmental groups on campus, and to function as a space for increased awareness of environmental concerns. Another sustainability themed community specifically for first year students is Robert Lewis Kahn Hall. First year students living in Kahn Hall also dedicate to make sustainability part of their everyday life by trying to conserve water and energy, reduce waste, avoid bringing cars to campus, and minimize their negative impact on the environment. The U.S. Green Building Council has certified Kahn Hall with its Leadership in Energy and Environmental Design (LEED) Silver rating, signifying that the hall has met certain criteria such as water efficiency and indoor environmental quality. In both communities, students can monitor their energy and water use in real time (Oberlin Theme Living 2017).

5. Discussion

5.1 Sustainability in UR Undergraduate Classes

In our discussion of the 2014 survey, the 2016 Sustainability report, and our 2017 survey, we will analyze the combined results and argue that the University of Richmond has an opportunity to engage the students in environmental awareness, given the students' demonstrated desire and interest to do so. In 2014 a 22 question climate change awareness survey was conducted by Environmental Studies Seniors Sammy Easby and Tess Manning to 274 undergraduate students at the University of Richmond. In 2014, only 53% of the students polled responded that they believe climate change is a threat that needs to be addressed immediately, whereas in 2017 the response was 82.4%. This indicates that climate change is becoming a more important issue in the mind of college students. More students also acknowledge climate change as being accelerated by humans. In 2014 only 42% of the students polled responded that they strongly believe that climate change is accelerated by humans, while in comparison in 2017 73.9% of respondents strongly believe. This upward shift in selection of 'believe' to 'strongly believe' indicate an increasing awareness of the current climate situation. In 2014, only 58% of the students surveyed believed that hotter summers and shorter winters were consequences of climate change. However, in 2017 72.3% of the respondents believed that hotter summers and shorter winters are consequences of climate changes. Not only are more students more interested in climate change, but they are also more educated about the effects.

In 2016 the Office of Sustainability at the University of Richmond collected data on which undergraduate classes taught either include a unit about sustainability or are completely about sustainability.

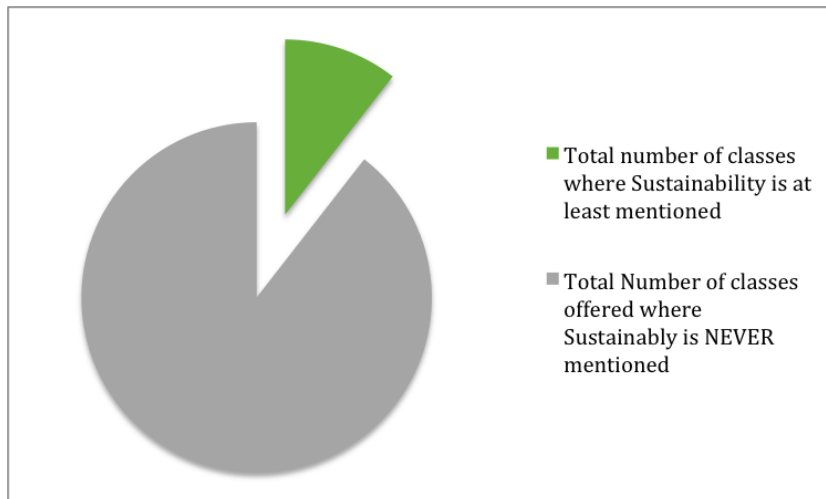


Figure 7. A pie chart depicting the proportion of classes that at least mention sustainability out of all classes offered at the Undergraduate level at the University of Richmond.

Figure 7 depicts that there are a total of 81 classes offered at the Undergraduate level at the University of Richmond that at least mention sustainability in their curriculum out of a total of 769 classes. Data was collected based on the 2016 Fall and Spring course offerings using the syllabi to determine the content of the course. The UR Strategic plan states that “A University of Richmond education will stimulate intellectual and personal growth, connect theory with practice, and offer the inspiration of the liberal arts and the ability to approach problems thoughtfully, critically, ethically, and creatively” (Strategic Plan, 2017). The theme of stewardship and sustainability transcend these borders. Because all companies have to comply with environmental regulations, it is important for undergraduate students of all majors to have exposure to sustainability ideas.

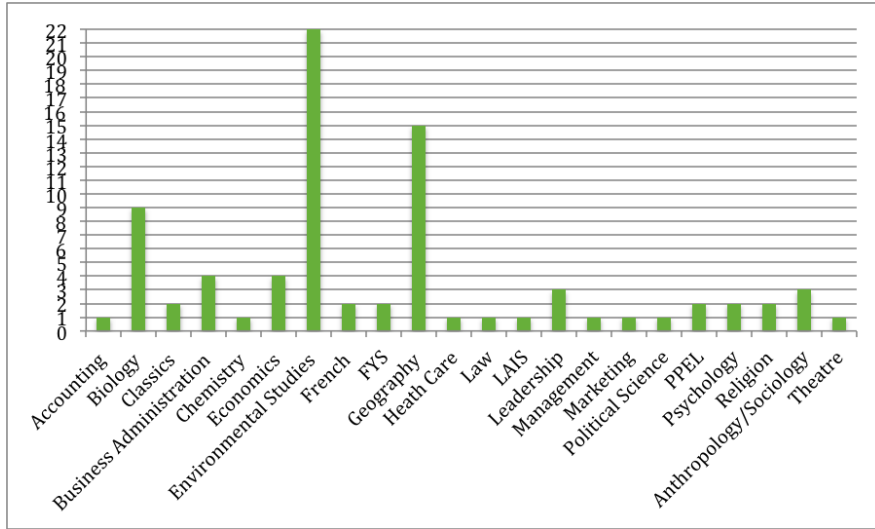


Figure 8. A Bar graph depicting the number of undergraduate classes that at least mention sustainability per department at the University of Richmond

