



Efforts to Reduce Student Food Waste in Campus Dining Areas



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Introduction

Recent environmental and social justice movements have emphasized the importance of reducing food waste, due to the energy required to produce and transport food, as well as the millions of individuals living in food-deprived conditions. In the United States, food is the number one material taking up landfill space, producing methane gas – one of the most harmful atmospheric pollutants.

While some food waste is inevitable, restaurants and cafeterias not only produce excessive amounts of consumer food waste from unfinished meals but also serve thousands daily, and therefore hold potential for addressing this large-scale issue.

The current study focused on the primary cafeteria on the campus of the University of Wisconsin-Eau Claire. This location was chosen because it is a buffet-style (all-you-can-eat) dining option, with students experiencing no averse (i.e., money loss) contingencies for taking more food than they can feasibly consume.

Collection of Data and Infographics

After dining, students put their plates and leftover food on a conveyor belt, and workers empty uneaten food into composting bins. Student researchers weighed the food bins via an in-ground scale at 2pm and 8pm, five days per week, to generate the weight of all leftover food from breakfast, lunch, and dinner.

When food waste values became relatively stable, researchers introduced an infographic on the tables in the cafeteria. The infographic provided facts about food waste and the impact such waste can have on the environment, while encouraging students to take only what they can reasonably consume. See Figure 1 for sample infographics (two of five displayed).

Researchers continued to weigh the food waste throughout the semester to assess possible effects of this information.

Figure 1: Sample Infographics



Figure 2.

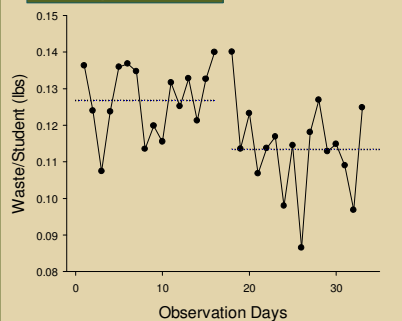


Figure 2. Last 16 days of baseline observation as compared to the first 16 days in which students were exposed to the infographic.

Figure 3.

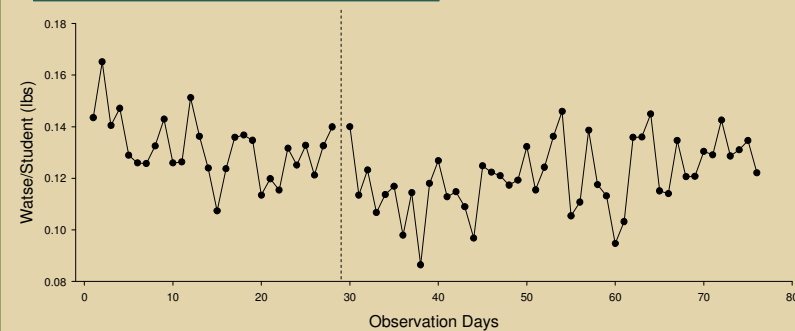


Figure 3. All observations prior to and post-intervention during the semester. After the implementation of infographics (day 29) there is a transient decrease in food waste per student (lbs).

Figure 4.

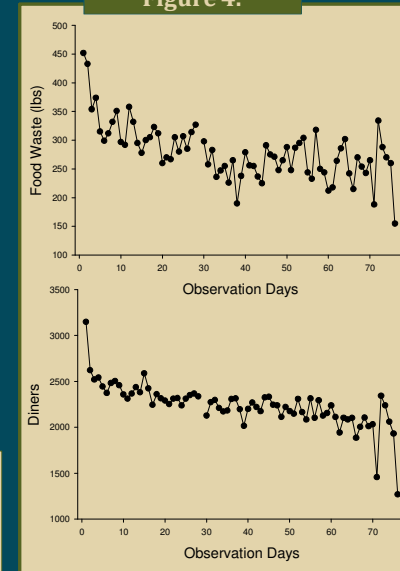


Figure 4. Food waste (lbs) as a function of the day of the semester (top panel), along with number of diners in the cafeteria as a function of the day of the semester.

Results and Discussion

During the initial days of the semester (1-4), we have found that many students sample food choices, leading to more waste (see top panel of Figure 4).

Importantly, Figure 4 displays the sheer waste (lbs) as a function of the day of the semester. While waste decreases throughout the semester, the bottom panel shows that student attendance also decreases. Therefore, any food-reduction studies not accounting for waste/patron should be viewed with caution.

Figures 2 and 3 display the food waste per student during pre- and post-intervention. While the infographics seemed to produce an initial decrease in food waste, this effect was not long-lasting (see Figure 3).

Ideally, providing students with increased information about the negative impact that food waste can have on the environment can encourage them to do their part to minimize unnecessary waste. Current and future research is designed to “challenge” students to beat their prior food waste numbers, while attempting to create a generalized culture in which food waste is not a common practice on campus.