

Effectiveness of Breakfast in the Classroom in Five Exemplary Districts

Alice Jo Rainville, PhD, RD, CHE, SNS; Amber D. King, MS, RD; Mary Frances Nettles, PhD, RD

Please note that this study was published before the SY2014-15 implementation of the Smart Snacks Nutrition Standards for Competitive Food in Schools, as required by the Healthy, Hunger-Free Kids Acts of 2010. As such, certain research relating to food in schools may not be relevant today.

ABSTRACT

Purpose/Objectives

A national trend to improve school breakfast participation is the integration of breakfast within the school day. Breakfast in the classroom programs increase student access to school breakfast. Service models include “grab and go,” distribution of breakfasts to each classroom, and mobile breakfast carts in hallways. The purpose of this study was to determine the effectiveness of breakfast in the classroom using financial records and student outcomes.

Methods

Using case study research methodology, the National Food Service Management Institute, Applied Research Division, conducted a study to determine the effectiveness of breakfast in the classroom. State agencies recommended exemplary districts offering breakfast in the classroom programs. After a pilot visit to a USDA Midwest Region district, four districts of varying sizes in USDA’s Mid-Atlantic, Northeast, Western, and Mountain Plains Regions were visited. Preparation, distribution, and service of breakfast were observed in elementary, middle, and high schools. School nutrition directors, principals, teachers, and other school personnel were interviewed.

Results

Schools that offer breakfast in the classroom have experienced impressive increases in participation which leads 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 breakfast in the classroom earned \$70,412 yearly in additional revenue compared to a similar school that did not offer it (\$29,813). Four of five districts had limited data on financial outcomes. A middle school that began breakfast in the classroom in 2011 experienced a drop in disciplinary referrals from 377 to 171 from 2010 to 2011. School personnel perceived improvements in the school atmosphere and a number of student-related issues following implementation of a breakfast in the classroom program.

Applications to Child Nutrition Professionals

Increased breakfast participation leads to improved nutrition for children and can result in increased revenue for districts. Breakfast in the classroom can improve school culture and have a positive effect on student behavior. The outcomes of this study should be shared with school nutrition personnel, school administrators, teachers, school staff, and parents.

INTRODUCTION

Benefits of the School Breakfast Program (SBP) have been documented, however many of America’s neediest children are not participating. In Fiscal Year 2010, the National School Lunch Program served more than 31.7 million children daily (U.S. Department of Agriculture [USDA], 2012a). During the same fiscal year, the SBP served far fewer children, over 11.6 million daily. Of those, 9.7 million received their meals free or at a reduced-price (USDA, 2012b). A national trend to improve school breakfast participation is the integration of breakfast within the school day and in the classroom.

These breakfast in the classroom programs increase student access to school breakfast, while positively influencing the nutrition status of school-age children. The USDA Food and Nutrition Service (FNS) website has suggestions for expanding the SBP, including serving breakfast in the classroom (USDA, 2012c).

Breakfast in the Classroom Research Studies

Huang, Lee, and Shanklin (2006) evaluated the effectiveness of a free SBP in three experimental and three control schools in Missouri. Breakfast participation increased from 43% to 95% at the three experimental schools and attendance was increased from 91% to 94% at the experimental schools. They did not find any difference in academic performance.

Imberman and Kugler (2012) used data from a large urban school district with over 200,000 students in the Southwest that phased in a breakfast in the classroom program in 2010; 65% of elementary schools in the district had economic disadvantage rates of 90% or higher. They found that breakfast in the classroom increased math and reading achievement by 0.1 standard deviations compared to providing breakfast in the cafeteria. This was a substantial result because they had 6,353 students and 85 schools in the achievement sample. The effects were larger for students with low pre-program achievement, those who were eligible for free lunch, Hispanic children, children with limited English proficiency, and students with a low body mass index. There were also some improvements in attendance for high-achieving students but there was no impact on grades.

Godfrey (2012) interviewed Maryland Meals for Achievement (MMFA) staff and a school nutrition (SN) director in a Maryland county to learn more about this breakfast in the classroom program, which began in 1998. Evaluations of the MMFA program demonstrated increases in the percentage of students who scored satisfactorily on the state exams, declines in tardiness and disciplinary problems, and a 72% increase in breakfast participation. In addition, the MMFA breakfast in the classroom program was counted as part of the school day and the food was ready to eat upon arrival at school. The teacher served as a role model, and the classroom setting was relaxed and pleasant. Custodial staff in the district reported less cleanup required with breakfast in the classroom than with traditional cafeteria service. Additional studies have reported positive opinions from school personnel in schools that have breakfast in the classroom programs (Conklin, Bordi, & Schaper, 2004; Murphy & Pagano, 2001; Rainville & Carr, 2008).