Figure 8 illustrates how while many different departments offer classes that at least mention sustainability, they only offer 1 or 2 classes at the Undergraduate level at the University of Richmond that at least mention sustainability in their curriculum. However, 46 of those classes fall under the departments of Biology, Environmental Studies, and Geography. U of R offers only 35 courses outside of these three departments, most of which are offered as optional electives within their specific department.

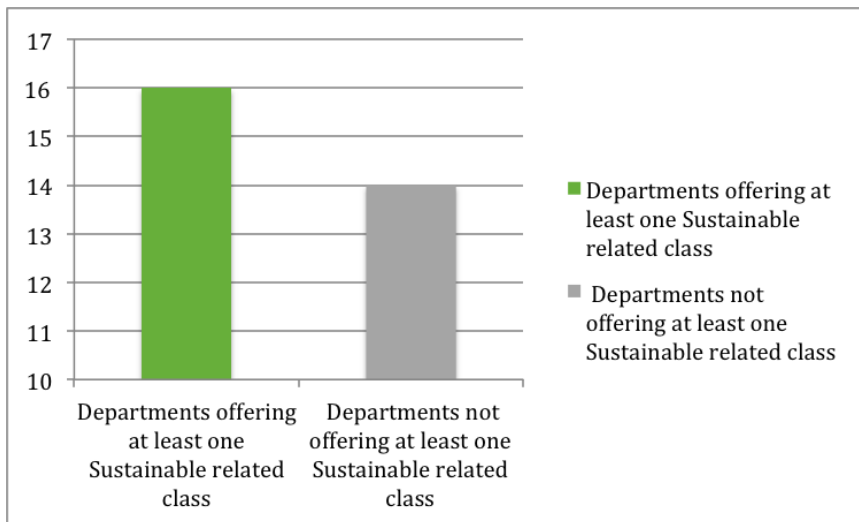


Figure 9. A chart depicting the number of Departments at the University of Richmond that offer at least one sustainable related class and the number of Departments at the University of Richmond that do not offer at least one sustainable related class.

While Figure 9 indicates there are currently more University of Richmond Departments that offer at least one sustainability related course than not, Figure 2 clearly

shows that many of these departments only offer one sustainability related class, most often an optional elective course. These graphs aid in our argument that many students at the University are not getting enough exposure to environmental awareness to fulfill UR's strategic plan, and therefore sustainability and stewardship should be one of the main themes in the new first year program as outlined in the QEP.

5.3 Potential Sustainability-Related Class Activities for first year

Experience

We believe that through the incorporation of a sustainability theme, the University will be able to better prepare first year student to create responsible environmental stewardship on campus, in the greater Richmond community, and in this rapidly changing world. We also believe that first year environmental education will ultimately contribute to another goal of the University Strategic Plan: to increase academic excellence. In this proposal, using campus as a living laboratory, we provide a list of interactive, sustainability- and environment- related activities that could be adopted by both the first year Introduction and first year Living and Learning courses. These activities can help the University to develop a signature first year experience that will immerse students into our intellectual community and our values that respect the life, nature and the earth. Students will have the opportunity to form the environmental consciousness and stewardship mindsets that they could carry on throughout their life. Along with the description of the activity, we also include the reading materials that could be helpful for the faculty to further contextualize the activities into academic tools that provide students the knowledge, insight, and skills needed to understand, navigate, and contribute to our campus and to the world.

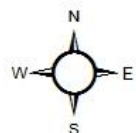
5.3.1 The Use of “Third Spaces” on Campus

