CAFETERIA PERSPECTIVES OF
A SOUTHERN FARM TO SCHOOL PROGRAM:
HAPPY HARVESTS AND ROOM FOR NEW GROWTH
Georgianna Mann, PhD; Marie Barnard, PhD; Kathy Knight, PhD, RDN;
Eleanor Green, MEd; and Emma Tkachuk, MPH

INTRODUCTION
According to National Health and Nutrition Examination Survey data from 2007-2010, 60% of children aged 1–18 years did not meet fruit intake recommendations, and 93% did not meet vegetable recommendations (Kim et al., 2014). However, school-based programming can provide opportunities for fruit and vegetable (FV) exposure and consumption (Glickman, Parker, Sim, Del Valle Cook, & Miller, 2012; Korinek, Bartholomew, Jowers, & Latimer, 2015). Farm to School programs are designed to improve FV offerings, and increase local connections by providing programs, staff training, technical assistance, and research (United States Department of Agriculture [USDA] Food and Nutrition Service [FNS], 2018).

National level programmatic changes, such as the nutrition standards established by the Healthy, Hunger-Free Kids Act (HHFKA), may be juxtaposed with local barriers such as limited finances, lack of support, and need for further training and education (USDA FNS, 2010; School Nutrition Association, 2015). Farm to School programs can help schools navigate these barriers by decreasing costs, and encouraging FV consumption through procurement of local fresh fruits and vegetables, and engagement with local growers (Izumi, Alaimo, & Hamm, 2010). Most local purchases of Farm to School programs are for fresh fruits and vegetables (Stokes & Arendt, 2018). Specific benefits of Farm to School programming noted by food service professionals are that students enjoy the FV offerings, financial resources are saved, and professionals felt they were helping their local community (Izumi et al., 2010; Kropp et al., 2018).

Studies on Farm to School programming in Mississippi have focused on barriers of participating in Farm to School programs by Child Nutrition Directors (Landry, Lingsch, Weiss, Connell, & Yadrick, 2015). Most non-participants cited the lack of available foods, unfamiliarity with the bidding process, and cost of local foods. Another Mississippi study evaluated logistics of running a program that provided fruit and vegetable snacks with optional nutrition education, but not a Farm to School program that provides more comprehensive programming (Potter et al., 2011). This state-led snack provision program was well received by school staff and students in the 25 participating schools, who were excited about the fresh FV offered.

More research is needed on the perspectives of Child Nutrition Program (CNP) staff of Farm to School programs, as these staff play integral roles in the success of the program by preparing the food, communicating with Farm to School personnel, and interacting with students during the lunch hours (Cho & Nadow, 2004; Stokes, Arendt, & Strohbehn, 2010). This call for further research is particularly important in Mississippi, where rural communities are faced with persistent poverty and poor health outcomes (Haggard, Cafer, & Green, 2018).

GOOD FOOD FOR OXFORD SCHOOLS PROGRAM AND ACTIVITIES
Innovative programming provided through Farm to School programs can include pro-nutrition messaging, tasting activities, and school gardens (Wiley, Cory, & Centers for Disease Control...
and Prevention, 2013). Good Food for Oxford Schools (GFOS) is a non-profit organization in Mississippi dedicated to improving the nutritional content and culinary appeal of school meals by increasing the frequency and amount of foods procured from local sources and providing nutrition education for students, staff, and families. The mission of the program at the time of the evaluation was to “create district-wide healthy changes through our cafeterias and classrooms, connecting our kids to where food comes from, and educating students and their families about good food as part of a healthy lifestyle” (“Good Food for Oxford Schools,” 2018). GFOS programming began in January of 2013 and includes many activities such as food-based lessons in the classroom and school gardens, an after-school garden/food club, garden/food camps, in-school FV taste tests, family cooking classes, student cooking classes, and CNP staff training on topics of scratch cooking and working with new recipes. GFOS staff work with school personnel to provide these activities.

The purpose of this study was to evaluate the GFOS program by assessing perceptions of CNP staff. This evaluation was completed to provide insights to support continued quality improvement of the program, and to explore the potential impact of the program on the students and teachers in the district.

