

## **Impacts of Environmental Studies Programs on Environmental Stewardship**

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### **Abstract**

This study is a pedagogical inquiry into the components of small liberal art colleges' environmental studies programs (ESPs) to determine the impact of ESPs on student motivation to become community environmental stewards. Environmental education lets students investigate environmental problems, allows them to create solutions to the problems, and promotes stewardship action towards helping the environment. Various studies have indicated that Millennials and Generation Z are cognizant of environmental issues as well as interested in green technology. Many colleges across the United States offer a variety of environmental studies programs (ESPs) to meet the interests of these students and the needs of the workforce. While these programs exist, little research has been done to understand the impact of environmental studies on greater community programs including community environmental stewardship. This study sought to understand the impacts, if any, of college ESPs on the larger community, and to determine if the geographic area surrounding the colleges contributes to the success of community environmental stewardship from ESPs. Exploring the link between ESPs and environmental stewardship may contribute to the success of a program as well as fill a gap in the environmental studies literature. To understand the impact of the ESPs, a survey was created and sent to directors of 40 small Midwest liberal arts colleges that offered an Environmental Studies major. With a 30% response rate, the results indicate that a majority of the colleges focus on volunteer, service, and experiential opportunities as motivation for students to become environmental stewards; but responses also indicate that there is little data to support the conclusion that the program has indeed impacted graduates' commitment to environmental stewardship. Results of this study are intended to be used as a guideline to create an ESP that motivates students to become environmental stewards.

**Keywords: environmental studies programs, environmental stewardship, student motivation**

### **1. Introduction**

Environmental Stewardship can be defined as someone who must be responsible for organizing and changing human choices that impact the environment in order to protect natural resources for the long-term<sup>4</sup>. Environmental stewardship is used in a general sense to describe any individual or group that acts to protect or responsibly use the environment for desired social or environmental outcomes in a variety of situations<sup>2</sup>. This kind of stewardship focuses on having the capability to impact the local community. An important component of environmental stewardship is, in addition to having the capability to change, is the actual stewardship action taking place<sup>2</sup>. Environmental stewards do this by seeing stewardship as an action that concerns ethics and morality, where the resources that are managed are not their own, yet they are moral agents that keep others accountable of their use<sup>17</sup>. Colleges and Universities that offer Environmental Studies Programs (ESPs) can encourage and motivate students to become environmental stewards. Although environmental stewardship has been researched, there is a gap of knowledge on how ESPs encourage students to become environmental stewards for life.

The purpose of this project is to understand the significance of environmental studies programs at colleges in their local communities. The aim was to discover which interdisciplinary environmental studies programs (ESPs) motivate students to act as stewards of their community by promoting environmental awareness and sustainability. The purpose of this study was to answer the questions: (1) Is there a linkage between environmental studies programs at colleges and student motivation for environmental stewardship? (2) How do environmental studies programs at colleges best link to local community programs? (3) Is community stewardship linked to geographic location? To do this data was collected on various environmental studies programs of liberal arts colleges across the U.S., gathering data of undergraduate degrees offered, interdisciplinary aspects of the program, core courses, and electives. A survey was conducted on the selected colleges regarding student and community environmental stewardship. Preliminary data was collected to be used as a tool to develop a large-scale survey study in the future. This work will build a foundation to bridge the connection between the classroom and preparing a study body to participate in real-world environmental stewardship

## **2. Methods**

### **2.1. Participants**

Participant colleges were identified by gathering high-level data from college websites. The data included location, student enrollment, undergraduate degrees offered, interdisciplinary aspects of the program, core courses, electives, and capstone projects. After this data was collected, the list of participant colleges was narrowed down based on their program dynamics and the various regions within the U.S. The colleges were mapped using ArcMap, and the Midwest region was highlighted on the map. The Midwest was chosen as the first region survey.

The criteria for the colleges selected were that they had less than 5,000 undergraduates enrolled, they were small liberal arts colleges, and that their program was interdisciplinary. The criteria were chosen so that the colleges surveyed would be comparable to Elmhurst College's culture, size, and what the current plan is for the future Environmental Studies Program.

Upon the selection of colleges, a brief survey was created and sent to the 40 selected Midwest colleges with an ESP. The survey data was intended to be used as preliminary data and pedagogical purposes to refine a future large-scale survey. Each participant college was e-mailed information explaining the purpose of the study, what kind of information would be collected, and what information would be used in the data analysis before the link to the survey (see supplemental information for e-mail).

