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Grab & Go 2.0: Assessing the Effectiveness of a New Waste Reduction Program

Meghan Suslovic
Smith College

Alexandra Davis
Smith College

Liz Nagy
Smith College

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Grab & Go 2.0: Assessing the Effectiveness of a New Waste Reduction Program

Primary Author: Meghan Suslovic
Secondary Authors: Alexandra Davis & Liz Nagy
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ENV 312
EXECUTIVE SUMMARY (written together)

The reusable container program, Grab & Go 2.0, was implemented at Smith College in September 2017 as an attempt to reduce paper waste and costs associated with single-use paper products; however, it is unclear to what extent the program has achieved these goals.

Before fall 2017, Grab & Go 1.0 was available in two of Smith’s 13 dining halls and provided students with to-go lunch options such as pre-wrapped sandwiches, salads in disposable plastic clamshells, and hot paper soup cups. In dining halls without grab and go options, however, single-use paper plates were available for students to use at any meal time. As a result, purchasing single-use paper products for both the Grab and Go 1.0 program and regular dining halls led to an increase in both cost and waste for Dining Services. To combat these increases, single-use paper products were replaced with reusable plastic clamshells, manufactured by the Rhode Island based company Ozzi.

The Grab & Go 2.0 program provides each student on the meal plan with a token that can be exchanged for a reusable container and used at any dining hall. When students are finished with their meal, they return their container to any one of three collection machines, and receive a token in return. Dining Services has implemented Grab & Go 2.0 in the context of Smith trying to reach carbon neutrality by 2030. The disposal of solid waste generates carbon emissions, so by replacing paper products with reusable plastic clamshells, Dining is working towards this carbon neutrality goal. Based on purchasing data, the program has successfully reduced cost and waste, but it is unclear how students are using Grab & Go 2.0. To gain an understanding of student participation in the program we relied on a variety of data including: (1) interviews with project implementers, (2) historic swipe data from Grab & Go 1.0 dining halls Chapin and Hubbard, (3) Container return data from Ozzi collection machines and (4) an anonymous student survey.

The two major issues we identified in the current implementation of Grab & Go 2.0 are the token system and program outreach. We found that Grab & Go 2.0 is serving its purpose of giving students the option to take their meals elsewhere. However, major issues with the token system leave much to be desired for the future of the to-go system.

In the short term, Dining Services could provide students with two tokens, allowing them to continue to participate even if they lose one. Student understanding of replacing a lost token could be improved by adding this info to the dining website, dining app, and the front of the collection machines. For the long-term success of the program, Dining Services should work towards the goal of converting to a OneCard-based, electronic token system. Until then, a procedure for end-of-year token or container return should be established to minimize Ozzi product losses.
INTRODUCTION (written together)

Waste management is a pressing issue in today’s society, especially as the global population and consumption levels increase while management systems and disposal space stays constant. In 2014, the United States alone produced 259 million tons of municipal solid waste, which broke down into 26% recycled, 9% composted and 13% combusted for energy recovery. The remaining 53% went to landfills, or underwent other disposal methods such as combustion (US EPA, 2016). Transport costs to move waste to management facilities within the country are also an issue, starting at $19 per ton in states like Ohio and increasing depending on the state (Save On Energy, 2014). These facilities then go on to produce harmful greenhouse gases such as methane, which contribute to climate change. Despite having the knowledge and resources to reduce waste production and management, large-scale policy actions have failed to drive a large change in consumer lifestyles. State and local initiatives can step in where national action is lacking.

