

UNIVERSITY OF WISCONSIN-LA CROSSE

Graduate Studies

THE DEVELOPMENT OF EVALUATION MATERIALS AND BEST PRACTICES  
FOR THE FARM TO SCHOOL PROGRAM IN LA CROSSE  
COUNTY, WISCONSIN: A PILOT STUDY

A Manuscript Style Thesis Submitted in Partial Fulfillment of the Requirements for the  
Degree of Master of Public Health in Community Health Education

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## ABSTRACT

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As a means of providing students with comprehensive nutrition education and nutritious food options from regional growers while attempting to prevent and reverse childhood obesity trends, Farm to School (F2S) programs have become increasingly common across the United States in recent years. The La Crosse County Health Department (LCHD) recently received Federal funding to oversee the development, implementation and evaluation of F2S programs in four school districts during a two-year period, from March 2010 to March 2012. Due to the relative newness of the F2S approach, both rigorous evaluation tools and methods, and best practices for program evaluation are limited. Through a collaborative process with the F2S team, the La Crosse school district nutrition services staff and two elementary schools, and the University of Wisconsin La Crosse Health Education and Health Promotion Department, a parent survey tool, a student focus group interview guide and a plate waste procedure were developed and piloted. The resulting materials were combined to form a toolkit, including recommendations and best practices for conducting comprehensive F2S program evaluation within La Crosse County, WI and implications for use in F2S program evaluation across the Nation.

**Key words:** Farm to School, program evaluation, nutrition education, plate waste, survey development, focus group, community-academic

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## INTRODUCTION

As a means of providing students with comprehensive nutrition education while attempting to prevent and reverse childhood obesity trends, Farm to School (F2S) programs have become increasingly common. In early 2010, the La Crosse County Health Department (LCHD) received Federal funding to oversee the development and implementation of F2S programs in four school districts during a two-year period, from March 2010 to March 2012. Due to the relative newness of the Farm to School approach, rigorous evaluation tools and methods are limited, and the tools provided by both the Center for Disease Control, CDC (the granting agency) and the State of Wisconsin Department of Health Services, do not fully allow LCHD staff to evaluate this program in a comprehensive manner. Through a collaboration with the F2S team, the La Crosse school district nutrition services staff and two elementary schools, and the University of Wisconsin La Crosse Health Education and Health Promotion Department, a family survey tool, a student focus group interview guide and a plate waste procedure were developed and piloted for use in conducting comprehensive F2S Program evaluation within La Crosse County. These materials along with supporting documents were combined with recommendations best practices for using the materials in conducting F2S program evaluation forming a tool-kit, which can be used to inform F2S program evaluation in school districts throughout the United States.

## **BACKGROUND**

### **Farm to School Program**

Broadly defined, Farm to School (F2S) programs attempt to connect schools and local farms in a mutually beneficial relationship; they bring fresh, local foods into schools (Izumi, Rostant, Moss & Hamm, 2006; Joshi & Azuma, 2009; Joshi, Azuma & Feenstra, 2008; Vallianatos, Gottlieb & Haase, 2004; Allen, & Guthman, 2006). Implementation of a program within a school creates a new institutional level market for local farmers, which leads to greater economic viability with additional revenue from the sale of goods to schools. It also leads to healthier food choices within the school nutrition offerings, an environmental level change that can address dietary factors like obesity and early onset diabetes in school-aged populations (Vallianatos, Gottlieb & Haase, 2004). F2S programming is “based on the premise that students will choose to eat more healthy foods, such as fruits and vegetables, if the foods are fresh, locally grown, picked at the peak of their flavor and supplemented by educational activities that link them with the food cycle from seed to table” (Joshi & Azuma, 2009 p. 53).

