



# Insight

A Publication for Child Nutrition Professionals from the National Food Service Management Institute

## Five Exemplary School Districts Demonstrate the Effectiveness of In-Classroom Breakfast

**O** The benefits of the School Breakfast Program (SBP) have been documented; however, many of America's neediest children do not participate in the program. In fiscal year 2010, the National School Lunch Program served more than 31.7 million children daily. During the same fiscal year, the SBP served far fewer children, totaling only 11.6 million daily. Of those, 9.7 million received their meals free or at a reduced price. A national trend to improve school breakfast participation is the integration of breakfast within the school day and in-classroom breakfast. These in-classroom breakfast programs dramatically increase student access to school breakfast, while positively influencing the nutrition status of school-age children.

**V** Studies have found that children who have an SBP available consume a better overall diet, consume a lower percentage of calories from fat, are less likely to have a low intake of magnesium, are less likely to have low serum levels of vitamin C and folate, and have significantly lower body mass index. Studies exploring the academic benefits associated with SBPs have noted improved math scores, less mental stress, and improved overall academic performance by students.

**E** In spite of the positive results of in-classroom breakfast programs and SBP studies, there are some who question the feasibility of in-classroom breakfast. Therefore,

the purpose of this study was to accomplish the following goals:

- Define and identify successful in-classroom breakfast programs based on state agency child nutrition directors' recommendations;
- Interview school nutrition (SN) directors, SN managers, school administrators, teachers, custodians, and school health personnel to identify student outcomes, such as attentiveness, tardiness, attendance, visits to school nurses, and student behavior;
- Quantify student outcomes, district-level financial analyses of in-classroom breakfast, and teacher and custodial time requirements for in-classroom breakfast; and
- Review menus, food costs, and compliance with *Dietary Guidelines for Americans, 2010*.



## METHOD

- A case study methodology was used to explore best practices for providing breakfast in the classroom. The study utilized multiple-case designs that followed a replication format, in which the conclusions from each study site contributed to the “whole” study.
- State agency directors and United States Department of Agriculture Food and Nutrition Services regional directors were asked to identify SN directors with exemplary in-classroom breakfast programs. These SN directors were contacted, the study was explained to them, and they were asked to participate.
- A data collection instrument used in a previous National Food Service Management Institute, Applied Research Division (NFSMI, ARD) in-classroom breakfast study was revised for use in this study. The instrument was designed to collect demographics and general information about the district’s school breakfast program, and included a structured interview guide with predetermined questions designed to collect in-classroom data while visiting the district. The interview guide included questions for SN directors, SN managers, principals, teachers, custodians, and school health personnel.
- School districts chosen for the case study ranged in size from a district with 7 schools and an enrollment of 4,959 students to a large district with 120 schools and 76,385 students.

## FINDINGS

### Operational Costs and Revenue

- The SN directors found that increased participation covered the extra expenses associated with in-classroom breakfast.
- Schools that offered in-classroom breakfast experienced dramatic increases in participation, which led to increased revenue. A high school that served 50 breakfasts per day increased participation to 950 breakfasts per day.
- A K-8 elementary school with in-classroom breakfast earned \$70,412 yearly in excess revenue. A similar school that did not offer in-classroom breakfast earned \$29,813.
- Food costs of sample breakfast menus ranged from \$.50 to \$1.04.

### Foods Provided

- Directors ranked nutritive value, followed by student preference and food cost, as their greatest considerations when planning in-classroom breakfast menus, and demonstrated that they can be aligned with the *2010 Dietary Guidelines for Americans*.

- The pilot district had a central kitchen that produced and packaged 21.6% of the breakfast menu items, including muffins, whole-wheat cheese bread and mini loaves.
- District A, a large district, had four registered dietitians on staff who reviewed the menus for compliance with nutrition standards.
- District B used nutrient standard menu planning to develop menus to ensure children met nutrient targets within their calorie requirements.
- The SN director in District C is a member of a purchasing cooperative that continually looks for new menu items and works closely with manufacturers to find products that meet nutrition specifications. To encourage reduced intake of added sugars, this director limits purchases of prepackaged foods to those that contain 9 grams or less of sugar per serving.
- Three districts purchased prepackaged foods, and two districts served cold menu items.

### The Positive Impact of In-Classroom Breakfast

- In the pilot district, every child had a chance to eat in a more leisurely manner. Instead of children “hanging out” in the hallways, they arrived to classrooms earlier, and were ready to eat and learn. In-classroom breakfast was part of the school day, and positively affected the image of SN in the schools.

### *Selected School Personnel Comments on Student Issues and School Culture Related to In-Classroom Breakfast*

**School Nutrition Directors:** “Academically, they are ready to learn. Socially, they are going with their classmates to pick up breakfast/return breakfast. They take responsibility for cleaning up.”