In acknowledgement of the increasing fiscal and environmental problem of waste disposal, Massachusetts’ Department of Environmental Protection published “2010-2020 Solid Waste Master Plan: A Pathway to Zero Waste” in 2013. The report is structured around a short term goal of reducing solid waste by 30% by 2020 and the long term goal of reducing waste by 80% by 2050 (MassDEP, 2013). The state is in part motivated to reduce waste to help it achieve its Global Warming Solutions Act, which requires Massachusetts to reduce GHG emissions at least 80% below 1990 levels by 2050 (Global Warming Solutions Act, 2008). MassDEP estimates the state could reduce its greenhouse gas (GHG) emissions by 4 million tons (measured in CO2e) and save $120-$160 million in avoided disposal costs annually if they can achieve their 2020 goal (MassDEP, 2013).
Smith College’s Waste and Emissions

Along with many other educational institutions, Smith College has committed to carbon neutrality by 2030 when former President Carol Christ signed the Carbon Commitment (formerly the American College and University Presidents’ Climate Commitment) in 2007. By signing on, the college had to conduct an emissions inventory and outline a path towards achieving carbon neutrality. In her statement, President Christ noted that, “The college recognizes its responsibility to produce environmentally responsible citizens and leaders and to demonstrate the values of environmental sustainability in our daily operations,” (Smith College News Office, 2007). To track the college’s emissions, Smith joined the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment and Rating System (STARS). According to STARS, in 2017, Smith generated 555 short tons of solid waste, which in most cases, would have been trucked to a nearby landfill. Smith however pays to have its waste deposited at a waste-to-energy plant in Easthampton, MA. While this choice results in fewer greenhouse gas emissions than landfilling (via the decomposition process), it is not entirely without issue. Waste-to-energy plants still produce greenhouse gas emissions, therefore generating solid waste is counter to Smith’s carbon neutrality goal and the college should work towards reducing its waste output.

More recently, President Kathleen McCartney established the Study Group on Climate Change in the fall of 2015 to create a climate action plan for the College. The Study Group’s final report concluded that one action the college should take is to “incorporate sustainability into
the work plans of administrative and departmental offices” (Study Group on Climate Change, 2017). Dining Services has tackled this goal by evaluating its Grab & Go 1.0 program.

**Grab & Go 1.0**

In the early 2000s, Smith converted two of its 13 dining halls into grab and go options during lunch hours. Students could take pre-wrapped sandwiches, salads in disposable plastic clamshells, and hot paper soup cups out of Chapin and Hubbard dining halls (Figures 1 and 2). This program aimed to increase the convenience and flexibility of dining while also eliminating the need for students to take china dishes out of the dining halls. However, for the dining halls without grab and go options, single-use paper plates were available for students to use at any meal time. As a result, purchasing single-use paper products for both the Grab and Go 1.0 program and regular dining halls led to an increase in both cost and waste for Dining Services.

Figure 1: Map of Smith College’s campus with Grab & Go 1.0 dining hall locations circled.
In an effort to combat these rising costs and waste production, Dining Services evaluated whether switching from compostable plates to reusable containers was a worthwhile investment (Kerr, 2018). Dining Services based their decision to investigate the potential of investing in a reusable to-go system on Monica F. Harnoto’s report, *A Comparative Life Cycle Assessment of Compostable and Reusable Takeout Clamshells at the University of California, Berkeley*. Harnoto evaluated the sustainability of the two products by considering GHG contribution, energy consumption, material waste, and water consumption. She found that, per use, reusable containers contributed fifteen times less the amount of greenhouse gas emissions and material waste than compostable ones. The University of California, Berkeley was interested in assessing takeout alternatives because they are seeking to achieve zero waste by 2020 in an effort to locally address the national problem of waste production (Harnoto, 2013).

Given these benefits, Dining Services partnered with Professor Sarah Moore’s Engineering 100 class to examine the benefits of implementing a reusable Tupperware system. In their 2017 report *Implementing Ozzi Tupperware System: Eliminating waste, lowering Smith’s carbon footprint, and improving student life*, the students concluded that Dining Services should
invest in reusable plastic clamshells, manufactured by the Rhode Island based company Ozzi, for increased cost-savings.