Although the objective of providing nutritious food to children has been a matter of American public policy since the beginning of the 20<sup>th</sup> century (Allen & Guthman, 2006), the F2S concept was developed in the early 1990’s with the introduction of two separate programs, one focused on increasing markets for Florida farmers and the other on a possible solution for improving the quality of school food while supporting local farmers

in Santa Monica, CA (Vallianatos, Gottlieb & Haase, 2004). From these beginnings, the F2S 'movement' spread across the United States. In 2002, the Community Food Security Coalition and the Center for Food and Justice held the first of its kind, national, "Farm to Cafeteria" conference in Seattle, Washington. By 2003, "at least 400 school districts in 22 states were purchasing food from local farmers, providing fresh food to more than half a million students a day" (Vallianatos, Gottlieb & Haase, 2004, p. 417). According to the Farm to School Chronology listed on the national F2S website, as of 2008, there are an estimated 2000 programs in 39 states (National Farm to School Network, n.d.).

Although F2S programs are becoming more popular across the country and more monies are being directed at school nutrition programs, the literature regarding the effectiveness of the first generation of F2S programs is limited (Izumi, Rostant, Moss & Hamm, 2006; Joshi, Azuma & Feenstra, 2008; Vallianatos, Gottlieb & Haase, 2004). The research that has been conducted is rarely peer-reviewed, is reported within progress and evaluation reports to funding agencies, and lacks evaluation of program outcomes or impacts (Joshi, Azuma & Feenstra, 2008). A 2008 *Journal of Hunger and Environment* meta-analysis detailed just such shortcomings: of 38 existing reports or studies to review, the authors found only four that were peer-reviewed, and just 15 met criteria for inclusion in the study. Based on their analysis of these 15 studies, the researchers (Joshi, Azuma & Feenstra) identified future F2S research needs. Conducting comparative studies that highlight the impact of different types of F2S programs is one need, along with evaluating changes in knowledge, attitudes and perception in food service staff and conducting plate waste studies. Another area identified is "collection of data that evaluates the extent to which F2S programs affect dietary behavior in home settings and

the eating and shopping patterns of the families of participating students” (Joshi, Azuma & Feenstra, 2008, pp. 241). Researchers evaluating a Michigan-based F2S Program agree, noting that the potential for F2S programs as a school-based nutrition program and an economic opportunity for farmers exists, but “research evaluating the benefits of farm-to-school to student, schools and farmers is clearly needed.” (Izumi, Rostant, Moss & Hamm, 2006, p. 174).

Not only is the literature on F2S programming scarce, but the descriptions of program evaluation practices vary widely as well. This fact is best represented again, by the findings meta-analysis conducted by Joshi, Azuma and Feenstra in 2008 to find the impact of F2S programs throughout the U.S. The article identifies 6 types of impact indicators, or ways to measure F2S program success, categorized within *student behaviors, student knowledge and attitude and weight/height changes*. 12 of the 15 studies selected only two of the six indicators to measure overall program impact. This highlights both the lack of program outcome data and

With the potential ability to positively impact school-based nutrition programming and positively influence student dietary behaviors while increasing economic viability for local farmers, the F2S movement’s rapid spread across the Nation is no surprise. With each new school and community that joins in the movement, including La Crosse County, Wisconsin, stakeholders continue to require more concrete data to answer the questions, “Why should we invest resources in F2S programming?” and ‘How will F2S impact our community, our schools and our children?’ This important probing begs answers and leads to the need for emphasis on streamlined, comprehensive F2S program evaluation to bolster the impacts noted in the current body of research and to inform

schools, farmers, community leaders and health professionals on best practices in program implementation throughout the Country.

### **La Crosse County Farm to School Program**

La Crosse County, Wisconsin has a rich history of public health professionals and community members working collaboratively to promote health in the Coulee Region; this is noted most by the numerous health-focused collaborations and work groups like the La Crosse Medical Health Science Consortium whose recent efforts include the Annual Health Summit and Healthiest County 2015, and the Healthy Living Collaboration, which is a work group started in 2009 comprised of more than 20 community leaders representing various sectors of public health. In 2010, as a result of this history, La Crosse County, became one of 44 communities in the Nation to receive Centers for Disease Control (CDC) funding for the Communities Putting Prevention to Work (CPPW) grant. The Wisconsin Department of Health Services (WI DHS) became the fiscal agent for the grant, staff from the La Crosse County Health Department (LCHD) oversee the Community Action Plan (CAP) for the grant period, and the Health Living Collaboration work group provide support and guidance to the LCHD CPPW staff. School nutrition is one of four priority funding areas, and subsequently, the CAP lists the implementation and evaluation of a F2S program within four school districts as one of seven main goals. September 2010 marks the inauguration of F2S programs in four La Crosse County public school districts: La Crosse, Onalaska, Holmen, and West Salem (Table 1). Implementation of the program differs per district, and through ongoing collaboration with individual school district nutrition coordinators, the LCHD F2S team is able to provide individualized program support as needed. Despite the unique

