To: Dr. Erika Paterson
From: Jenny Zhu
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Subject: Proposal for Reducing Waste Production at UBC Geering Up

Introduction

UBC Geering Up is an engineering outreach organization that focuses on using hands-on activities to engage students in Science, Technology, Engineering, and Math (STEM). In the past two years there has been significant growth in Geering Up's programs, with an annual of over 24,000 students. However, with its reach also comes a responsibility for the waste it produces.

Expansion of the organization will cause for more single-use wastes to be produced. If this trend continues, then the company will be leaving a significant carbon footprint while potentially increasing its expenditures. Plastic products and adhesives that are seldom recycled and broken down contribute to the majority of the waste. By reducing the large amounts of unnecessary supplies, Geering Up will thrive better as a promoter of sustainability.

Statement of Problem

Geering Up uses significant amounts of supplies during workshop and camp seasons that are disposed of at the end of each summer. Most of the supplies are thrown away because they cannot be used again or are damaged. This problem not only affects the environment but also impacts Geering Up's finances. First, plastics that make up most of the refuse, leave substantial amounts of pollution on the planet because they are difficult to be fully broken down. In addition, purchasing vast amounts of readily disposable objects is not financially ideal for the organization.

Proposed Solution

Implementing sustainable products and increasing awareness around purchases would help with the issue of waste production at Geering Up. Especially, reducing the amount of plastic waste created by shifting to using other materials and providing more technology-based programming will decrease Geering Up's carbon footprint and majorly diminish the constant need to replace and buy single-use materials. The rise in easily accessible sustainable products would further facilitate the organization in achieving this goal.

Scope

I plan on using the following 5 questions to guide me through determining the feasibility of reducing plastic waste at Geering Up:

1. Are alternative products such as paper, glass, and metal products truly more sustainable than plastic products?
2. What percentage of plastic materials used in programs may be replaced with other materials?
3. How will shifting to different products impact Geering Up's budget?
4. Will decreasing the amount of take-home projects (that involve plastic products) have an impact on participants?
5. Would eliminating or decreasing plastic products limit the amount of flexibility Geering Up staff will have when creating programming?

Methods

My primary sources of data will include interviews with my manager, my supervisor, the Materials Student Assistant, Development Student Assistant, and current and past staff. Additionally I will speak with past participants regarding decreasing the use of plastics.

I will consult research publications on reducing carbon footprints and the sustainability of various materials, and use the feedback from past participants on their ideas for improvement.

My Qualifications

My involvement with Geering Up started in April 2019 with planning curriculum (including purchasing materials), teaching workshops and camps, and working with grade school students and teachers. I have a thorough understanding of workshop, camp, and event planning and the needs of each. Namely, I ran a Sustainability in Engineering camp this past summer and saw the need of raising more awareness around the issue of waste reduction at Geering Up through experiencing first hand how much waste is produced over a short amount of time. My connection with the manager of Geering Up and the "Materials Student Assistant" gives me the opportunity to gain deeper insights on this matter.

Conclusion

The need for plastic waste reduction at Geering Up is a pressing issue that has viable solutions to address it. Targeting the 5 questions above will help one of the largest STEM outreach organizations be more efficient and have a more positive impact on the environment. I look forward to receiving your feedback and potential approval on this proposal so that this concern can be addressed as soon as possible.