

Offer Versus Serve and Food Choices in Elementary School Cafeterias

Waste Prevention Pilot Projects at North Plains Elementary School Charles F. Tigard Elementary School Metzger Elementary School

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Introduction

Nutritious school meals are essential for students to maximize their physical and mental performance. For many students, school breakfast and lunch are the only balanced meals they eat. But despite the best intentions of food service personnel and administrators, school lunches are often criticized as unhealthy and/or wasteful. At the same time, budget constraints are forcing many school districts to expect more out of their meal programs. Thus, cooks are challenged to balance the often competing interests of nutrition, participation, and cost control.

During the 1993-1994 school year, three Portland, Oregon area elementary schools participated in a pilot project to reduce the amount of food thrown away in their cafeterias. All three schools implemented a food serving program called "Offer Versus Serve" (OVS). OVS is mandatory in all high schools, and can be implemented in the lower grades with school board approval. Under OVS, students are required to take a minimum of three food items from the USDA meal pattern (meat or meat alternate, bread or bread alternate, two servings of fruit and/or vegetable, and milk). Students are encouraged to take all five food items.

All three pilot schools implemented OVS and food choices while promoting to students the importance of eating a well balanced meal. Students were asked not to take food that they would not eat, but were encouraged to take small portions of new foods that they might want to try. The schools also introduced food choices using self-service fruit and vegetable bars. North Plains Elementary went further and offered three entree choices daily rather than the traditional single entree.

These schools have demonstrated that OVS and food choices are extremely popular among students and can increase participation in the lunch program. The meal service does not usually increase work for kitchen staff, and results in the selection of more nutritious food by students. Since students are in control of serving

decisions, less food is thrown away, which means that less money is wasted purchasing, preparing, and serving food that goes uneaten.

Project History

In 1993, the Portland office of Harding Lawson Associates (HLA), a private environmental engineering firm with offices nationwide, was awarded a grant from Metro, the Portland area's regional government, to demonstrate innovative methods other than recycling to reduce solid waste in businesses and schools. The reason for this is that the best solution to the solid waste problem is to avoid making waste in the first place. This is sometimes called "waste prevention" or "source reduction".

Working with the Washington County Cooperative Recycling Program and the Oregon Department of Education's Child Nutrition Program, HLA approached three elementary schools to participate as demonstration sites. At all three schools, food waste was targeted for reduction because it is a large, heavy component of the school waste stream and is not easily collected for composting.

Project Methodology

All three schools weighed their cafeteria garbage before and after implementing OVS and food choices. North Plains Elementary was the first school to change menus. At first, the school offered a variety of food choices while maintaining the traditional serving style, with cooks portioning out servings on each tray. This slowed the line substantially, so the school purchased two child-sized self-service carts. Now, the only foods served by the cooks are hot foods and desserts. Students serve themselves the cold foods, including fruits, vegetables, breads, etc.

Charles F. Tigard and Metzger Elementary Schools, both in the Tigard-Tualatin School District, implemented OVS and food choices the following month. Given the experience of North Plains, baseline and follow-up monitoring was done differently at these two schools. Charles F. Tigard and Metzger also purchased self-service carts.

The primary difference between the Tigard-Tualatin schools and North Plains Elementary was the decision to offer multiple entrees at North Plains, while Tigard-Tualatin chose to continue to offer one entree per day. All three schools allowed students to serve themselves from the variety bar. Less-popular cooked vegetables were served less often. All three schools also promoted OVS and food choices to students and parents through the use of classroom presentations and discussions, and announcements in the weekly newsletter sent home to parents.

Project Results

Serving and Staff Time

- OVS and food choices did not slow down the serving line. Students were timed going through the line at Charles F. Tigard before and after introducing OVS and food choices. There was no change in the amount of time spent in line. At North Plains, the line moves faster than before OVS and food choices. Despite the fact that students are taking longer to eat, the principal has been able to shorten the lunch period by 15 minutes, returning that time to classroom education.
- All three of the schools were able to introduce OVS and food choices without increasing the number of hours worked by kitchen staff, even at North Plains, where a second and third entree were added and participation increased. More time may be spent preparing food, but less time is spent serving it. With the introduction of self-serve bars, all of the schools moved an employee or student helper from the serving line into the cafeteria to keep the self-serve bars well stocked. However, the first few days of OVS and food choices required some overtime or additional help in the kitchen, as well as some extra patience and support from principals and teachers.

Cost Savings

- Participation in the lunch program increased as a result of OVS and food choices at two of the three schools, bringing in more revenue. At North Plains, average daily participation jumped from 198 (61% of students in attendance) to 237 (73%). Participation at Metzger increased from 209 (52%) to 239 (59%), while Charles F. Tigard's participation remained steady.
- OVS and food choices appear to be saving money for the school cafeteria programs. Revenues have increased, labor costs have remained constant, and some food costs have gone up while others have gone down. At North Plains, the average cost of food per meal has dropped from \$0.85 to \$0.71, despite the fact that students are eating more food. Assuming 12 ounces of food per meal, the estimated dollar value of food thrown out by students at North Plains has dropped from \$12,000 per year to \$4,600 per year, for an annual savings of \$7,400.