**Grab & Go 2.0**

In September 2017, single-use paper products were replaced with the Ozzi Grab & Go 2.0 program as a means of reducing paper waste and costs associated with single-use paper products. Additionally, the program is expected to reduce the amount of china that has to be replaced each year by providing students with a takeout option that does not involve removing plates and silverware from the dining halls. Grab & Go 2.0 functions by providing each student with a token at the beginning of the school year, either through Mail Services or at Central Check-in for First-Years. Students can then hand the tokens to dining hall workers at any dining hall in exchange for a reusable plastic clamshell container (Figure 3). When students are finished with their meal, they return their container to any one of three collection machines, located in the Campus Center, Tyler dining hall, and King/Scales dining hall, and receive a token in return (thus the motto is ‘Eat, Return, Repeat’) (Figure 5). These containers are intended for take-out use and are sized to hold a full meal at 8”x8”x2.5.”

![Image of Ozzi reusable clamshell container. Dimensions = 8”x8”x2.5.” Image from Ozzi’s website.](image)
As a new initiative, Dining Services was interested in learning what students think about the Grab & Go 2.0 program and what could be changed to increase participation. As Environmental Science & Policy students, we wanted to evaluate the sustainability of the program using the metrics of waste reduction and cost effectiveness. Thus, the key questions being asked through this project are: (1) Why do students use Grab & Go 2.0? (2) Why do students not use Grab & Go 2.0? and (3) What do students think about the program (i.e. token system, collection machine location, etc.)? Based on our findings, we recommend strategies for future improvement.
METHODS (written together)

We used four different means of data collection to analyze the Grab & Go 2.0 program including: (1) interviews with project implementers, (2) historic swipe data from Grab & Go 1.0 dining halls Chapin and Hubbard, (3) Container return data from Ozzi collection machines and (4) an anonymous student survey. We sought first to gain context and insight into the program by interviewing Director of Sustainability and Campus Planning, Dano Weisbord and Sustainability Coordinator, Emma Kerr. We then spoke with Area Managers Pat Mahar and Matt Cook in Dining Services to understand the implementation process of Grab & Go 2.0 and its success so far. We also met with Financial Systems Coordinator Tom Lark to procure data on paper and china purchases for Grab & Go 1.0 and 2.0. Director of Dining Services, Andy Cox, provided us with swipe data (or meal counts) from the two Grab & Go 1.0 dining halls (Hubbard and Chapin) between FY 2015 and FY YTD 2018. In order to gain insight into student use of the program, we
wanted to acquire data from the Ozzi collection machines that would tell us which machines were being used the most and at what time of day students were returning their containers. Following our inquiries into Ozzi data, Dining Services reached out to Ozzi and requested detailed container return data. Ozzi responded saying that they aggregate all data with other schools and therefore would not give us any higher resolution data than the monthly totals that Dining Services had already received. Following this dead end, we decided to refocus our efforts on analyzing the data available to us.

Finally, to get a better understanding of student usage and opinion of the Grab & Go 2.0 program, we distributed an Institutional Review Board approved survey to a stratified random sample of 200 students on the meal plan. Anonymous surveys are an easy format to collect data from a broad audience and are the most reliable for timely and honest responses from the community (Wyatt, 2000). Schools such as Allegheny and Williams Colleges have conducted student surveys to assess the need for a program (in the case of Allegheny) or to collect feedback on an existing reusable takeout container system (Williams College). Allegheny and Williams have significantly developed or re-structured their own grab & go programs according to the surveys’ results (Hesch, 2014; McNamara, 2009).

We designed a 26 question anonymous survey using Qualtrics, and the survey began with a click consent question stating there were no known risks associated with completion. Additionally, we provided students with an incentive to participate by offering them a chance to win one of two $10 gift cards to the Campus Center Café. This incentive was not related to participant’s responses. The survey gave students a format to provide useful feedback on the current mode of operation, their container usage patterns and motivations, and changes they
would like to see in the program. A free-write section for comments was included to gather information beyond the bounds of the survey questions. Beyond providing a monetary incentive, we used techniques tested by Rath et al. (2016) to encourage students to read our email and respond to the survey. Students had one week to complete the survey (Monday to Monday), and those who did not received up to two follow up emails.