implementation grid, all four districts are responsible to conduct program evaluation to fulfill the CAP and the CPPW grant requirement for F2S program evaluation.

### **Statement of the Problem**

The LCHD F2S team intends to conduct comprehensive F2S evaluation designed to gather information on the knowledge, attitudes and behaviors related to F2S programming from key participants, including, students, families and nutrition staff and stakeholders. Although program evaluation is required by the CPPW grant funding source, recommendations for conducting the evaluation or the use of specific methods or tools have not been delineated. To assist in this requirement, WI DHS provided the CPPW team with several instruments used for F2S evaluation in other communities. These include, key informant interview guides for farmers, school food service professionals and stakeholders as well as a student interview guide (post-program only) and a 60-item student knowledge and attitude survey. After reviewing these instruments, LCHD CPPW staff determined that the instruments do not assist in meeting their evaluation objectives because they are not tailored to the La Crosse County F2S program or the key participant groups, and their use would be too time-consuming for both the school district staff and the CPPW F2S team to meet the CAP requirements. As a service to LCCHD CPPW F2S staff and in response to the central issue, which is the lack of comprehensive F2S program evaluation materials that are tailored to key participant groups and can be applied in a school setting with minimal disruptions to daily routines and workloads, this research process aimed to create and pilot-test tools, procedures and methods to conduct F2S program evaluation in La Crosse County and to identify recommendations of best-practices for the use of these materials.

Table 1. F2S Programming within La Crosse County, Wisconsin; Spring 2011

	La Crosse School District	Onalaska School District	Holmen School District	West Salem School District
F2S Nutrition Education	4 pilot schools; 1 Middle & 3 Elementary levels; HOTM* packet & lesson plans distributed to 3 <sup>rd</sup> grade teachers	HOTM packet & lesson plans distributed to all 3 <sup>rd</sup> grade teachers	HOTM packet & lesson plans to all 3 <sup>rd</sup> grade teachers (some distribute to the entire school)	HOTM packet & lesson plans distributed to all elementary teachers
F2S Menu Items	HOTM item is menued in 4 pilot schools the 3 <sup>rd</sup> Wednesday of the month	HOTM item is menued at least once per month district wide	HOTM item is menued multiple times per month, served various ways; district wide; Also menu other local items	HOTM item is menued at least once per month district wide; items from school garden are menued when available; also menu other local items
F2S Taste-Testing	HOTM taste testing occurs 3 <sup>rd</sup> week of each month at 4 pilot schools	HOTM taste testing occurs monthly at each elementary school – ONA calls this Farm2Fork Friday	HOTM taste testing occurs monthly at each elementary school	HOTM taste testing occurs monthly at the elementary school
F2S Additional Activities	Vary by school; Kids Cook cooking classes at one elementary, cooking competition at middle school; developing school gardens	Educational activities in classroom coordinated by student wellness coordinator; planning a school garden, school wellness nights	Farm2School cooking classes for 4 <sup>th</sup> -5 <sup>th</sup> graders at each elementary; planning for school gardens, field trips to local orchard	Farm2School cooking classes held for 3 <sup>rd</sup> grade; active school garden, greenhouse
F2S Marketing efforts	Info available on school's Facebook, print materials sent home with 3 <sup>rd</sup> graders at 3 pilot schools	Info available on school's Facebook & Twitter, Print materials sent home with 3 <sup>rd</sup> grade students	Info available on school website, POS information, promotion on school tvs, print materials sent home with students	POS posters developed by Viterbo dietetics students, print materials sent home with students

\*HOTM=Harvest of the Month      \*POS=Point of Sale

\*POS posters with interchangeable information (for HOTM) coming May 2011!