Suggested Reading: University of Richmond Campus Master Plan 2011

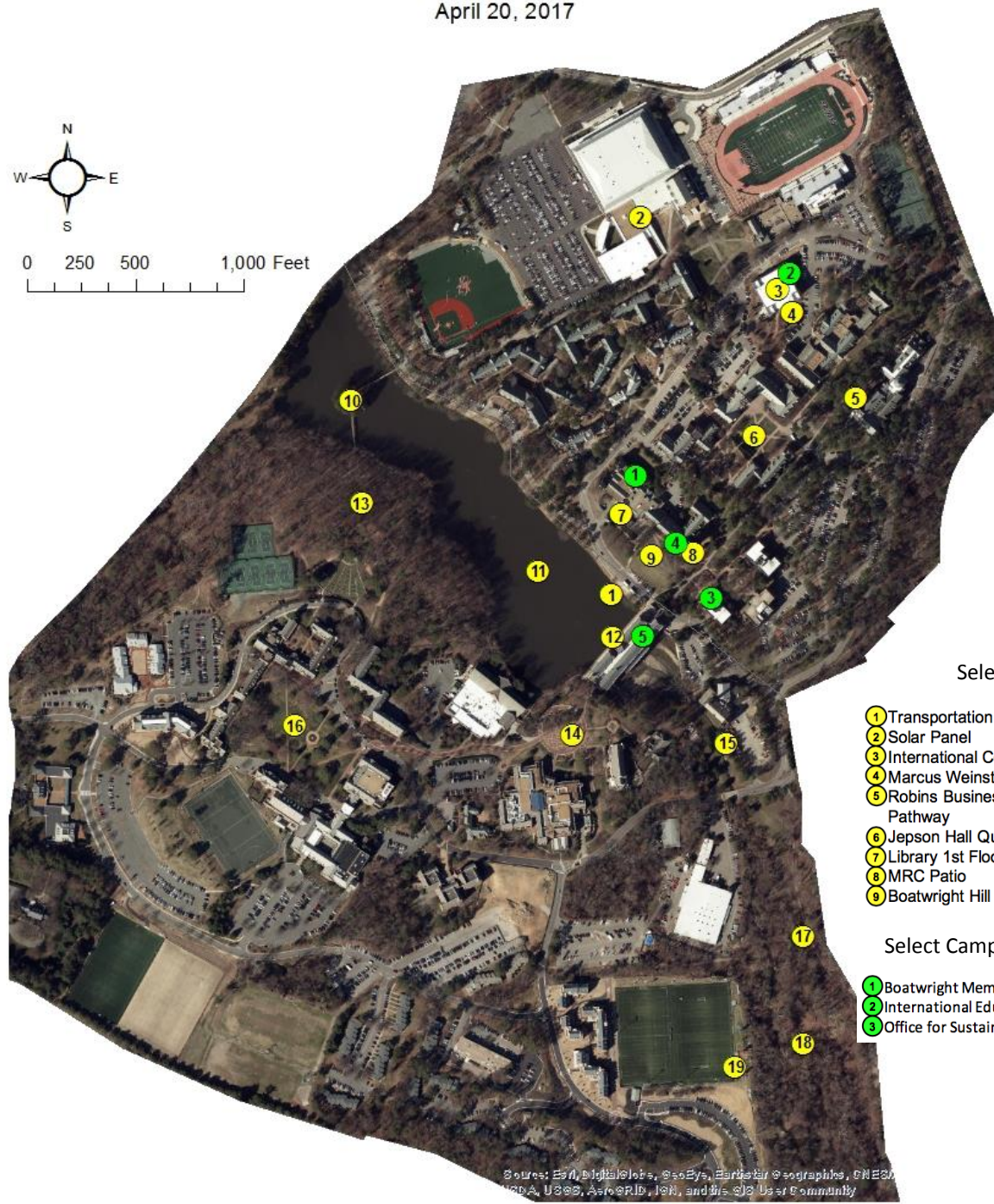
Third space” refers to the environment separated from the two usual social spaces -- home (“first space”) and the workplace (“second” place). Study space, meeting rooms, cafes and outdoor gathering areas can all be considered as third spaces (UR Campus Master Plan 2011). The use of Third Spaces on campus is highly recommended for environmental education. Figure 8 is a map that shows a selection of Third Spaces on campus.

Map of Campus Certified Green Offices and Third Spaces for Environmental Education

Created by Minyao Li
 University of Richmond Climate Change Capstone Poster Session
 April 20, 2017



0 250 500 1,000 Feet



Select Campus Third Spaces

- | | |
|----------------------------------|------------------------|
| ① Transportation Hub | ⑩ Gazebo |
| ② Solar Panel | ⑪ Westhampton Lake |
| ③ International Center Globe | ⑫ Commons Pathway |
| ④ Marcus Weinstein Ellipse | ⑬ Westhampton Forest |
| ⑤ Robins Business School Pathway | ⑭ The University Forum |
| ⑥ Jepson Hall Quad | ⑮ Westhampton Creek |
| ⑦ Library 1st Floor Patio | ⑯ Westhampton Green |
| ⑧ MRC Patio | ⑰ Gambles Mill Trail |
| ⑨ Boatwright Hill | ⑱ Westhampton Creek |
| | ⑲ Intramural Fields |

Select Campus Certified Green Offices

- | | |
|----------------------------------|--------------------------------------|
| ① Boatwright Memorial Library | ④ Academic Advising Center |
| ② International Education Office | ⑤ Bonner Center for Civic Engagement |
| ③ Office for Sustainability | |

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus, USDA, AeroGRID, IGN, and the GIS User Community

Figure 10. Map of Campus Certified Green Offices and Third Spaces for Environmental Education

5.3.2 Campus Green Tour

Suggested Reading: University of Richmond Sustainability Report 2017

The Office of Sustainability has the Green Office Program that encourages behaviors that minimize environmental impact and promote a culture of sustainability for all UR staff and faculty. The items on the Green Office Program checklists allow employees to adopt actions that align with the University's Climate Action Plan. The intent of the program is to establish a culture of sustainability, build community within and across offices, provide tangible sustainability focused action items, educate the University community and help staff and faculty across UR do their part to meet University goals in all focus areas. So far, over 40 offices has participated in the Green Office Program. The map in Figure 8 also provides locations of five most sustainable offices that can be easily toured.

Other than the Green Offices, our campus has several sites that are worth a visit because of the associated sustainability and environmental friendly features: Carole Weinstein International Center with LEED Gold certification (LEED certified buildings represent the promotion of renewable and clean energy) ; Solar array on the roof of the Weinstein Center for Recreation and Wellness; Public Transportation Hub that offers various ways getting around; Recycling bins near residential halls; Green spaces such as Westhampton Lake.