Tran (2009) completed an assessment of breakfast in the classroom plate waste within Milwaukee Public Schools in 2008. Approximately 470 students at 23 school sites were observed, resulting in 2,402 observations. Tran found that only 4.8% of food was wasted; minimal instructional time was needed; and the higher the grade level, the less food was wasted.

A six week 2010 pilot study of breakfast in the classroom for sixth graders ($n = 219$) in a Minnesota middle school found that 64.5% of students were very satisfied or satisfied with eating breakfast in the classroom (Nanney, Olaleye, Wang, Motyka, & Klund-Schubert, 2011). Seventy eight percent strongly agreed or agreed that breakfast helped focus in the classes. Menu items were highly rated; whole grain muffins and 100% juice were the most popular. Some students (43.5%) preferred hot breakfast options and 15.2% saved breakfast foods for later. Teachers ($n = 10$) were surveyed at six weeks post intervention and 100% did not agree that breakfast foods were messy or that the process was disruptive. All teachers rated student behavior as excellent or good during service and while eating. Researchers found minimal food waste, only one spill the building supervisor had no concerns with waste, spills, or foods kept in lockers.

Research Objectives

Despite positive results of breakfast in the classroom programs and SBP studies, there are some who question the feasibility of breakfast in the classroom. Therefore, the purposes of this study were as follows:

- Identify student outcomes such as attentiveness, tardiness, attendance, visits to school nurses, and student behavior.
- Quantify student outcomes; district-level financial analyses; and teacher and custodial time requirements for breakfast in the classroom.

METHODOLOGY

Research Design

This study used a case study method to explore best practices of breakfast in the classroom. In this research, structured and informal interviews, examination of documents, and direct observations were used to collect and analyze data. The study utilized multiple-case designs that followed a replication format in which the conclusions from each study site contributed to the “whole” study. This type of methodology may be used to conduct a detailed contextual analysis of a program in which a review of documentation and archival records, direct observation, and structured interviews are used to collect, analyze, and interpret data (Yin, 2003).

Site Selection

State agency directors and USDA Food and Nutrition Service regional directors were asked via e-mail to identify SN directors with exemplary breakfast in the classroom programs (models worthy of imitation). SN directors were contacted via telephone to explain the study and request their participation. SN directors who agreed to participate were asked to choose a school within the district for this study. If SN directors were willing to participate, letters requesting permission to visit the district were sent to superintendents via e-mail. Telephone and e-mail were used to follow up with SN directors and make final arrangements for the visits.

Informed Consent

The University of Southern Mississippi and the Eastern Michigan University Human Subjects Committee approved the protocol and interview questions. Each SN director ($n = 5$) signed a consent form indicating their willingness to participate in the study.

Data Collection Instrument

A two-part research instrument that was reviewed by qualified professionals and used in a previous in-classroom breakfast study, *In-Classroom Breakfast Best Practices Data Collection Instrument*, was revised for use in this study (Rainville & Carr, 2008). Part I of the data collection instrument was designed to collect demographics and financial information about the district’s SBP. Part II of the data collection instrument 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.

Pilot Study

The researchers field tested the data collection instrument and procedures for direct observation during a one-day visit to a pre-K-8 school in the Midwest region, which was selected as the pilot site for the study. This district implemented breakfast in the classroom at 56 sites and a central kitchen. The pilot case study site was chosen based on convenience, access, and geographic proximity. The principal of the pre-K–8 school, as suggested by the district SN director, was known to be a strong supporter of breakfast in the classroom. Also, the SN director had 23 years of school nutrition experience and was able to provide a good review of the data collection instrument. Observations and interviews with school personnel were completed.

Data Collection Procedures

After the visit to the pilot district, the data collection instrument was slightly revised to include a question about teacher start times. SN directors completed Part I of the data collection instrument before the researcher(s) arrived for a one day visit. Two researchers conducted interviews and collected data in the pilot school district, but only one researcher conducted interviews and collected data in the additional four districts. During the visits, breakfast preparation and service were observed. Structured interviews were conducted with SN directors, SN managers, principals, teachers, custodians, and school health personnel.