RESULTS
Purchasing Data
From Tom Lark, Dining Services’ Financial Systems Coordinator, we found that Dining spent $54,130.35 on paper purchases in the fall of 2016. Paper purchases include the disposable dish- and silverware, plastic gloves, deli wrap, and other miscellaneous items. One year later, in the first semester with Grab & Go 2.0, Dining spent $30,369.23, which is a $23,761.12 or 44% reduction (Table 1). China purchases also decreased but only by $132.68 (from $9,674.88 in Fall 2016 to $9,542.20 in Fall 2017) (Table 2).

Table 1: Comparison of Dining Services paper purchases in Fall 2016 (pre- Grab & Go 2.0) and Fall 2017. Data courtesy of Dining Services.

<table>
<thead>
<tr>
<th>Total Paper Purchases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 16</td>
</tr>
<tr>
<td>$54,130.35</td>
</tr>
</tbody>
</table>

Table 2: Comparison of Dining Services china purchases in Fall 2016 (pre- Grab & Go 2.0) and Fall 2017. Data courtesy of Dining Services.

<table>
<thead>
<tr>
<th>Total China Purchases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 16</td>
</tr>
<tr>
<td>$9,674.88</td>
</tr>
</tbody>
</table>
The two Grab & Go 1.0 dining halls, Chapin and Hubbard, experienced greater decreases in paper purchases than the other dining halls. Chapin decreased its paper purchases 78% between Fall 2016 and Fall 2017 ($8,969.92 to $1,991.61) and Hubbard went from spending $5,243.19 to $2,540.41 (a 52% reduction) (Tables 3 & 4).

Table 3: Comparison of Grab & Go 1.0 Chapin dining hall paper purchases in Fall 2016 (pre-Grab & Go 2.0) and Fall 2017. Data courtesy of Dining Services.

<table>
<thead>
<tr>
<th>Chapin House- Paper Purchases</th>
<th>Fall 16</th>
<th>Fall 17</th>
<th>Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>$8,969.92</td>
<td>$1,991.61</td>
<td>$6,978.31</td>
<td>-78%</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Comparison of Grab & Go 1.0 Hubbard dining hall paper purchases in Fall 2016 (pre-Grab & Go 2.0) and Fall 2017. Data courtesy of Dining Services.

<table>
<thead>
<tr>
<th>Hubbard House- Paper Purchases</th>
<th>Fall 16</th>
<th>Fall 17</th>
<th>Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,243.19</td>
<td>$2,540.41</td>
<td>$2,702.78</td>
<td>-52%</td>
<td></td>
</tr>
</tbody>
</table>

Swipe Data

Each meal that students take from Chapin and Hubbard Dining Halls, they must swipe their OneCard (electronic key card). Between FY 2014 and FY YTD 2018, this swipe data (essentially a meal count), reveals that fewer students are eating at the Grab & Go 1.0 locations. The average yearly swipe count between FY 2015-2017 was 59,958 in Chapin and 72,443 in Hubbard (not counting May because we don’t have FY 2018 May data). For FY YTD 2018, Chapin had 40,871 swipes, a 32% decrease, and Hubbard had 63,863, a 12% decrease (Figures 6 & 7).
Figure 6: Swipe count data for Chapin Dining Hall. G&G 1.0 is the average number of swipes per fiscal year between FY 2015-2017 excluding the month of May. G&G 2.0 is equal to the number of swipes in FY 2018 up to April. Previous to the implementation of G&G 2.0, Chapin averaged 59,958 swipes per year. In the year since, 40,871 meals have been eaten at Chapin. Data courtesy of Dining Services.