### **2.2. Design**

The project began with exploring college websites, followed by narrowing down a participant list and creating the survey. The survey used a mixed methods approach to answer the research questions: (1) Is there a linkage between environmental studies programs at colleges and student motivation for environmental stewardship? (2) How do environmental studies programs at colleges best link to local community programs? (3) Is community stewardship linked to geographic location? The survey had both quantitative questions and qualitative questions.

## **3. Results**

Of the 40 colleges in the Midwest, the survey was sent to, there was a 30% response rate, and within that response rate, there was a 77% completion rate of the survey. Common words and terms used were sustainability used 10 times, local 6 times, volunteer and real world were both used 4 times. The percent of ESPs that connect students to the community included 75% of the respondents. Other results are shown below:

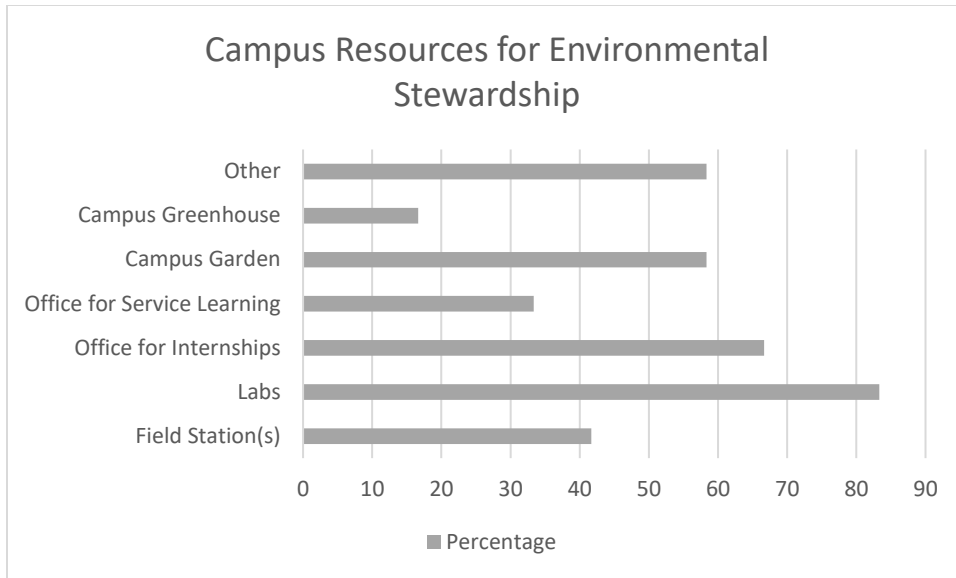


Figure 1. This graph shows the answers to the question on the survey which asks what campus resources are available for environmental stewardship. There were 12 responses total. The responses are represented in percentages. The percentages were obtained by taking the response number and dividing each response number by the 12-person total response number.

Other campus resources available for environmental stewardship shown in Figure 1 include an EcoHouse, native plant areas, internships, sustainability committee, environmental student group, campus natural areas, campus prairie, waste diversion projects, sustainability office, environmental action committee, composting program, long-term monitoring programs on wetlands and rivers in the area, recycling education and outreach program.

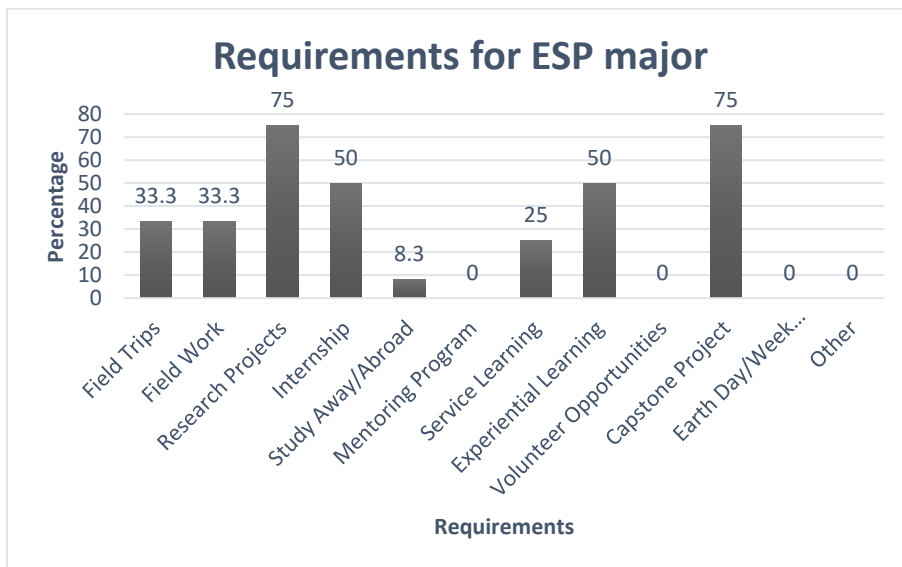


Figure 2. This graph shows the answers to the question on the survey which asks what the environmental studies programs require for the major. There were 12 responses total. The percentages were obtained by taking the response number and dividing each response number by the 12-person total response number