Data Analyses

Information gathered from each case study site was analyzed individually for pertinent data and themes. Cross-case tabulations were performed to search for distinct patterns, similarities, or important differences in breakfast in the classroom approaches and strategies. As necessary, short and focused follow-up interviews were conducted via telephone to gather additional information, clarify ambiguous data, and/or verify observations.

RESULTS AND DISCUSSION

Demographics

After a pilot visit in a Midwest USDA region district, four districts of varying sizes in the Mid-Atlantic, West, Mountain Plains, and Northeast USDA regions were visited. The demographic characteristics of the school districts chosen are presented in Table 1. To protect the anonymity of study participants, school districts were designated as Pilot, A, B, C, and D. 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. Table 2 shows the average daily participation for breakfast served in 2010-2011 ranged from 739 in the smallest district to 20,547 in the largest district. In 2010-2011 all five districts were offering in-classroom breakfast in some schools and traditional breakfast in some schools. The Pilot District and Districts B and C had universal breakfast.

Variables	Pilot District (Midwest)	District A (Mid Atlantic)	District B (West)	District C (Mountain Plains)	District D (Northeast)
Student Enrollment	37,780	76,385	23,384	17,877	4,959
Number of Schools	59	120	30	35	7
Total Revenue for 2010-2011	\$23,129,574	\$23,771,327	\$9,446,316	\$7,625,333	\$1,662,391
Number of Schools with Breakfast in the Classroom	59	30	5	23	2
Percentage of Students Approved for Free Meals	64.8%	23.3%	49.1%	60.9%	39.7%
Percentage of Students Approved for Reduced Price Meals	8.3%	5.7%	10.8%	8.1%	7.2%

Description of Service and Distribution

Pilot District

The pilot district was visited in December 2011 to refine the protocol and collect data. This district started breakfast in the classroom in the 2008–2009 school year. In the pre-K–8 charter school that was visited, 459 K–8 students were served in 10 minutes; prior to the classroom breakfast program, about 200 students participated in breakfast each day. At the site visited, preschool breakfasts were delivered to the classrooms and all K–8 students came into the cafeteria from outside; teachers and teacher aides distributed translucent bags as the students filed into the cafeteria. Students then chose their breakfast foods and cashiers with hand-held clickers counted the students. Students carried their breakfasts to the classrooms.

District A

The district in the Mid-Atlantic region was visited in January 2012; this district started the breakfast in the classroom program in 1998. . A middle school that began serving breakfast in the classroom on April 4, 2011 increased participation from about 80 per day to 350. There were four cashiers, a mobile cart in the cafeteria, and students lined up to choose their menu items and enter a pin number. There were 342 breakfasts served in 13 minutes, the prepaid category had increased. Students carried the three menu items in their hands to the classrooms.

District B

The district in the Western region was visited in February 2012, and had offered breakfast in the classroom for one year. A K–8 elementary school with enrollment of 812 students had increased participation from about 28% to 78%. The breakfast foods were delivered to classrooms in insulated bags on carts by SN staff. Milk was delivered in milk crates. Breakfast was served during the first 15 minutes of the school day.

District C

The district in the Mountain Plains region started the breakfast in the classroom program in 1997 and was visited in February 2012. A high school that began breakfast in the classroom in 2010 increased participation from about 50 students to about 950 students per day. Breakfast was served during the first 12 minutes of the second period. Six mobile, two-tier carts were used to transport breakfast foods and were stationed near each classroom while the students came out of the classroom and circled the cart to select their breakfast items.

District D

The district in the Northeast region, which offered “Breakfast in a Bag,” was visited in January 2012. A K–4 elementary school with 77% free- and reduced-price eligible students began the breakfast in the classroom program in 2011 and served about 350 breakfasts per day during the study. First- and second-grade students came to the cafeteria to choose their breakfast items. Paper bags filled with cereal bowls and other menu items were marked with the type of cereal, and scanned color photos of the cereal were posted so students could choose one cereal. Special education students and kindergarten, third, and fourth grade students had children or teachers pick up a classroom cardboard box filled with breakfast bags to take to the classroom.

Student Outcomes

Schools that offered breakfast in the classroom experienced increases in participation. A high school in District C that served 50 breakfasts per day increased participation to 950 breakfasts per day. An elementary school in District D that served an average of 173 breakfasts per day in March of 2011 increased to 350 per day in May of 2011. A middle school in District A that began breakfast in the classroom in 2011 experienced a drop in disciplinary referrals, from 377 to 171 from 2010 to 2011. All district SN directors reported student satisfaction with breakfast in the classroom.