Figure 7: Swipe count data for Hubbard Dining Hall. G&G 1.0 is the average number of swipes per fiscal year between FY 2015-2017 excluding the month of May. G&G 2.0 is equal to the number of swipes in FY 2018 up to April. Previous to the implementation of G&G 2.0, Hubbard averaged 72,443 swipes per year. In FY YTD 2018, the number of swipes has decreased to 63,863 (through April 2018). Data courtesy of Dining Services.
**Student Survey**

When asked on the student survey if they used the Grab & Go 2.0 system, 60% of students reported that they did. Ninety-eight students responded to this question, and 24% said they had used the system but have since stopped. The remaining 16% have not used the new reusable container system (Figure 8).

![Most popular meal for using G&G 2.0](image)

Figure 8: Student survey responses to the question “Have you used the Grab & Go 2.0 system (the green reusable containers pictured below)?” A total of 98 students responded, and 59 (60%) said they do use it, 23 (24%) responded with “Yes, but I stopped using it,” and 16 (16%) said they do not. Data collected from anonymous student survey.

As a follow up question, we asked students who use Grab & Go 2.0 why they do. They could check all options that apply, and 33% of respondents said they use the containers because they prefer eating in places other than the dining halls (Figure 9). The second most popular options was “I often have time commitments during meal times,” which 28% of respondents picked. A total of 91 responses were recorded for this question.
Figure 9: Student reasons for using the Grab & Go 2.0 system. Respondents could select all that apply and 33% use the system because it allows them to eat outside of the dining halls. A large percentage of students also use Grab & Go 2.0 because they have time commitments during meal times. There were a total of 91 responses. Data collected from anonymous student survey.

The students that responded “Yes” to using the Grab & Go 2.0 system were then asked, “For which meal do you most often use a Grab & Go container?” Out of 57 responses, 61% said dinner was the meal they most frequently used Grab & Go 2.0. Lunch was the second most popular meal, while very few students most use their containers during brunch (2%) and breakfast (0%) (Figure 10).
Figure 10: Student survey responses to the question “For which meal do you most often use a Grab & Go 2.0 container?” Out of 57 responses, 35 (61%) responded with dinner, 21 (37%) for lunch, and 1 (2%) for brunch. Zero students most use their Grab and Go containers for breakfast. Data collected from anonymous student survey.

Students that responded “No” or “Yes, but I stopped using it” to the survey question asking whether they use the Grab & Go 2.0 system or not were next directed to a question about why they don’t use the system. Of the options listed, 20% of students said they use their own tupperware (Figure 11). Twenty percent also said they never need to bring food out of the dining hall. Out of 65 total responses (students could select all that apply), fifteen students selected other and responded with a range of answers that fell along the lines of, “I lost my token,” “Annoying to return,” and “I’m not going to ask someone for tupperware every time I need it.” Only one respondent (2%) didn’t know what the program is.
Figure 11: Student survey response to “Why don’t you use the Grab & Go 2.0 system?” Students could select all that apply and 65 responses were collected. Of the provided responses, 20% of students cited using their own tupperware or never needing to take food out of the dining hall for reasons not to use Grab & Go 2.0. Very few students (2%) aren’t using the program because they don’t know what it is. Data collected from anonymous student survey.

Five of the 14 “Other” responses to the above question cited lost tokens as the reason they don’t use the Grab & Go 2.0 program. For the students that do use the program, we asked “How many times have you lost your token?” Of the 22 students that had, 13 students have lost their token once, and 3 students lost their token three or more times (Figure 12). Eighteen students lost or dropped their token and 9 students had their tokens “eaten” by the collection machines (i.e. the token is dispensed too fast and bounces back into the machine). Over half the students (55%), replaced their token (sample size= 22), but for the 45% that did not, the $5 replacement fee discouraged 67% of students (sample size= 12) from replacing their lost token with a new one.
Figure 12: Number of times students have lost their Grab & Go 2.0 tokens. Twenty-two students answered this question, and 13 (59%) of them had lost their token once. Six students (27%) had lost it twice, and three students (14%) lost their token three or more times. Data collected from anonymous student survey.

