



MMSD High School Food Service Design Challenge Case Study

Leigh Vierstra | August 2023

WHAT IT TOOK

The Design Team

- 2 R&I staff, MMSD 1 Director of Food Services, 2 UW researchers, 1 staff member from REAP
- 35 hours over 6 months to explore, discover and create an equitable solution to test at our high schools

From the Research & Innovation Team:

2 Research & Innovation Strategists

- 40 hours over 6 months to plan and facilitate design sessions
- 10 hours over 6 months to plan, collect and analyze data around the teacher experience

85 combined hours over 6 months

Background

In January 2023, MMSD's Research & Innovation and Food Service department, along with the School of Human Ecology at the University of Wisconsin-Madison and REAP Food Group, launched a design challenge to improve the high school lunch experience with the specific goal to increase participation in our food service programs. Josh Perkins, MMSD's Director of Food Service, reached out to R&I in the fall of 2022 because after being on the job for six months he noticed low participation in MMSD's food service programs (breakfast and lunch) and had heard negative reviews from parents and students of MMSD's programs. Since food and nutrition is critical to students academic success, Josh knew it was imperative to increase student participation. Using the Liberatory Design processes, the design team - composed of MMSD's Director of Food Services, two members of MMSD's Research & Innovation department, two UW-Madison School of Human Ecology researchers, and a member of REAP - spent six months exploring, discovering and creating possible opportunities to improve the student lunch experience and increase student lunch participation.

Research to Discovery

To kick off this design challenge, R&I Innovation Director, Leigh Vierstra, led the team through a grounding and context setting process. Using Wisconsin Department of Public Instruction (DPI) meal participation data from each of MMSD's six high schools between 2016 and 2019, the team dug into participation trends and rates. The design team did not look at 2020 and 2021 data due to the inconsistencies caused by the COVID-19 pandemic. Through the data assessment, the team learned that on average only 35% of high school students who are eligible for free/reduced lunch participated in the MMSD food service program daily. The team also learned that there are very low participation rates among students who do not qualify for free/reduced meals and wondered what that might suggest about the current levels of satisfaction among MMSD High high school students. The team used this data to set the stage and create a research plan to dig further into this challenge in order to better understand the root causes of the low participation rates and find possible solutions.

To supplement the DPI meal participation data, the team headed out to five MMSD high schools to observe the lunch time and gather preliminary data around the student lunchroom experience, specifically considering how long, on average, it takes students to move through the lunch line, what food students take versus throw away, and where students eat lunch. We then conducted a survey of all MMSD high school students (n=7,665) in the Winter of 2023. We had 760 students respond (10% response rate) and found that students find the quality of the food 'not good' (68%) and rate the freshness as 'not fresh' and 'not healthy' (79%).



Focus group held at Memorial High School

Students also expressed that nutritional information is not readily available (86%) and that the cafeteria is not welcoming (72%), not clean (70%) and not large enough to eat lunch comfortably (77%).

Following our survey analysis day, the design team had many questions remaining regarding the student lunch experience. To deepen our understanding, the team assembled student focus groups at West High School, East High School, and Shabazz High School to learn more about students' experience surrounding school lunch. From the focus groups, the team learned that students want higher quality and more culturally relevant food and varied cafeteria spaces that are relaxing and would result in a more inclusive environment that would encourage students to participate in the meal program at their school.

Taking the data from observations, surveys and focus groups the design team created the following problem statement to work from:

Problem Statement:

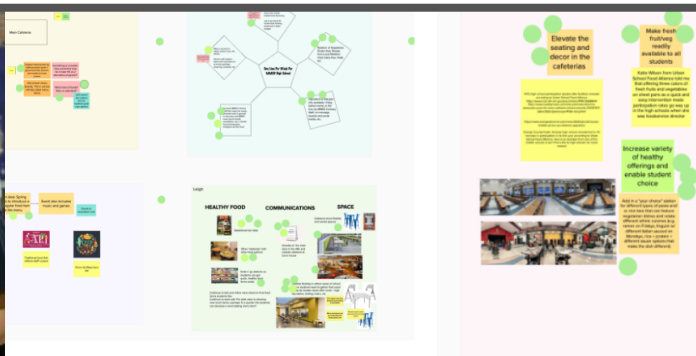
MMSD high school students need access to freshly prepared meals with attractive menu options that reflect cultural and dietary needs, reliable information about the food being provided, and spaces that allow them to relax and feel comfortable because many high school students currently feel the district doesn't care about or prioritize school meals as a source of physical and emotional nourishment...and current funding structures limit a school district's ability to provide high quality meals due to staffing models and food prep abilities.

Ideation to Prototype

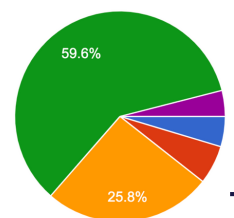
After defining the problem, the design team reviewed sources of inspiration from other school districts across the United States in order to inspire possible solutions. From there, R&I Strategist, Daniel Torres-Rangel, used the The Creative Strategy brainstorming process in order to land on one solution to build and test out. At the end of the design session, the team landed on testing out a multi-pronged solution that incorporated new, culturally relevant menu items, improving communication about the food and nutrition being served daily, multiple ways and places for students to grab food and flexible seating options in the cafeteria and other locations in the schools.

Testing

After building the prototype and its components, the team then tested their ideas to determine if their solution did in fact increase lunch participation rates. Working with East High School and their food service staff, the design team first tested out new, more culturally and dietarily diverse food items. During the first two weeks of May, East students were able to sample and give feedback on Zesty Orange Chicken Tenders, Hawaiian Teriyaki Chicken Sandwiches, Spicy Bomb Burgers, and Veggie or Chicken Ramen Bowl.



Zesty Orange Chicken Tenders
151 responses



Overwhelmingly, students reported that they liked the new food items and provided great feedback on how to improve some of the offerings. Students also appreciated the ability to try the food and learn for themselves what “it tasted like”. One student even exclaimed that the orange zesty chicken “tastes like a restaurant” and came back with six other friends so they could try it for themselves.

After the team gathered student input on the new food items, the design team then tested out “grab n’ go” kiosks in various places around the school in order to test the assumption that students want faster access to food in places that are convenient to them.

Over the month of May, when the design team was testing out new food items and the grab n’ go kiosks, we saw a slight increase in student participation rates based on data collected from food items sold. The team learned that grab n’ go was especially successful when the food service staff only ran one hot lunch item (sold all 75 items in 10 minutes) in comparison to when they sold a variety of hot and cold menu items (sold 50% of items provided). At LaFollette High School, when the team tested out a grab n’ go kiosk for breakfast, there was an average increase from 78 students to 145 students who participated in MMSD breakfast.

“The orange chicken tastes like it came from a restaurant!”

Outcome

From a month of testing the various components of our prototype (new food items and grab n’ go kiosks), the team was optimistic from the early data. The design team saw a slight increase in lunch participation, however, it was difficult to gather accurate data due to testing happening at the end of the school year when participation rates are normally down and with construction at each of our high schools, specifically in the cafeteria areas.

In order to fully test out and validate early data, the design team will continue to test and adjust the prototype during the 2023-24SY. The team plans to run food sampling at the beginning of the school year and the grab n’ go kiosks in a variety of locations at each of MMSD high schools. In addition to the continuation of last year's testing, the design team plans to add and test the impact of more flexible seating so students have more comfortable places to eat lunch. The hope is that by improving the entire food experience– from what food is provided to how students are able to access food to where students can eat– that participation in the MMSD lunch program increases.