Waste Prevention

- As a result of OVS and food choices, less food is thrown away. Total cafeteria garbage dropped 28% at North Plains, 15% at Metzger, and 4% at Charles F. Tigard. At North Plains, food waste dropped by 36%—*that's 1.5 tons of food no longer thrown out each school year*. If participation in the school lunch program had not increased, waste would have dropped even

further. The amount of food waste per school lunch meal served dropped 47%. Put differently, the average school lunch eater at North Plains throws away almost 50% less food under OVS and food choices than he or she did with a traditional meal service.

- Enthusiasm for reducing waste carries over into other areas as well. This may be a result of the emphasis on waste prevention and the environment as a motivation for introducing OVS and food choices at the three schools. For example, after introducing OVS and food choices in classroom presentations, per-person cafeteria waste from “brown bag” lunch eaters dropped 13% at Charles F. Tigard and 10% at Metzger, despite the fact that there was no specific education targeting these students. At North Plains, one sixth grade class prepared a poster showing the “Zero Waste Lunch” for brown bag lunch eaters, featuring reusable bags and lunch containers, while another sixth grade class started a worm box to compost cafeteria food scraps. The worms were used in a variety of science projects, and the teacher presented the worm project to several school classrooms.

Other Benefits

- At all three schools, consumption of fresh fruits and vegetables increased dramatically. For example, North Plains went from serving 40 pounds to 100 pounds of fruits and vegetables weekly. All three schools allowed students to take food as desired from the self-serve variety bars, with an emphasis on students taking what they would eat. Offering a wide variety of fruits, vegetables, breads, and grains is consistent with the nutritional guidelines established in the USDA Food Guide Pyramid.
- Lunches became more nutritious in other ways, as well. For example, faculty at Charles F. Tigard anecdotally noted that students who would not eat vegetables when served by adults would eat them when they could choose the same vegetables for themselves.
- Lunch is more enjoyable for the students. Not only were students at all three schools overwhelmingly enthusiastic about OVS and food choices, but positive feedback to the cooks increased as well. Additionally, with the “restaurant-style” lunch service offered with food choices, students were more likely to socialize and eat the food they took.

Suggestions for Implementing Offer Versus Serve and Food Choices

Based on the experience at these and other schools, here are some suggestions for successfully implementing OVS and food choices at your school:

- **School board approval must be obtained before introducing OVS in middle and elementary school cafeterias. The board can require students to take a minimum of three or four food items.**
- **Offer a variety of choices of all the food components, including the entree. Even sandwiches can be a popular choice for some students.**
- **Fresh vegetables are generally more popular than cooked vegetables.**
- **Make sure every student understands that they should not take foods that they won't eat, but they do have to take full servings of at least three or four food items, depending on school policy. Classroom presentations by food service staff, teachers, and/or administrators, posters, and menus are all ways to inform students. Information sent home to parents explaining the change is also important.**
- ***Remember, students must be in control of every choice.* The school cannot mandate that students take a specific item such as milk or an entree. As long as they take full servings of any three (or four) of the five food items from the USDA meal pattern, the meal is reimbursable.**
- **If teachers will be making presentations to their students about OVS and food choices, make sure they are well prepared. Give them clear instructions about how food will be served, including which items will be self-served, whether extra servings will be allowed, and why the change is occurring. Reiterate that a well balanced meal is important for growth, but students must be in control of every decision to accept or reject a food.**
- **Be prepared for challenges in the first few days. And be sure to have lots of extra fresh fruits and vegetables in stock!**
- **Integrate these changes into outcome-based education for students. For example, involve students in weighing garbage, tracking progress in reducing waste, and educating their peers.**
- **While the focus of OVS and food choices is on school lunch eaters, brown bag lunch eaters can also participate in a cafeteria waste reduction program. The biggest difference is that most brown bag waste is packaging, while most school lunch waste is food. However, brown bag lunch eaters throw a surprising amount of edible food in the garbage. For example, at Charles F. Tigard, the following uneaten and half-eaten items were thrown away by brown bag lunch eaters in one day: three bananas, 11 apples, an unopened can of fruit, two oranges, four tangerines, a can of juice, one-and-a-half bags of corn chips, a package of "cheese and crackers", two sandwich bags full of crackers, one cheese sandwich, three-and-a-half peanut butter sandwiches, three bologna sandwiches, half of a ham sandwich, an egg salad sandwich, a**

muffin, some string cheese, and a bag of carrot sticks. The value of this wasted food is more than \$7.70 in one day, or \$1,400 per school year (based on lowest product prices at a large grocery store). Students and parents should be encouraged to talk with each other about lunches brought from home so that less food and packaging are thrown away.

For More Information

The Oregon Department of Education, Child Nutrition Programs, has developed an 11-minute videotape, "Offer Versus Serve: The Right Choice", which shows OVS and food choices in action at North Plains, Charles F. Tigard, Metzger, and Hollydale (Gresham) Elementary Schools. To borrow a copy of this video, or for assistance in implementing OVS and food choices in your school cafeteria (in Oregon), contact:

Child Nutrition Programs
Oregon Department of Education
Public Service Building
255 Capitol Street NE
Salem, OR 97310-0203
(503) 378-3579

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