Given that Grab & Go 2.0 reduces the amount of solid waste generated on campus, we asked students if they often have leftover food in their containers to find out if the program unintentionally generates waste by diverting food away from compost bins in the dining halls to trash cans around campus. Only 10% of the 58 respondents said they never have food waste, and 33% said they always or most of the time have leftover food in their containers. However, 39% of people who range from sometimes to always having food waste still compost their leftovers. This means 59% of the 51 respondents dispose of their leftover food in trash cans in residential buildings, the Campus Center, or in a dining hall (Figure 13).
Figure 13: Most common leftover food disposal locations. Twenty of the 51 respondents dispose of their food waste in compost bins, but 59% of students are throwing away food waste in trash cans around campus. Data collected from anonymous student survey.

To gather feedback on collection machine locations, we informed survey respondents that the King/Scales collection machine is currently the least used of the three machines. We then asked where they would want this machine moved (with an option to choose “Stay in King/Scales”) and the results were mixed. Thirty-four percent wanted the machine to stay in King/Scales while 30% wanted the machine moved to the Chase/Duckett dining hall (across from the Smith College Museum of Art on Elm Street). The third most popular choice was moving it to Chapin, the Grab & Go 1.0 dining hall very close to the Campus Center. Eighty-nine students responded to this question (Figure 14).
If the King/Scales collection machine were to move, where should it go?

![Bar chart showing student responses]

Figure: 14: Student responses to moving the King/Scales Ozzi collection machine to a new location. Thirty out of 89 students (34%) want the machine to stay where it is in King/Scales, but moving it to Chase/Duckett dining hall is a close second choice at 30%. Data collected from anonymous student survey.

Although all dining halls pass out Grab & Go 2.0 containers, they do not have a uniform utensil policy (some put the utensils inside the container while others have them available off to the side). We found that students also have varied behavior with regards to silverware. Any silverware that leaves the dining halls is supposed to be plastic, but when asked what kind of utensils students use with Grab & Go 2.0, 32% said they used metal utensils. A total of 57 students answered this question (Figure 15).
What silverware do students use with G&G 2.0?

![Bar chart showing the percentages of students using different types of utensils while using a Grab & Go 2.0 container.](chart)

Figure 15: Percent of students that use plastic, metal, or their own utensils while using a Grab & Go 2.0 container. Fifty-seven students answered this question. Data collected from anonymous student survey.

Lastly, when asked what aspects of the program could be changed to most improve their experience, 73% of students agreed that using our student OneCards with an electronic token (rather than the physical tokens) would result in “a lot of improvement.” Seventy-three percent of respondents (sample size= 94) felt this way. Different collection machine locations was the second most popular choice that would result in a lot of improvement, but many fewer students (37%, sample size=94) agreed on this option compared to converting to a OneCard based system.

**DISCUSSION**

Our data led us to these three key findings: (1) that students are engaging with the Grab & Go 2.0 program because they want increased flexibility in their dining experience, (2) the token system is the most inconvenient aspect of the program and improvement will likely increase participation and student satisfaction, and (3) the Grab & Go 2.0 program may be
diverting food waste away from the compost bins in the dining halls and into trash cans around campus.

Based on Dining Services’ purchasing data, Grab & Go 2.0 has successfully decreased solid waste by simply not buying as many paper products that are added to the waste stream after being used just once. A 44% decrease in spending on paper products from one fall semester to the next is a significant reduction, and the decreases are even greater in the Grab & Go 1.0 dining halls. What is less clear is the impact of Grab & Go 2.0 on china purchases. It is possible that there was only a 1% decrease between fall of 2016 and fall of 2017 because of the timing of the china purchases. Only one order of new china dishes has been placed since Grab & Go 2.0 was implemented, so the lag time is likely reducing the effect of the program on china purchases.