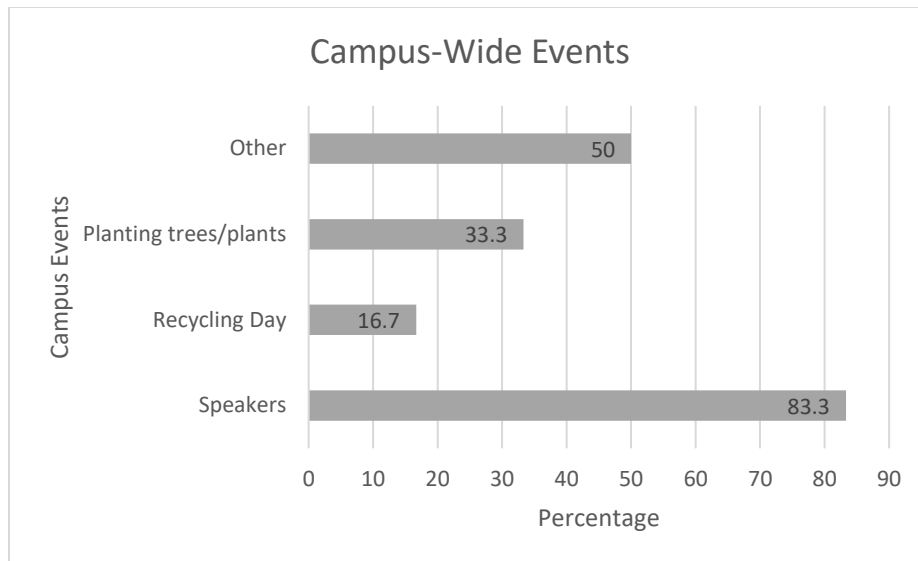


Figure 3. This graph shows the answers to the question on the survey which asks what campus events are held through and for the environmental studies programs. There were 12 responses total. The responses are represented in percentages. The percentages were obtained by taking the response number and dividing each response number by the 12-person total response number.

Other campus-wide events as shown in Figure 3 include a sustainability festival, art exhibits, concerts, restoration of campus natural areas, a WasteLess program, earth week programming, sustainability initiatives, and an environmental film series.

All 12 respondents said yes to their ESP motivating students to take an active role in the real-world. For if the ESP motivates students to apply skills to community environmental issues through action or service-based projects there were 10 respondents and all 10 said yes. Only 4 respondents out of 10 said they required students to take an exit survey. Only 2 of the 4 respondents that answered yes said that they ask a question pertaining to a future active role in the community or environmental stewardship in the exit survey. There were 3 respondents that answered yes to tracking their ESP alumni out of 4 total answers. The question on what the exit survey results indicate about environmental stewardship had two responses which are summarized as not seeing a difference in levels of engagement but instead a change in focus, and a large portion of the students focus on careers that include impacting communities through sustainability.

#### 4. Discussion

The results of the survey appear to answer only part of the three original questions this study sought to answer. The aim of the first question was to discover if there were any connections between environmental studies programs at colleges and the students in the program being motivated to participate in environmental stewardship.

To answer this, a question on the survey asked if the environmental studies program motivate students to take an active role in real-world environmental programs. All respondents answered yes, which indicates that the ESPs do attempt to motivate students from the faculty point of view. A follow-up question to this, if the respondent said yes, was how do you motivate them? The answers reveal that most of the ESPs that responded require real world applications to promote motivation amongst the students through internships, real-world projects, and involvement with the community. While this answers how the ESPs are trying to motivate students, it does not answer if the students are successfully motivated by ESPs practices.

The findings from this question suggest that the ESPs are attempting to bridge the gap between the real world and motivating students to become active members of it, but it does not indicate that their attempts are working. Evidence is needed to support that their efforts are working. This evidence can come from pre and post-tests as well as alumni surveys after the students graduated and have moved on from the ESPs. This requires a long-term study over the course of students' years working towards their undergraduate degree and beyond.