School health personnel in Districts A and B reported fewer student visits to the health office with complaints of hunger or stomachaches. School personnel were interviewed and their comments about student outcomes are contained in Table 2. Increased student engagement was mentioned by principals and teachers as a benefit of breakfast in the classroom. In these exemplary districts, there were many enthusiastic supporters of breakfast in the classroom.

Table 2. *School Personnel Comments on Student Issues and School Culture Related to Breakfast in the Classroom*

School Nutrition Directors (n = 5)

“Parents like it – thought about moving schools but wanted breakfast in the classroom. Sharing a meal contributes to school culture. Teachers see us as partners. We care about their concerns.”

“Sets the tone for the day – quiet. Social period – conversation. We encourage teachers to eat too. They get to know foodservice staff – same person every day, twice a day. It decreases tardies, morning illness. It integrates us into the school day. It is a given now. You are in ‘their world’. Opportunity for interaction.”

“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.”

“It sets the tone – no one is late, eating together, manners – teacher uses it to teach manners. (School atmosphere) is easier, quieter, flow is better, keeps students on task.”

School Nutrition Managers (n = 5)

“It speeds up the process. Children are calmer.”

“Our kids enjoy breakfast. More contact with students and teachers. They know who we are and we get to know them.”

“I have – less fighting – more calm at lunch.”

“Many students wouldn’t wait in cafeteria lines.”

Principals (n = 5)

“It gives students a healthy environment to eat without being rushed or missing instruction. Family environment. We settle into our day quicker. Not as much fooling around. Kids get down to business. More organized. Breakfast in Bag assists with student responsibility. A culture of calm.”

“It was easy to implement. Students are hungry – almost every student takes a breakfast. It is convenient. The students have a relationship with the foodservice staff. It builds a relationship. We had to convince teachers. Now, they see the value. They eat breakfast too. It’s a great program. Students seem more alert.”

“Creating a culture – about students. I’m really pleased with the breakfast program. No stigma. Parents like it. Children who come late can still eat. Non-stressed way to start day. Children are not complaining of hunger at recess.”

“We’ve seen such a difference in student engagement. Breakfast is helping. Breakfast gives kids time to talk. Teachers are encouraged to eat it – sharing is encouraged. Having the kids nourished. It has become a focus. Better engagement, on-task, not in health office. Gives teachers time to talk to kids, gives them a relationship with teachers. Minimal amount of instructional time is worth the benefits. Now, there isn’t a stigma – helps environment. All kids are equal. Everyone has something to offer. We have a nice

Table 2. *School Personnel Comments on Student Issues and School Culture Related to Breakfast in the Classroom*

community feel. Breakfast is the only thing we've changed – it is having a huge positive impact.”

“The thing I notice is no conflicts in the cafeteria. More children eat breakfast – a leisurely, healthful experience.”

“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 (n = 5)

“They work while they eat. Efficient and effective. They are able to focus and are ready to learn.”

“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.”

“They are calm in the morning. They are well-fed. Children are more alert. Breakfast helps.”

“Awesome! Proved beneficial to our students and our school culture! Students seem more focused and on task because their physical needs are met. They are able to focus when hunger is not a distraction for them. Students are used to eating, listening to announcements, and completing the warm-up on their own.”

“Students are not late from the cafeteria. Not fighting. Students have a chance to socialize. I think the pros outweigh the cons. I'm a believer. It doesn't impact my classroom at all.”

Custodians (n = 5)

“Good program. Same amount of time. Not too much waste.”

“I enjoy it because I get to see the students. Same amount of time as cafeteria breakfast.”

“I love the program.”

School Health Personnel (n = 4)

“It's great – a lot of kids come to school late. Every child eats. Parents love it. I love it. Children are not jittery. Concentration is better. Not as many tummy aches.”

“Significantly fewer visits complaining of hunger. It is a fabulous idea – lots of kids don't eat breakfast but more are now.”

Financial Analysis

Most SN directors did not share school-level financial analyses, but District B provided financial data

spreadsheets for each school and these showed that a K–8 elementary school with breakfast in the classroom earned \$70,412 yearly in additional revenue compared to a similar school that did not offer it (\$29,813). The SN director in District B used the financial analyses to show SN managers and principals the potential for breakfast in the classroom participation and additional revenue. The analysis for each school contained income including reimbursement and cash, expenses including food cost, labor cost, and other expenses, as well as various participation levels to reflect projected annual additional revenue or loss.