In terms of the swipe data, the decrease in the number of swipes (by 32% in Chapin and 12% in Hubbard) suggests that students feel less of a need to get pre-made/packaged meals from the two Grab & Go 1.0 locations because, thanks to the Grab & Go 2.0 container system, all dining halls are to-go. This increased dining flexibility aligns with students’ reasons for using the Grab & Go 2.0 program when they responded that they “prefer eating elsewhere” or “have time commitments during meal times.” Lower swipe counts in both the Grab & Go 1.0 dining halls demonstrates that students are utilizing the 2.0 system. However, this data should be periodically updated and analyzed because there has been less than a full year of Grab & Go 2.0 since the writing of this report, and it remains to be seen if Chapin and Hubbard will continue to see decreases in the number of swipes.
Based on our findings, we offer the following two primary recommendations:

(1) Improve the token system by, in the short term, give students two tokens at the beginning of the year and work towards the long term goal of having a OneCard based program

(2) Improve program outreach and education by adding programmatic information to Dining Services’ website, app, and Ozzi collection machines, and over the next few years, come up with a robust end-of-year token and container return procedure

An electronic token system is meant to address all the frustrations students currently have with the inconvenient and easily lost tokens. In the survey, one student said they accidently used their token in a parking meter, so a OneCard based system would have the additional benefit of not being mistaken as a form of currency. Dining Services reported that other schools working with Ozzi have not had smooth transitions to an electronic token system, so they are intentionally waiting until a smooth transition is possible. In the meantime, we suggest giving students two tokens in the beginning of each year so that losing one token, as 59% of survey respondents did, does not become a barrier to participation. Only 55% of students replaced their token after losing it, and most students reported the $5 replacement fee as a deterrent to replacing it. Having one extra token should hopefully alleviate this problem.

We recommend improving outreach efforts for a number of reasons. A select few students don’t know what the program is, but there are also a significant number of students who, based on their survey responses, are not using the program correctly or are unaware of its
benefits. Twenty percent of students who do not use the Grab & Go 2.0 program, cite that they bring their own tupperware rather than the Ozzi containers. This is not sanitary and is dangerous for students with allergies or dietary restrictions because it increases the risk of cross contamination. If students were more aware of this as an issue, they would hopefully refrain from bringing their own tupperware and use the thoroughly washed and sanitized Ozzi containers.

Another way to convey the benefits of the program would be to highlight the financial savings that have resulted because of Grab & Go 2.0. Signs along the buffet line or on the dining app that summarize the avoided cost of not having to buy as many paper products or china dishes could prove to be persuasive. Better signage on the Ozzi collection machines on how to replace a lost token should clarify that issue and hopefully increase token replacement rates. Adding structure to the end-of-year collection of tokens and containers should also help and create a routine for students to follow each year.

One aspect of the program that we expected to hear more complaints about was the collection machine locations. Numerous students commented that they feel the program is generally inconvenient, but requests to switch the token system to our OneCards far exceeded those to relocate one or more of the collection machines. Given the lack of consensus on where the King/Scales machine should be moved, we recommend keeping it at King/Scales for now and reevaluating its popularity in a year or so.

An area for future research is to more closely track where food waste goes on campus once it leaves the dining halls. We found that 59% of students with leftover food are dumping the food in trash cans which adds to Smith’s waste output. Extending the network of compost
buckets beyond the dining halls may help with this, but more research should be done on the feasibility and impact of collecting compost outside of just the dining halls. Another aspect of waste reduction that could be explored in the future is fully phasing away from Grab & Go 1.0. Both Chapin and Hubbard still provide pre-made sandwiches that come wrapped in deli paper or plastic wrap, which will be used once and then thrown away. The decrease in swipe counts for these two dining halls suggest students are less dependent on them for to-go food options and can use their Ozzi containers to carry all the food they need.

The underlying goal of future work surrounding the Grab & Go 2.0 program should be to increase participation. Our survey suggests that 40% of the current student body is not using the system, so that is the target audience, particularly those who have used the program but have since stopped. A number of students reported losing their token as their reason for stopping, so improving the token system with the above recommendations should hopefully bring these students back into the program. Continued monitoring and analysis of the program in the coming year will add data and robustness to our findings and will hopefully improve students’ dining experience for years to come while also cutting down on waste and costs.
LITERATURE CITED