5.3.3 Student Involvement

Suggested Reading: Newport, Dave. 2015. "A Hold Harmless Guide to Campus Sustainability." *Sustainability: The Journal of Record*.

Professors could ask students to join at least one sustainability affiliated student organization or participate in two sustainability-related events per semester as a class assignment or extra credits. One-page summaries about the experience can be the outcome of attending the event. On campus, we have organizations focusing on different aspects such as law, food, outdoor activities, animal issues, Greek life, etc. Examples are GreenUR, Greeks Going Green, Spiders C.A.R.E, Net Impact, Food Recovery Network, Richmond Environmental Law Society, UR Outdoor Alliance, etc (UR Sustainability 2017).

5.3.4 The James River

Suggested Reading: Richmond Riverfront Project Master Plan

Students can be exposed to literatures about the history, governance, policies, business and culture of the James River. In class, students can discuss or write about the connection of the James River with students themselves, UR and the greater Richmond area from different angles and perspectives. For example, students can research on the businesses associated with the James, and the social and environmental impacts of the business operation and management on the Richmond area.

5.3.5 Water Quality

Suggested Reading: Richmond 2015 Drinking Water Quality Report

The water source of the City of Richmond is the James River. The City of Richmond Department of Public Utilities has been dedicated to secure and improve our drinking water sources. Our campus relies on the water supply from the James River as well. Sampling the water from the Westhampton Lake and the James River and comparing the differences could be a good educational tool for students to learn about the importance of drinking water access and quality (Richmond 2015 Drinking Water Quality Report).

5.3.6 Recycling Bins and Signs Project

Suggested Reading: Environmental Protection Agency: Reducing and Reusing Basics

Every building on campus is equipped with recycling bins. There are also recycling sections attached to waste stations. However, people often feel confused about what to recycle and how to recycle. In this project, students can help the sustainability office to post the recycling signs on the bins, while sending out flyers containing information about recycling. Also, students can help to check and maintain the recycling signs regularly to make sure of the effectiveness of this project. Related information can be found here: <http://sustainability.richmond.edu/operations/recycling/index.html>

5.3.7 RecycleMania

Suggested Reading: University of Richmond Sustainability Report 2017

RecycleMania is a nationwide recycling competition that runs from February 4-April 1. According to the Office of Sustainability at UR, our goal is to have 80% waste diverted from the landfill. As first-year students, we could help to reach the goal by recycling and donating old clothes, books, or school supplies and drop them off in residential hall's Donation Station. Students can also contribute by volunteering in a Zero-Waste Basketball Game, Waste Audit, etc (UR Sustainability 2017). For more information, please visit <http://sustainability.richmond.edu/involved/recyclemania.html>

5.3.8 Rethink Waste

Suggested Reading: Annie L. Booth and Arthur L. Fredeen and Smythe, Danielle P. 2010. "Reducing Solid Waste in Higher Education: The First Step Towards 'Greening' a University Campus." *Resources, Conservation and Recycling*.

UR has set an ambitious goal of 80% waste diversion by 2020, which requires us to have 80% of our waste recycled, composted, or donated for reuse instead of going to the landfill (UR Sustainability 2017). Rethink Waste is a campaign about rethinking our relationship with waste. Students are encouraged to read the guidelines for recycling and composting, and the tips from the Office of Sustainability for how to reduce waste. More information on <http://sustainability.richmond.edu/operations/rethink-waste.html>. In class, students are also encouraged to write and discuss about the waste of their daily life and the waste management on campus based on their experiences.

5.3.9 Solar Tour on Campus

Suggested Reading: University of Richmond Climate Action Plan Update 2014

In Spring 2016, the University of Richmond completed the installation of a solar array on the roof of the Weinstein Center for Recreation and Wellness. The electricity generated by the solar photovoltaic system is approximately equivalent to the energy needed to power 22 homes. As a class or an individual, students are welcome to take an educational tour of the solar array offered by the Office for Sustainability. The tour is about 20 minutes, and students will get an overview of how solar works, what is unique about the solar array, and why this array is important for the University's carbon neutrality goals (UR Sustainability 2017).

5.3.10 Gambles Mill Trail

Suggested Reading: University of Richmond Campus Master Plan 2011

In the UR Campus Master Plan 2011 (page 56), four ideas were proposed for the redevelopment of the south campus that includes the areas of the Commons, Gateway Apartments, Gambles Mill Trail, the Westhampton Creek and University Forest Apartments. Each proposed option serves a different purpose with different foci, and might have different kinds of environmental impacts on the Westhampton Creek and Gambles Mill Trail. Students are encouraged to take a walk on the Gambles Mill Trail, discuss the options in terms of the environmental impact, practical functions, budget, design, marketing as school landmark, etc.

5.3.11 Green Room Project

Suggested Reading: Karen A. Hegtvedt and Cathryn Johnson and Christie L. Parris and Watson, Lesley. 2015. "Living Green: Examining Sustainable Dorms and Identities." *International Journal of Sustainability in Higher Education*.

The Office for Sustainability has developed a Green Room Program that provides students with guidelines to adopt sustainable living habits in the residence halls and apartments. Students who live in residence hall rooms and who live in a suite or apartment will have separate checklists. (UR Sustainability 2017) In the First Year Experience, students should be encouraged to take part in the program. For more information, please visit <http://sustainability.richmond.edu/living/green-room/index.html>

5.3. 12 Energy Evaluation

Suggested Reading: Faghihi, V., Ford, D.N. and A.R. Hessami. 2015., "Sustainable Campus Improvement Program Design Using Energy Efficiency and Conservation." *Journal of Cleaner Production*.