While all the respondents said they attempt to motivate students to be active in real-world environmental programs, only some actively connect the students to the community while others do not. It appears that the programs that do not connect students to the community, still want the students to be active in real-world environmental programs but these results do not reveal what their alternative pathway is. Most programs that said they do actively connect students to the community, suggests the importance of having localized environmental initiatives for students to get involved with. All the ESPs that responded said they motivate students to apply skills to community environmental issues through action or service-based projects. This suggests that most programs motivate students to apply their skills in the community but not all connect the students to these programs.

Of the two responses to what the exit survey response indicates, one of them suggests that the level of engagement from the first year to graduating seniors does not change much over the course of the ESP, but instead how the students are focusing that level of engagement. This suggests that there may be high levels of motivation of students to perform environmental stewardship already before joining an environmental studies program. While this is only a single answer, it may suggest that students that go for an ESP major tend to have high levels of motivation that programs may also seek to promote and grow. It would be interesting to see what difference it makes for the same students who responded to the exit survey to answer a survey a couple or many years into their post-bachelor careers. An alumni survey such as this would help understand if there are longer impacts of having a bachelors experience that encouraged environmental stewardship for years.

The highest available campus resources for the students was labs, office for internships, and a campus garden, which suggests that having these hands-on opportunities or resources to find real-world opportunities are the focus of the Midwest ESPs that responded. The office for internships appears to be an important resource for these ESP majors and should be implemented or utilized by ESPs.

The ESP major requirements were primarily capstone projects, research projects, internships, and experiential learning. These results show that for these ESPs, it is important to have projects for students to research and learn in new and different ways. The answers to this question mention internships, which appears to be a common thread throughout the needs of the ESPs.

Most respondents selected speakers as a campus-wide event that are hosted for or through the ESP. This suggests that speakers as a campus-wide event for ESP majors should be highly considered while forming or improving an ESP.

The second question this study asked was how do environmental studies programs at colleges best link to local community programs? This was not fully answered by this survey, because the results show that not every college is involved with linking their students to community programs. While some colleges do link their students to community programs, the best method to link them has not been identified yet.

The third question this study asked was is environmental stewardship linked to geographic location? This has not been answered yet because the full USA survey has yet to be implemented. The full set of data will reveal greater geographic trends in their relationship to environmental stewardship.

## **5. Future Goals**

This preliminary study of the Midwest allowed for the investigation into what questions in the survey were successful and what questions were not, and how to properly revise the survey to be implemented across the entire United States of America. The plan is to resend the revised survey to the whole USA including the Midwest again to obtain data that is unified across all questions. Internships will be addressed further, as it appeared multiple times as being critical to programs. At the end of the future survey, an opportunity for respondents to submit contact information will be allowed if they wish to be interviewed further about their ESP. Another survey for the students of these ESPs will be developed, this will be used to see the actual impacts of the techniques an ESP is using on their motivation to be environmental stewards.

Through the literature review, it became apparent that for an interdisciplinary ESP program there must be a thorough comprehension of what each discipline views environmental stewardship as. Each discipline may have a different vision of what environmental stewardship is, but they should all be unified with a core identity. This helps to create a cohesive program that while different content may be taught in each discipline, the identity should be felt and understood by the students. To do this a small survey should be created for faculty to explain what their disciplines definition of environmental stewardship is.

The data from this study with the literature review will be used to understand how to better develop the Elmhurst College Environmental Studies Program. By understanding how other successful ESPs function, what their main

focuses are on, and what ways they motivate students to be environmental stewards, the ESP program at Elmhurst College will have a foundation for what an ESP should encompass.

The data from the preliminary survey also suggests the importance of monitoring the students from when they first join the ESP, midway through it, after they exit it, and when they are alumni. This long-term type of study would allow for greater awareness of what is happening at each stage of development for the students, and how they feel or do not feel motivated to perform environmental stewardship behaviors. This type of monitoring system, if implemented by Elmhurst College, would allow for the ESP in its early years to more quickly adapt to problems that arise, or to continue implementing areas the same way because of their success.

Environmental stewardship is a topic that can be approached from many perspectives and can impact the lives of students that participate in ESPs and the communities around them. By continuing to study this subject in the lives of future ESP students at Elmhurst College, more will be revealed as to how the motivation for environmental stewardship behaviors are formed. For any ESP program that is starting up or looking to improve, it is important to realize that a systematic long-term study approach is necessary to monitor the impacts of students. The longer the students are studied, the more appropriate information can be gathered as to how effective an ESP program is in motivating students to be stewards of the environment.

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