**METHODOLOGY**

**SAMPLE AND DATA COLLECTION**

Structured interviews were conducted in fall 2017 with elementary and middle school hourly and managerial CNP staff about their perceptions and experiences with GFOS (n=10). Informed consent was obtained prior to interviews. These individual interviews followed a structured format with questions about professional roles, observed and perceived changes in school lunch offerings, challenges encountered in implementing program, benefits to the school and to students, and future visions for GFOS. Interviews were conducted by two researchers. These were conducted in employees’ school cafeterias before, during, or after school at the convenience of the interviewee in fall of 2017. No students were present during interviews. Interview sessions were recorded and transcribed, with duration ranging between 12 to 21 minutes. The transcripts were then verified for accuracy by another researcher. This study was approved by the University of Mississippi Institutional Review Board.

**SAMPLE**

Cafeteria staff from the district’s four elementary and one middle school were selected and asked to participate in interviews. Of the 10 interviews included in this report, eight were from the four elementary schools and two were from the middle school. There were two participants from each of five schools. At each school, the cafeteria manager and one additional staff member selected at random were interviewed. Managers had been with the district an average of 7.8 (±7.2) years and staff had been with the district an average of 9.3 (±2.3) years. The total enrollment of the school district was 4,312 in fall 2017, with an average enrollment for grades K-8 of 617.2 (±54.6) students per school (Mississippi Department of Education, 2018). Given substantial changes to the district’s high school schedule and method of lunch service at time of data collection, it was determined that it would not be appropriate to include them in this component of the evaluation.

**DATA ANALYSIS**

A thematic approach was used to analyze interview transcripts (Creswell & Poth, 2007; Lindseth & Norberg, 2004; Patton, 2001). Pre-identified codes from the interview script as well as new codes that emerged during analysis were used. These were determined collaboratively by two independent researchers with major and minor themes identified (Strauss, 1987). Data were also analyzed using NVivo software (QSR NVivo 12, Cambridge, MA, 2018). Coder inter-rater
reliability was acceptable, with 96.98% agreement and a Cohen’s kappa of 0.73 (Landis & Koch, 1977; Shelley & Krippendorff, 1984).

**RESULTS AND DISCUSSION**

**BENEFITS.**

One of the most commonly mentioned benefits by staff (n = 10) was the belief that students had a much higher exposure to nutritious foods such as high-quality fresh vegetables since implementation of GFOS.

> I feel like if you can start at least a little bit in school, give them a chance to be healthy. And that’s what Good Food offers.

> With fresh vegetables you gain quality of taste, of the food. So that way every child tries it, they actually know what it tastes like.

Further, staff noted that some students had stopped bringing lunches so they could eat from the cafeteria instead. Staff from elementary and middle schools felt it was gratifying to see children trying new foods through the program’s taste tests, and when children also planted the food in the school garden, they wanted to try it. Staff shared stories about students who expanded their diets through taste-testing and built relationships.

> [Child] would never eat vegetables. And when they were doing a little taste testing and all that kind of stuff and she came over and she and [staff] got to be real, real, real good friends. And they even became friends with the family because she was actually eating vegetables. Now she loves vegetables.

Staff (n=8) loved how excited students got about the gardening component of GFOS and noted that children enjoyed knowing where the food comes from.

> Fresh squash... It was the harvest of the month, last month. And when I did the fresh squash and I had some thyme from the garden.... I tell you it was the biggest hit around this school.

The addition of a school garden can have a positive impact on children’s vegetable intake. It is likely that the exposure to the produce that students grow creates a sensory experience which can lead to increased acceptance (Hermann et al., 2006; Hoppu, Prinz, Ojansivu, Laaksonen, & Sandell, 2015). Staff also appreciated the connection to the classroom where GFOS staff teach about eating FV and gardening, and often showcase a vegetable of the month. Other benefits mentioned include staff training, particularly for implementation of new recipes, as the lack of such training has been noted as a significant barrier for implementation of new healthier meals that are also appealing to students and meet school nutrition standards (Stephens, Byker Shanks, Roth, & Bark, 2015). Staff appreciated the help provided by GFOS staff in preparing samples and demonstrations for new recipe preparation. Staff also commented on the benefits of cooking classes for students and parents provided by GFOS. Some staff have even changed their own dietary habits as a result of GFOS.

