

Enhancing E-waste Management in Canadian Post-secondary Institutions

Student Author

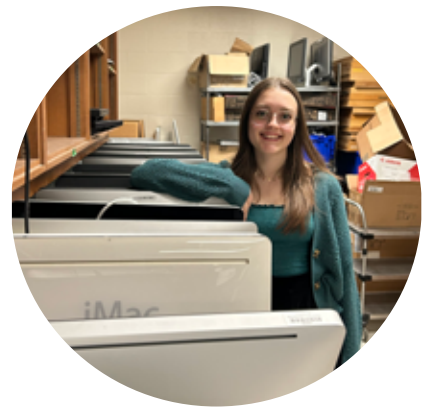
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Course

ENGSOCTY 4X03 – Inquiry in an Engineering Context III

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Emilia Nietresta in the ACCESS Tech lab with donated items

Photo credit: Kate Whalen



Overview

Effective e-waste management strategies are one of the most important challenges societies will have to overcome to meet the overwhelming increase of end-of-life electronics.¹ E-waste management at the post-secondary scale in Canada is severely lacking in public availability of information and diversity of strategies.² The goal of my inquiry project was to explore current practices and successes of Canadian post-secondary schools in management of their e-waste and to propose pathways to for enhancement of such programs.

Objectives

1. Assess e-waste management practices of Canadian post-secondary schools
2. Analyze lessons and successes from McMaster's ACCESS Tech program
3. Develop a framework to support knowledge sharing and program enhancement

Reporting

Through assessment of 55 post-secondary school e-waste management programs, sourced mainly through the STARS (Sustainability Tracking Assessment and Rating System) database, I compared and assessed various e-waste management practices. I found that there is great opportunity for campuses across the country to improve their e-waste management practices including a focus on reduction and reuse.

Recognizing that information sharing about the lessons learned and successes of McMaster's ACCESS Tech program could benefit other institutions, I focused on understanding the history of the program development as well as current perceptions. In addition to reviewing all published literature on the program's development, I also collaborated with two research teams from the SUSTAIN 4S06 course to analyze data about donor perceptions and upcycler experiences.

Based on my knowledge of the ACCESS Tech program at McMaster, along with the new information I discovered through my research, I created a prototype for the McMaster E-waste Management Framework. My framework is a six-level approach to improving post-secondary e-waste management with each level setting new responsibility goals. As an institution works their way up the pyramid they will diversify their available streams for e-waste collection, reuse, and donation to filter out as much material as possible before recycling is necessary.



Figure: Levels of the McMaster E-Waste Management Framework for Post-Secondary Institutions

Collaborators

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