UR has committed to conserve energy in various ways. UR energy efficiency and conservation projects includes the transition from coal to natural gas as the primary fuel for on-campus, high-efficiency heat pumps for the University Forest Apartments, using energy-efficient lighting strategies incorporating classroom occupancy sensors, etc (UR

Sustainability 2017). Students could do an energy evaluation on different campus buildings, analyze the results and come up with proposals that pushes energy conservation.

5.3. 13 Trayless Week

Suggested Reading: K. Karstens and Moe, G.L. 2009., "Trayless Dining Services and Composting Green the College Cafeteria." *Journal of the American Dietetic Association*.

Student should be encouraged to go trayless in the Heilman Dining center to reduce food waste. By taking only what is needed, students can contribute to a decrease in food waste. In the First Year Experience, students can try a Trayless Week as a class and estimate how much food they would save comparing to eating with a tray. Students are also encourage to read about national and global food waste, and research on campus food waste.

5.3. 14 Research on Organic/Local Food on Campus

Suggested Reading: Donald Edmonds and Yuncheng Liu and Sherma, Kayla. 2017. "Environmental Studies/Geography Capstone research on Food Systems and Security at the University of Richmond."

The University's Dining Services has been dedicated to buy local food, purchase sustainably sourced seafood, etc. The Office for Sustainability has also been working with Dining Services on a food data project to verify and track the sustainability of all food sold at UR (UR Sustainability 2017). As a class project, students can research on the organic and/or local food on campus, for example the Passport Cafe, 815 Cafe, etc. Students can also analyze the social and environmental impacts of the food sources and the supply chain. For more information, please refer to the 2017 Environmental Studies/Geography Capstone research on Food Systems and Security at the University of Richmond by Kayla Sherma, Donald Edmonds and Yuncheng Liu. Their thesis includes analysis of a survey done in 2017 to undergraduate students at the University of Richmond about local food and food security in the city of Richmond.

5.3. 15 No-Plastic-Bottle Campaign

Suggested Reading: Berman, Elizabeth R. and Rachel K. Johnson. 2015. "The

Unintended Consequences of Changes in Beverage Options and the Removal of Bottled Water on a University Campus." *American Journal of Public Health.*

Plastic bottles are seen everywhere on campus because of the convenience and easy access. Professors and faculties should encourage first-year students to start a No-Plastic-Bottle Campaign on campus: map the water fountains on campus, bring reusable water bottles to refill water, and collaborate with cafe shops to promote reusable water bottles, etc.

5.3. 16 Community Garden Project

Suggested Reading: Kelly, Kathleen. 2010. "Benefits of a Small Community Garden." *Countryside & Small Stock Journal.*

UR has created a community garden that could be accessed by the Gambles Mill Trail and across the path from the Country Club of Virginia Golf Course. As a class project, students can apply for a spot in the community garden and grow organic vegetables by hand. Through the Community Garden Project, students will get to learn about organic farming, healthy food and ecology, impact of pollution and fertilizer on local rivers, science of botany, etc (UR Sustainability 2017).

5.3. 17 Sustainability-Related Community service

Suggested Reading: E. G. Clary and M. Snyder and A.A. Stukas and Worth, KA, 2009. "The Matching of Motivations to Affordances in the Volunteer Environment." *Nonprofit and Volunteer Sector Quarterly.*

The Bonner Center for Civic Engagement (CCE) at UR has partners focusing on over 20 different issues throughout the Richmond region. One of the categories is Sustainability, Food access, Environmental Conservation. Collaborative organizations include the James River Parks System, Sierra Club, City of Richmond Sustainability Office, Tricycle Gardens, etc. First-year students are highly encouraged to sign up and volunteer through CCE programs that are related to sustainability. By deeply engaging with local community, student will get hands on experience on sustainable development and education, while thinking about complex social issues associated with the environment and sustainability.

For more information, please visit

<http://engage.richmond.edu/programs/register/index.html>

VI. Conclusion

With 72.8% of the student respondents believing that climate change is accelerated by humans and 81.1% responding that climate change is a threat that needs to be addressed immediately, there is a heightened demand for education on sustainability and stewardship. The students' desire is equally matched by the professors, as 79.7% responded that it is very important for students to learn about climate change.

A sustainability themed FYE will help the University to develop a signature first year experience that will immerse students into our intellectual community and our values that respect the life, nature and the earth. The sustainability themed FYE will follow the Strategic Plan and help provide students with the "knowledge, insight, and skills needed to understand, navigate, and contribute to a rapidly changing world" while giving them the "best possible preparation for lifelong learning, success in their chosen profession, and meaningful contributions to addressing the world's problems" (Strategic Plan, 2017). Our rapidly changing world's biggest problem is climate change and a sustainability themed FYE can be a valuable introduction to a customized University of Richmond Liberal Arts education combining critical thinking with problem-based learning.