> In some ways I’ve changed the way that I’ve eaten. Basically, you know... when you have somebody coming in teaching you the right way, you think about it. You say, ’yeah, I’ve been eating wrong’ or, ’I need to change this to get better health'.

Menu improvement with more fresh vegetables and from-scratch cooking was another benefit noted by four staff members. This is often due to the higher produce availability from Farm to School programming (Potter et al., 2011; Stokes & Arendt, 2018).
The menu has changed a lot, yeah. A lot. ...it’s introducing a lot of new food to the kids which I think is amazing because a lot of them won't get that at home.

Some staff (n=3) commented that procurement of local food products was more cost effective, and that cost is an important factor that can inhibit school food improvement (School Nutrition Association, 2015).

**BARRIERS.**

While the overall sentiment regarding GFOS was positive, achieving full buy-in may be difficult. While staff received training regarding the new foods being introduced into the menu cycle, some commented that recipes were hard to follow, especially with the large quantities prepared in the cafeteria. Recipes were standardized for use in cafeterias, but recipe document formatting varied among those provided and were presented differently than currently used recipes. Some participants also commented that time constraints made in house processing of produce difficult to manage.

> I didn’t do every recipe correctly because I just didn’t know. And, right at the end the Good Food for Oxford people came over and helped us when they were making their samples. They kind of helped us, you know, learn and we realized what we were doing wrong because the recipes really didn’t explain it very well.

Interviewees also commented on food preferences of other CNP staff, noting that some were resistant to foods introduced, which could influence student acceptance of the new foods, particularly in elementary school students.

> At that age, they want to do what the older people do. And they do. And if they see [staff] snarl up their noses about it then they won’t want it.

Some perceived that fewer students were purchasing school meals but, nationally, conflicting literature exists regarding student participation in school meals in response to newer nutrition standards (Johnson, Podrabsky, Rocha, & Otten, 2016; School Nutrition Association, 2015).

> Oh, they hated it. Yeah, and in fact we're still trying to recover from loss of a participation because of the menu changes

Several staff commented on competition from perceived “kid foods” such as pizza and French fries. Some stated that children simply do not eat vegetables, citing textural and presentation challenges. Encouraging children to select FV seemed especially difficult when lucrative Smart Snack-compliant competitive foods were sold as à la carte, such as low-fat ice cream novelties, low-fat chips, and 100% sparkling juices (Mann, Kraak, & Serrano, 2016; 2017). All of the schools where staff worked used offer versus served, with the exclusion of the kindergarten grade level for which all students were served all menu items. All schools in the district offered similar menus, with the exception of more offerings available at the middle school, including a salad bar.

> We had pizza, French fries, and squash. Well that wasn't a good day for squash. There's not a vegetable that we have back there - does not matter how much they like it - that will compete with French fries.

One commented on the cultural barrier associated with increasing vegetarian options as part of the meal pattern, citing that southern cuisine focuses primarily on the meat offerings, which has been noted in previous research (Kittler, Sucher, & Nelms, 2017).

> It was geared toward vegetarians… you know where you don't do the meat. And we in the south… we are chunky folks, we like our meat.
**KEYS TO SUCCESS AND SUGGESTIONS FOR IMPROVEMENT**

Staff suggested some keys to increase FV consumption, including the importance of being a good role model and showing excitement about eating the fresh options.

> If they see you eating it they're more likely to eat it. If we're going out to eat every day because we don’t want to eat food then… That's what the impression is on them.

It was also recommended that tastings be scheduled in conjunction with introduction to new menus. When children were given tasting opportunities before new foods were placed on the menus, staff perceived there was a greater acceptance rate. While GFOS focuses on food origins, the CNP staff feels there is a need for more food-based education.

> Make sure that the child is informed about it. Tell you one of the things that I would really like to see too. When they bring these products in out of their garden I think it would help tremendously if the children were able to actually watch it get prepared.

It was also noted that increased interaction between children, parents, GFOS, and CNP staff would be helpful. Some staff suggested sending home informational fliers to parents with details about the foods served. At the time of the evaluation, media articles in local magazines and newspapers regarding new menu offerings were published. As a result of this feedback, menu information was made readily available on websites and social media. Some staff noted that they would be interested in helping with program expansion. Staff expressed the desire to involve the local university more. College students (perhaps as part of a service-learning opportunity or internship) could help with program engagement.