All SN directors mentioned economies of scale in that some tasks need to be done regardless of how many students are served. For example, the labor hours required to prepare and serve breakfasts is not directly proportional to the number of breakfasts served. The SN directors found that increased participation (both paid and reimbursable) covered the extra expenses such as equipment and supplies associated with breakfast in the classroom.

Teacher and Custodial Time Requirements

In the pilot district, teachers and paraprofessionals assisted in distributing bags as children entered the cafeteria to choose their breakfasts. In classrooms that were observed during breakfast, teachers reported little change in morning routines and minimal loss of instructional time. In these districts, breakfast has been incorporated with morning announcements or completion of homework and warm-up activities. Teachers reported little time or effort required on their part for breakfast in the classroom service, as students learn the responsibility of cleaning up after themselves. No one reported that the breakfast in the classroom custodial time requirements were greater than with traditional cafeteria breakfast.

Directors' Perspectives

District SN directors provided additional perspectives during interviews. 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 at classrooms earlier, ready to eat and learn. Breakfast in the classroom became part of the school day and positively affected the image of SN in the schools. Directors reported that breakfast in the classroom programs brought a community awareness of school nutrition, and several districts used local television to gain publicity. One of the districts was featured in a national newspaper story and video in 2010. The District A director promoted the effectiveness through a local television program.

In District A, breakfast in the classroom was financially successful except in the high school that had a second chance breakfast at mid-morning. The labor expenses required to deliver bins containing breakfast items to 75 classrooms were not covered by breakfast revenue. Cash handling was another barrier for second chance breakfast. The SN director reported that the school atmosphere was easier, quieter, and that the flow of students improved. Teachers also used the program to teach manners.

In District B, the SN director mentioned the need for completed meal applications, which may lead to greater reimbursement. This district had support from state and district administrators. In a September 2011 memorandum, the state superintendent encouraged school districts to expand breakfast in the classroom as a means to improve nutritional needs of students and strengthen their academic performance.

In District C, the SN director reported that the district wellness center employees and behavior advocates were strong supporters of breakfast in the classroom. Breakfast in the classroom was beneficial for students getting to know the SN staff because they see them at breakfast and at lunch.

In District D, the SN director conducted a survey and found that children who paid for lunch were less likely to eat breakfast before school; this showed a need for increasing access to breakfast through breakfast in the classroom. The children were learning responsibility through picking up breakfast boxes and returning them. Children were also taking responsibility for cleanup.

Discussion

The five exemplary districts had SN directors who were: actively promoting and improving breakfast in the classroom; supportive superintendents, principals, and teachers who supported breakfast in the classroom as a positive contributor to school culture and student learning; SN managers who appreciated the behavioral effects of breakfast in the classroom; and custodians who were willing to change daily routines to make breakfast in the classroom successful. Concerns from stakeholders were addressed to continually improve breakfast in the classroom.

All SN directors reported continuous quality improvement of breakfast in the classroom. The NFSMI guide *“Continuous quality improvement process tailored for the school nutrition environment”* may be used for this process (Lambert, Carr, & Hubbard, 2006).

Limitations

This study involved visits to five schools in five school districts in five USDA regions. It is possible that results would have been different if five districts in the same or other USDA regions were used for the study.

The SN directors and school personnel provided effectiveness statistics, but, in general, the statistics on food waste, nurse and health center visits, disciplinary referrals, attendance and tardies, and custodial and teacher time requirements were limited. Collection and analysis of these statistics would assist the directors to better demonstrate the effectiveness of their breakfast in the classroom programs.

CONCLUSIONS AND APPLICATION

Breakfast in the classroom improves school culture, has a positive effect on student engagement, and the image of the SN department as a partner supporting student achievement is enhanced. All five districts had increases in breakfast participation as a result of breakfast in the classroom programs. Increased breakfast participation leads to improved nutrition for children and can result in increased revenue for districts.

Districts in this study used a variety of methods for distribution and service of breakfast in the classroom for all grade levels. SN directors can use both quantitative and qualitative data on effectiveness of breakfast in the classroom for marketing and program expansion. All five SN directors in this study had supportive administrators, and were actively promoting and improving breakfast in the classroom. The outcomes of this study should be shared with SN personnel, school administrators, teachers, school staff, and parents.

