

# Increasing Consumption of School Meals with Food Education and Chef Coaching in DC Public Schools

FRESHFARM FoodPrints, Wellness in The Schools, and DC Public Schools Class to Café Project is Associated with Increased Consumption of FoodPrints Meals in the Cafeteria

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**A recent study in Washington, DC demonstrated that students participating in the Class to Café project consumed, on average, 42 percent more of the portion size of a scratch-cooked meal than students at schools without this programming.**

Class to Café is a comprehensive food education initiative that integrates garden and nutrition education with systems change in school cafeterias through a partnership between FRESHFARM FoodPrints, Wellness in The Schools (WITS), and DC Public Schools. The initiative engages preschool through 5th grade students in monthly, hands-on, in-school field trips that integrate gardening, cooking, eating, and academic content aligned with grade-level curriculum standards. The cafeteria portion of the intervention provides scratch-cooked, plant-based entrees and salads for school lunch that match what students have been cooking and eating in their FoodPrints classes. This study examined the association between students' participation in Class to Cafe and their consumption of the scratch-cooked FoodPrints-WITS meals during school lunch.

## Research Approach

In spring 2019, FoodPrints partnered with researchers from George Mason University and Columbia University to examine whether students who are exposed to FoodPrints-WITS programming were more likely to eat a larger share of the portion size of FoodPrints meals in the cafeteria than students in schools that did not have this programming. An observational research study was conducted at two FoodPrints-WITS schools and two demographically similar schools.

## Key Findings

**More food consumed:** Students in schools with Class to Café programming ate, on average, 42 percent more of the portion size of the FoodPrints-WITS entrée and side salad than students attending schools without Class to Café programming.

**Favorable meal composition:** Students at all schools ate the different components evenly (grain, protein, and vegetables), suggesting that the way the meals were created (with the three components mixed together) could be a helpful strategy in promoting vegetable consumption in school cafeterias.

## Detailed Findings

Researchers assessed the amount of the entree-only and entree plus side salad portion sizes consumed by students and whether they ate the three components of the meals offered (protein, grain, vegetable) similarly or differently.



Students at FoodPrints-WITS schools consumed, on average, 37 percent more of the portion size of the FoodPrints-WITS entrée than did students in schools without this programming.

Students who participate in FoodPrints programming with WITS support in their cafeterias ate, on average, nearly half of the portion size of the FoodPrints-WITS entrée (0.48), compared to students at comparison schools, who ate, on average slightly more than a third (0.35) of the entrée portion size ( $p = 0.005$ ).



When the FoodPrints-WITS entrée and paired side salad were considered together, students at FoodPrints-WITS schools consumed, on average, 42 percent more of the portion size of the FoodPrints-WITS entrée and side salad than did students at schools without this

programming. FoodPrints-WITS students ate, on average, 44 percent of the entrée and side salad portion size, while comparison school students ate, on average 31 percent of the entrée and side salad portion size ( $p = 0.004$ ).



Students at both FoodPrints-WITS schools and comparison schools consumed the three components of the entrée meal (grain, protein, and vegetables) evenly, meaning that students ate the same amount of the vegetable component as the grain and protein

components. This differs from a previous study using the same data collection methodology that found that students ate less of the vegetable components of school lunch, compared to the grain and protein components.<sup>1</sup> This may be due to the way that FoodPrints-WITS meals are constructed, with grain, protein and vegetable components mixed together and not easily separated. These findings suggest that the way in which FoodPrints-WITS entrees are constructed could be associated with students consuming more vegetables than they might otherwise if these components were easily separated.



The results of this study demonstrate that the Class to Café Project is associated with increased consumption of the entrée and side salad portions of FoodPrints meals served in the cafeteria. Students participating in FoodPrints-WITS programming are significantly

more likely to consume a larger share of the portion size of FoodPrints meals during school lunch, on average, compared to students in schools without this programming. Students at both sets of schools (intervention and comparison) also ate the three portions of the entrée meal (grain, protein, vegetables) evenly. This finding was likely due to the way that FoodPrints-WITS meals were constructed with menu items like quesadillas and fried rice, where all of the components are mixed together. School cafeterias may want to consider similar menu items as a strategy to increase fresh vegetable consumption.

<sup>1</sup> Koch, Pamela, Raynika Trent, and Randi Wolf. 2018. *Wellness in the Schools Evaluation: Final Report*. Laurie M. Tisch Center for Food, Education & Policy, Program in Nutrition at Teachers College, Columbia University.

## About Class to Café

FRESHFARM FoodPrints engages DC Public School (DCPS) students in gardening, cooking, and nutrition education through monthly in-school field trips that include hands-on learning aligned with academic standards. The program aims to equip students and their families with the skills and knowledge to prepare and consume fresh, local whole foods. Over the past decade, the program has grown to serve 5,700 students in 15 DCPS elementary schools, with a focus on serving high needs populations.

During the 2017-2018 school year, FoodPrints piloted a “FoodPrints Days” project in which cafeteria staff used scratch cooking methods to offer FoodPrints meals that students had already prepared and eaten together in their FoodPrints classroom in the school cafeteria. FoodPrints meals were offered in the cafeteria once a week on Wednesdays in four partner schools. During the 2018-2019 school year, this project was expanded to 8 FoodPrints partner schools and added a new partner, Wellness in the Schools (WITS). This expansion was made possible by a USDA Farm to School grant awarded to DCPS to provide embedded chef-coaching professional development for cafeteria staff, a project now called Class to Café. The WITS Chef works with cafeteria staff to execute the FoodPrints meal for the day, providing onsite assistance and training and an extra set of hands for the scratch cooking needed to execute the menu. The WITS Chef also spends time in the school cafeteria, engaging students in conversation about the FoodPrints meal and encouraging students to try the food. WITS Chefs provide a daylong training before each new menu cycle for cafeteria staff and FoodPrints staff, further strengthening skills and connections between the cafeteria and the FoodPrints classroom.



## Research Methodology

The research lead and four student research assistants were trained in the System of Observational Cafeteria Assessment of Foods Eaten (SOCAFE) methodology by researchers from the Tisch Food Center, Teachers College, Columbia University. Researchers observed students eating school lunch during a four-week period in May and June 2019. At least three observations were completed at each school; most schools were observed four times. Students’ consumption of three FoodPrints-WITS meals were observed: Sweet Potato Quesadilla and Tuscan Kale Salad (Weeks 1 and 4), Veggie Fried Rice with Asian Slaw (Week 2), and Spinach Pesto Pasta with Peas and a green salad (Week 3). Each researcher observed four students at a time, using a standardized observation form. Researchers documented which food items students had on their trays at the moment they sat down at a table to eat and tracked the portion size of each meal component (vegetable, protein, and grain) of the entrée and side salad that students consumed. The portion size of each meal component that students consumed was tracked using the following scale: 0%, bite/10%, 25%, 50%, 75%, 100%, more than 100%. Inter-rater reliability was assessed during training and through the third week of the study. There was 92 percent average agreement (median=92%, minimum=88%, maximum=100%) across the five observers for food items in which the amounts observed eaten were within one-quarter serving.