VII. References

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VIII Acknowledgements

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- Office for Sustainability, University of Richmond
- David Salisbury

VIV. Appendix

Figure 4: Professors: In what department at UR do you teach? Data

Total number of professor surveyed: 79

Answer	Response	Percentage (%)
Accounting	3	3.80
Art and Art History	1	1.27
Biology	10	12.66
Chemistry	5	6.33
Classical Studies	1	1.27
Economics	5	6.33
Education	3	3.80
English	2	2.53
Finance	1	1.27
FYS	1	1.27
Geography	4	5.06
History	4	5.06
International Studies	1	1.27
Languages, Literatures, & Cultures	7	8.86
Latin American, Latino, and Iberian Studies	3	3.80
Law	3	3.80
Leadership Studies	1	1.27
Management	3	3.80
Marketing	2	2.53
Math & Computer Science	1	1.27
Philosophy	1	1.27
Philosophy, Politics, Economics, and Law Program	1	1.27
Physics	2	2.53
Political Science	6	7.59
Psychology	1	1.27
Religious Studies	1	1.27
Rhetoric & Communication Studies	1	1.27
Robins School of Business	1	1.27
School of Professional & Continuing Studies	7	8.86
Theatre and Dance	1	1.27

Figure 5.1: Professors: How do you view the University of Richmond’s efforts on promoting living sustainably on campus (for example, recycling, saving water/electricity, renewable energy, food waste, sustainable dining)?”

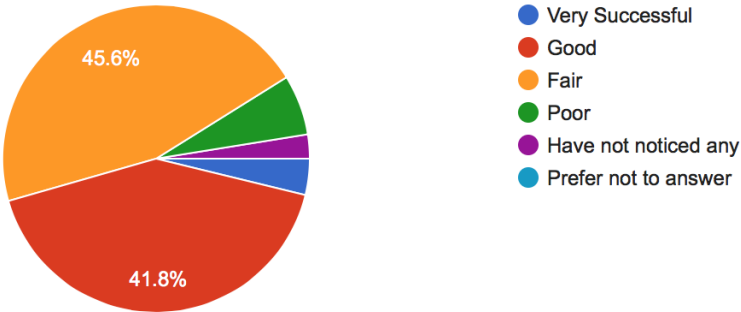


Figure 5.2: Professors: How do you view the University of Richmond’s efforts on promoting living sustainably on campus (for example, recycling, saving water/electricity, renewable energy, food waste, sustainable dining)?” Data

Answer	Response	Percentage
Very Successful	3	3.8%
Good	33	41.8%
Fair	36	45.6%
Poor	5	6.3%
Have Not Noticed Any	2	2.5%
Prefer Not To Answer	0	0%

Figure 6.1: Professors: To what extent do you believe that it is important for University students to learn about climate change while at University?’

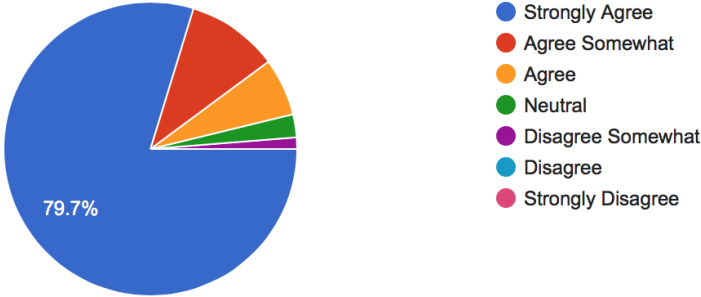


Figure 6.2: Professors: To what extent do you believe that it is important for University students to learn about climate change while at University?’ Data

Answer	Response	Percentage
Strongly Agree	63	79.7%
Agree	5	6.3%
Agree Somewhat	8	10.5%
Neutral	2	2.3%
Disagree Somewhat	1	1.2%
Disagree	0	0%
Strongly Disagree	0	0%

Figure 7.1: Professors: ‘Do you believe that the global climate is changing?’

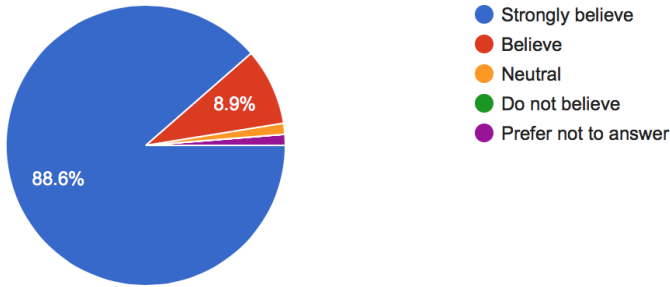


Figure 7.2: Professors: ‘Do you believe that the global climate is changing? Data

Answer	Response	Percentage
Strongly Believe	70	88.6%
Believe	7	8.9%
Neutral	1	1.3%
Do Not Believe	0	0%
Prefer Not To Answer	1	1.3%

Figure 8.1: Professors: To what extent do you believe that the current global climate change is anthropogenic (ACCELERATED by human actions)?