Recommendations for Additional Research

Additional financial analyses of breakfast in the classroom would be helpful. Many districts are offering several types of breakfast service, including traditional service in some schools. It becomes a challenge to separate the finances associated with breakfast in the classroom from other financial information.

Additional studies documenting student achievement, student health, student perceptions, food waste, attendance, student tardiness, and disciplinary referrals would be helpful.

ACKNOWLEDGEMENTS

The authors thank the school nutrition directors who assisted with this study. This publication has been produced by the National Food Service Management Institute – Applied Research Division, located at The University of Southern Mississippi with headquarters at The University of Mississippi. Funding for the Institute has been provided with federal funds from the U. S. Department of Agriculture, Food and Nutrition Service (FNS) to The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of The University of Mississippi or the U. S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U. S. government.

The information provided in this manuscript is the result of independent research produced by NFSMI and is not necessarily in accordance with U. S. Department of Agriculture FNS policy. FNS is

the federal agency responsible for all federal domestic child nutrition programs including the National School Lunch Program, the Child and Adult Care Food Program, and the Summer Food Service Program. Individuals are encouraged to contact their local child nutrition program sponsor and/or their Child Nutrition State Agency should there appear to be a conflict with the information contained herein, and any state or federal policy that governs the associated Child Nutrition Program. For more information on the federal child nutrition programs, please visit www.fns.usda.gov/cnd.

REFERENCES

- Conklin, M. T., Bordi, P. L., & Schaper, M. A. (2004). Grab 'n' go breakfast increases participation in the School Breakfast Program. *Journal of Child Nutrition and Management*, 28(1). Retrieved from <http://docs.schoolnutrition.org/newsroom/jcnm/04spring/conklin/>.
- Godfrey, J. R. (2012). Increasing student breakfast consumption: An established model in Maryland. *Childhood Obesity*, 8, 162-166. doi:10.1089/chi.2012.0082.godf
- Huang, H., Lee, K. I., & Shanklin, C. W. (2006). Evaluation of the Free School Breakfast Program in St. Joseph, Missouri. *Journal of Child Nutrition and Management*, 30(1). Retrieved from <http://docs.schoolnutrition.org/newsroom/jcnm/06spring/huang/index.asp>
- 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 from <http://www.nber.org/papers/w17720>
- Lambert, L., Carr, D., & Hubbard, S. (2006). *Continuous quality improvement process tailored for the school nutrition environment*. University, MS: National Food Service Management Institute.
- Murphy, J. M., & Pagano, M. E. (2001). *Effects of a universally free, in classroom breakfast program: Final report from the third year of the Maryland Meals for Achievement Evaluation*. Baltimore, MD: Maryland State Department of Education.
- Nanney, M. S., Olaleye, T. M., Wang, Q., Motyka, E., & Klund-Schubert, J. (2011). A pilot study to expand the school breakfast program in one middle school. *Translational Behavioral Medicine*, 1, 436-442.
- 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>
- Tran, C. (2009). *An assessment of plate waste with Milwaukee Public Schools' Universal Free Breakfast-in-the-Classroom*. Retrieved from http://www.hungertaskforce.org/fileadmin/htf/learn_about_hunger/publications/An_Assessment_of_PlateWaste.pdf
- U.S. Department of Agriculture, Food and Nutrition Service. (2012a, August). *National School Lunch Program*[Fact sheet]. Retrieved from <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLPFactSheet.pdf>
- U.S. Department of Agriculture, Food and Nutrition Service. (2012b, August). *The School Breakfast Program*[Fact sheet]. Retrieved from <http://www.fns.usda.gov/cnd/breakfast/AboutBFAST/SBPFactSheet.pdf>
- U.S. Department of Agriculture, Food and Nutrition Service. (2012c). *Breakfast in the Classroom*. Retrieved from <http://www.fns.usda.gov/cnd/Breakfast/expansion/expansionstrategies.htm#classroom>
- Yin, R. Y. (2003). *Case study research: Design and methods*. Thousand Oaks, CA: Sage Publications.

BIOGRAPHY

Rainville and **King** are, respectively, Professor of Nutrition and Dietetics and Lecturer at Eastern Michigan University, School of Health Sciences. **Nettles** is the Director, Applied Research Division, National Food Service Management Institute, The University of Southern Mississippi.