**Principal:** “Kids seem more light-hearted and less agitated when they come in. Now they can eat with their friends in the classroom. Fewer students are asking for a mid-morning snack.”

**Teachers:** “I’m for the program. I think it’s great during announcements. The kids are more awake and aware. It makes them more social with me.”

**School Health Personnel:** “It’s great ... Every child eats. Parents love it. I love it. The children are not jittery. Concentration is better.”

- In District A, teachers have used the program to teach manners. The schools' atmospheres are now easier and quieter.
- In District D, the children learned responsibility through picking up breakfast boxes and returning them. Children took responsibility for cleaning up after their meals.
- School health personnel in Districts A and B reported fewer student visits to the health office with complaints of hunger or stomachaches.
- A middle school that began in-classroom breakfast in 2011 experienced a drop in disciplinary referrals. In 2010, 377 disciplinary referrals were made. In 2011, 171 disciplinary referrals were made.
- All district SN directors reported student satisfaction with in-classroom breakfasts.
- Teachers reported little time or effort required on their part for in-classroom breakfast service, as students learn the responsibility of cleaning up after themselves.

## **PRACTICAL USE OF THIS INFORMATION**

- In-classroom breakfasts may be used as a tool for improving school culture and student behavior.
- School nutrition directors can use quantitative and qualitative data to determine effectiveness of in-classroom breakfast for marketing and program expansion.
- The districts did provide effectiveness statistics; however, there were limited statistics on food waste, nurse and health center visits, disciplinary referrals, attendance and tardies, and custodial and teacher time requirements. If statistics could be collected and analyzed, the districts would be able to better show effectiveness of their in-classroom breakfast.

## **Data Collection for Effectiveness of In-Classroom Breakfast**

### **Qualitative Data and Sources**

- Breakfast Participation – records (month by month, YTD, school year to school year)
- Accountability for Reimbursement – rosters and software
- Excess Revenue – financial records (include income, labor cost, food cost, supply cost)
- Service Time – number of meals served per minute
- Food Waste and Disposable Waste/Recycling – weight in pounds
- Student Diet Quality/Nutrient Intake – can be determined from menus/nutrient analysis and plate-waste data
- Custodial Time – minutes and/or hours for cleanup
- Disciplinary Referrals – school records
- Attendance/Tardies – school records
- School Nurse/Wellness Office Visits – school records
- Academic Performance/Test Scores – school records

### **Qualitative Data (Student and Stakeholder Satisfaction, School Culture and Climate, Perceptions, Opportunities, Barriers) and Sources**

- Students – interviews, surveys
- Nutrition Services Staff – interviews
- School Nurse/Wellness Staff – interviews
- Teachers – interviews, surveys
- Principals – interviews
- Custodians – interviews
- Parents – interviews, surveys

## **Popular In-Classroom Breakfast Menu Items**

<b>Pilot District</b>	<b>District A</b>	<b>District B</b>	<b>District C</b>	<b>District D</b>
Cheese bread	Cold cereal	Muffin	Beef and bean burrito	Honey graham cold cereal
Yogurt	Granola bar	Fruit bar	Egg to go in tortilla	Hard cooked eggs
Fruit	Mini loaf	Granola bar	Grilled cheese sandwich	Peanut butter and jelly sandwich

## For More Information

Food Research and Action Center. *Breakfast in the classroom*. Retrieved July 31, 2012 from <http://frac.org/federal-foodnutrition-programs/school-breakfast-and-lunch/breakfast-in-the-classroom/>

Godfrey, J. R. (2012). Increasing student breakfast consumption: An established model in Maryland. *Childhood Obesity*, 8 (2), 162-166.

Imberman, S. A., & Kugler, A. D. (2012). The effect of providing breakfast on student performance: Evidence from an in-class breakfast program. National Bureau of Economic Research. Working paper 17720. Retrieved July 31, 2012 from <http://www.nber.org/papers/w17720>

Rainville, A. J., & Carr, D. H. (2008). In-classroom breakfast: Best practices in three school districts. *Journal of Child Nutrition and Management*, 32(2). Retrieved from <http://www.schoolnutrition.org/Content.aspx?id=10604>

U.S. Department of Agriculture & U.S. Department of Health and Human Services. (2010). *Dietary Guidelines for Americans, 2010*. 7th Edition, Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Agriculture, Food and Nutrition Service. (2012). *Breakfast in the Classroom*. Retrieved July 31, 2012 from <http://www.fns.usda.gov/cnd/Breakfast/expansion/expansionstrategies.htm#classroom>



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