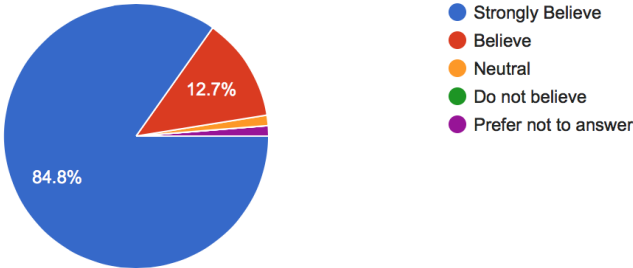


Figure 8.2: Professors: To what extent do you believe that the current global climate change is anthropogenic (ACCELERATED by human actions)? Data

Answer	Response	Percentage
Strongly Believe	67	84.8%
Believe	10	12.7%
Neutral	1	1.3%
Do Not Believe	0	0%
Prefer Not To Answer	1	1.3%

Figure 9: Please check ALL the Departments that you have taught at least one class in that either mentioned environmental issues and/or climate change issues, or devoted an entire unit to it. Data

Total number of professor surveyed: 79

Answers	Response	Percentage (%)
Accounting	2	2.53
Art History/Visual Media and Arts Practice	1	1.27
Biology	12	15.19
Business Administration	6	7.59
Chemistry	5	6.33
Classical Civilization/Latin	1	1.27
Dance/Theater/Music	1	1.27
Economics	6	7.59
Education	2	2.53
Film Studies	1	1.27
Finance	1	1.27
FYS	5	6.33
Geography	10	12.66
Healthcare Studies	1	1.27
History	5	6.33
International Studies	6	7.59
Language Literature & Culture/Modern Language	10	12.66
Law	4	5.06
Leadership	2	2.53
Literature/English	3	3.8
Marketing	1	1.27
Mathematics	1	1.27
Philosophy	2	2.53
Philosophy, Politics, Economics and Law (PPEL)	1	1.27
Physics	2	2.53
Political Science	6	7.59
Psychology	2	2.53
Religious Studies	2	2.53
Rhetoric and Communication Studies/Journalism	1	1.27
Women, Gender and Sexuality Studies	1	1.27

Figure 10.1: Students: What class year are you?

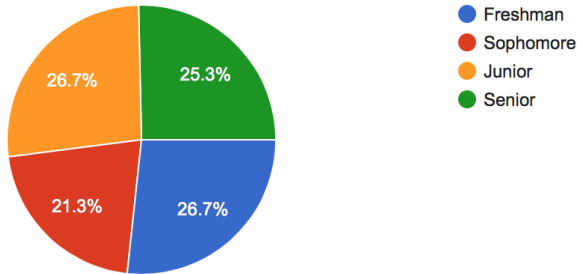


Figure 10.2: Students: What class year are you? Data

Answer	Response	Percentage
Freshman	59	26.7%
Sophomore	47	21.3%
Junior	59	26.7%
Senior	46	25.3%

Figure 11: Students: What is your major(s)? Data

Total number of students surveyed: 221

Answer	Response	Percentage (%)
Accounting	7	3.17
American Studies	2	0.90
Anthropology	2	0.90
Arabic Studies	1	0.45
Art History	3	1.36
Biochemistry	19	8.60
Biology	21	9.50
Business Administration	29	13.12
Chemistry	9	4.07
Classical Civilizations	1	0.45
Computer Science	5	2.26
Economics	4	1.81
English	3	1.36
Environmental Science	7	3.17
Environmental studies	16	7.24
Film Studies	1	0.45
Finance	3	1.36
French Studies	2	0.90
Geography	6	2.71
German Studies	1	0.45
Healthcare Studies	6	2.71
History	3	1.36
International Studies	9	4.07
Journalism	2	0.90
LALIS	11	4.98
Leadership Studies	9	4.07
Marketing	5	2.26
Math & Econ	3	1.36
Mathematics	6	2.71
Neuroscience	1	0.45
Physics	5	2.26
Political Science	8	3.62
PPEL	6	2.71
Psychology	11	4.98
Religious Studies	1	0.45

Rhetoric and Communication Studies	1	0.45
Russian Studies	1	0.45
Sociology	1	0.45
Statistics	1	0.45
Theatre	2	0.90
Undeclared	14	6.33
Visual Media and Arts Practice	5	2.26
Women, Gender and Sexuality Studies	1	0.45

Figure 12.1: Students: Where do you live?

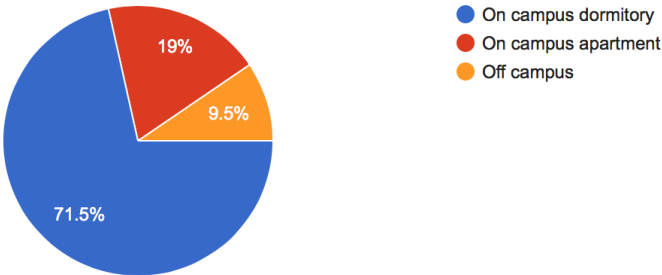


Figure 12.2: Students: Where do you live? Data

Answer	Response	Percentage
On Campus Dormitory	158	71.5%
On Campus Apartment	42	19.0%
Off Campus	21	9.5%

Figure 13.1: Students: To what extent do you believe that the global climate is changing?

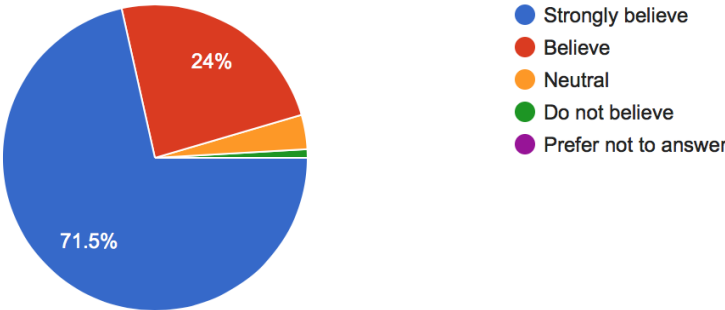


Figure 13.2: Students: To what extent do you believe that the global climate is changing? Data

Answer	Response	Percentage
Strongly Believe	158	71.5%
Believe	53	24.0%
Neutral	8	3.6%
Do Not Believe	0	0%
Prefer Not To Answer	2	0.9%

Figure 14.1: Students: To what extent do you believe that the current global climate change is anthropogenic (ACCELERATED by human actions)?

