PlastiClass-Express
(Technical Report)

Plastic Pollution: Answers and Obfuscation in Education
(STS Research Paper)

An Undergraduate Thesis Portfolio
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by

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Preface

How may the quantity of unrecycled plastic waste be reduced? Recycling can reduce the environmental cost of plastic production.

How may plastics be cost-effectively classified by plastic type? Because plastic recycling processes vary by polymer, plastic wastes must be sorted. Poor sorting can drive costs up, thereby deterring recycling efforts. Automated filtration machines sort plastics on large conveyer-belt systems. In the technical project, a low-cost portable spectrometer for plastic classification was prototyped. By distributing filtering processes, the device can prevent process bottlenecks. The prototype successfully classifies target plastic polymers when calibrated.

In the United States, interest groups engage in publicity campaigns to influence public responses to plastic pollution. The United States is the world leader in overconsumption. The problem is due in part to improper disposal. Plastic waste management requires both more recycling and less consumption. Educational campaigns can promote the necessary changes in consumption patterns.