Staff also expressed a desire for training beyond current offerings, highlighting the need for specific focused educational efforts on topics like diabetes and allergens to better understand how food choices influence personal health.

**CONCLUSIONS AND APPLICATION**

Staff noted clear benefits of, as well as challenges to GFOS, and provided useful feedback for improvements that may also be applicable to other Farm to School programs. Staff perceived greater variety of vegetables in meals, improved relationships with students, availability of school gardens and classroom education, and training opportunities as key benefits. School gardens were identified as valuable tools to teach food origins in addition to classroom education. Staff saw great value in the bridge between classroom education and vegetable offerings in the cafeteria. Staff greatly valued the trainings offered, especially those on menu preparation skills to encourage more from-scratch cooking.

Barriers noted by CNP staff included food preferences of other staff (lack of staff buy-in), perceptions of lower school meal participation rates, competition from other foods in the school meal program, cultural food preferences, and challenges due to frequent menu changes, often with unfamiliar foods. Staff expressed difficulties with preparing produce due to time restraints and suggested purchasing produce which has been lightly processed by farmers might help expedite food preparation. Many of these barriers have also been noted in other similar studies concerning local produce procurement (DeBlieck, Strohbehn, Clapp, & Levandowski, 2010; Landry et al., 2015; Stokes et al., 2015).

Diet-specific needs noted by two staff could be mitigated by the inclusion of specific programming on topics such as diabetes and allergens. These topics have been added to future mandatory training programs for all staff. Trainings have been developed by the Institute of Child Nutrition in collaboration with the school nurse and the district’s registered dietitian. Trainings will be given by the registered dietitian. Five staff noted the need for more hands-on training and guidance, because some employees were overwhelmed with the increased scratch
cooking and navigating the new recipes provided by the GFOS program. Additionally, they posited that training should include more emphasis on the “why” behind actions to improve school meals: improving the health of children. This could help to encourage greater staff acceptance and resulting support for improved school meals, as noted in earlier studies (DeBlieck, et al., 2010; Stokes et al., 2015; Stephens et al., 2015).

Increased advertising and collaboration with other school activities would be helpful. This could be implemented through more community involvement via volunteer internships, or service-learning programs for local university students, who sign liability waivers and are all ServSafe certified. Parental involvement would be very helpful, especially in modeling eating the healthy offerings, and encouraging their students to participate in the school meal program. Districts should provide appropriate screening and training for all volunteers to ensure safe food handling practices are followed.

Most of the areas of improvement noted in this study could be achieved through increased programming: yet, lack of staffing presents challenges. Following this evaluation, the CNP hired two new staff, a new director and a registered dietitian, which should facilitate implementation of some of the changes proposed.

It is possible that as CNP staff continue to see children learning about, tasting, and accepting new foods, they too may be more excited about the program as demonstrated in this analysis. An unexpected result of this program seems to be improved relationships between staff and students, which could lead to CNP staff becoming valuable role models for students.

Previous research indicates that two of the most consistent factors in successfully improving nutrition standards of school meals are communication with CNP staff, and fostering the desire for healthy choices in students (Cho & Nadow, 2004). To achieve these objectives, it is important to capture the imaginations of both the CNP staff and the students. CNP staff should know about foods served on the menu, including origin and preparation techniques, and students should receive education about food production practices from farm to fork, and effects on their health. Farm to School programs like GFOS that include staff training and nutrition education for students, can change perceptions and help both groups learn new attitudes and behaviors.

This study was completed in one small rural community with a population of 22,092 in North Mississippi; therefore, results cannot be generalized (United States Census Bureau, 2017). Further, a convenience sample of the perceptions of CNP staff was collected so perceptions were not evaluated with objective measures. However, information from this evaluation does offer suggestions for those considering implementation of farm to school initiatives and emphasizes the importance of including CNP staff in such initiatives.

**REFERENCES**

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**BIOGRAPHY**

Kathy Knight, PhD, RDN, Marie Barnard, PhD, and Georgianna Mann, PhD, Assistant Professor, Department Nutrition and Hospitality Management, are all at The University of Mississippi. Eleanor Green, MEd, is with Good Food for Oxford Schools in Oxford, Mississippi. Emma Tkachuk, MPH, is at the University of Utah.