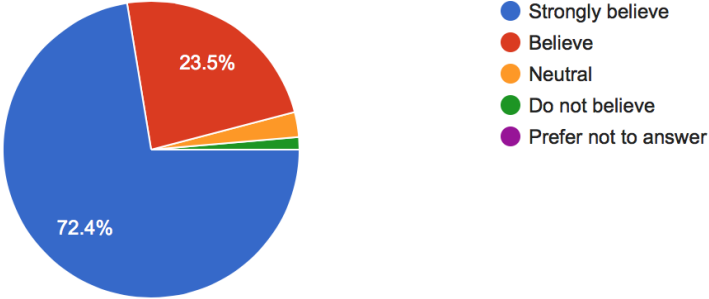


Figure 14.2: Students: To what extent do you believe that the current global climate change is anthropogenic (ACCELERATED by human actions)?

Answer	Response	Percentage
Strongly Believe	160	72.4%
Believe	52	23.5%
Neutral	6	2.7%
Do Not Believe	0	0%
Prefer Not To Answer	3	1.4%

Figure 15.1: Students: Human accelerated climate change is...?

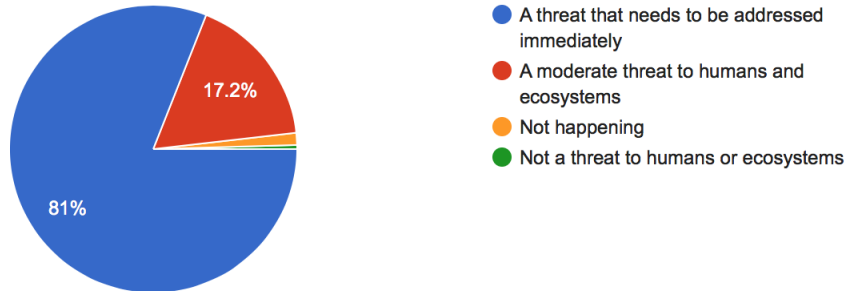


Figure 15.2: Students: Human accelerated climate change is...? Data

Answer	Response	Percentage
A threat that needs to be addressed immediately	179	81.0%
A moderate threat to humans and ecosystems	38	17.2%
Not happening	3	1.4%
Not a threat to humans or ecosystems	1	1%

Figure 16: Students: Which of the following do you believe are consequences of climate change? (choose all that apply)

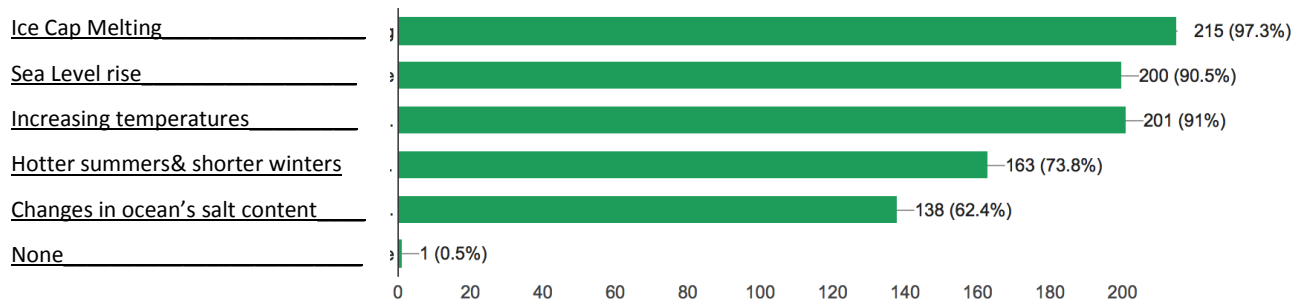


Figure 17: Select ALL the Departments that you have had at least one class in that either mentioned the environmental issues/sustainability or climate change issues, or devoted an entire unit to it.

Answers	Response	Percentage (%)
Accounting	10	4.52
American Studies	5	2.26
Anthropology/Archaeology/Sociology	28	12.67
Business Administration	25	11.31
Biology	86	38.91
Chemistry	48	21.72
Classical Civilization/Latin	2	0.90
Computer Science	9	4.07
Dance/Theater/Music	2	0.90
Economics	56	25.34
Education	5	2.26
Environmental Studies/Geography	55	24.89
Literature/English	25	11.31
Finance	4	1.81
Film Studies	2	0.90
FYS	62	28.05
Healthcare Studies	12	5.43
History	33	14.93
International Studies	18	8.14
Journalism	15	6.79
Law	11	4.98
Leadership	14	6.33
Linguistics	0	0.00
Mathematics	9	4.07
Marketing	7	3.17
Language Literature and Culture/Modern Language	9	4.07
Philosophy	15	6.79
Philosophy, Politics, Economics and Law (PPEL)	8	3.62
Physics	14	6.33
Political Science	24	10.86
Psychology	9	4.07
Religious Studies	6	2.71
Rhetoric and Communication Studies	8	3.62
Women, Gender and Sexuality Studies	11	4.98
None	31	14.03