\*Information about all F2S activities available on the Get Active website/Facebook/Twitter

## **METHODS**

### **Introduction**

After joining the Healthy Living Collaboration's F2S workgroup in August, 2010 and recognizing the need for program evaluation methods and materials, this researcher, set up a meeting with the CPPW F2S team leaders in early October, 2010 to gather more information and determine what, if any, assistance could be offered to make the process successful. Prior to the meeting, this researcher conducted a preliminary literature review to gain understanding of the current F2S program evaluation efforts being conducted nation-wide. During this collaborative meeting, the researcher facilitated discussion on the current goals and objectives as written into the CAP for the CPPW grant. To clarify current needs, the research asked the team, "what questions would you like answered about F2S programming?", "what data are you interested in gathering; from which key participants?" Additionally, in this initial meeting, this researcher questioned the team as to the existence of any specific guidance or evaluation materials (e.g. from the granting agency or WI DHS) for evaluation, and on the current staff capacity to develop materials and conduct program evaluation. As a result, during the meeting, key participant groups, data, methods, existing materials and staff capacity were defined as listed in Table 2. Based on the information the F2S team would like to find out regarding the impact of F2S programming, students, the parents and caregivers of those students and program stakeholders (e.g. school staff and farmers) were all identified as key participants, or the target population for program evaluation. It was further defined that the type of

information the team is most interested in collecting includes, knowledge and attitudes on the F2S programming, nutrition and fresh local produce; it also includes behavior changes in both the school and home settings relating to food consumption patterns. In discussing methods for gathering, both practices from current literature and the informal feedback from school staff were considered. Because 3<sup>rd</sup> graders are the population that receives the F2S nutrition education materials throughout La Crosse County schools, they are the target population for program evaluation as well. Given the reading levels and the lack of time to administer a survey in class, a focus group method is preferred for data collection within this group. Getting information from both families and stakeholders is also valuable, and methods of survey and key-informant interviewing are well suited to the different needs of the two groups.

Table 2. Populations, methods and capacity for F2S program evaluation in La Crosse County, WI as of October, 2010

Key participant groups	Type of data	Methods	Existing materials	Staff Capacity
Students	Knowledge and attitudes, behavior change	Focus group	NA	LCHD: moderator, College Student intern: assist
Parents/ Caregivers	Knowledge and attitudes, behavior change	Survey	NA	LCHD: administrative and analyze, teachers: distribute and collect, College student intern: data entry
Program Stakeholders (e.g. principals, nutrition staff, farmers)	Knowledge and attitudes on program and program coordination	Key informant interviews	WI DHS 2010 F2S evaluation materials	LCHD: administrative, College Student interns: conduct and enter data.

Once the key participants are defined and materials developed, the capacity to conduct the evaluation is in place. The LCHD F2S staff has three members to conduct

program evaluation along with student intern support from two local University nutrition and dietetic programs. The school nutrition staff in each school district is also required, through the grant agreement, to assist with program evaluation. Based on the discussion at the meeting, this researcher determined that focusing efforts on the development of a family survey tool, a student focus group interview guide, and a plate waste procedure could best meet the needs of the LCHD CPPW F2S team. A work-plan designed to correlate with the CPPW CAP strategies was developed following the meeting (APP. A), and was approved by the F2S team in late October, 2010. The work-plan includes three objectives under the following primary goal:

**“GOAL:** By February 28, 2011, graduate student Bethany Kies will provide staff at the La Crosse County Health Department with tools, methods and procedures to use in conducting Farm to School Program evaluation”

Along with developing the workplan, which served as a guidance document for the process, a thesis committee was selected and a proposal was submitted for a student research grant from UW-La Crosse Graduate Studies (partial funding received). An IRB protocol was submitted to the university (accepted December, 2011) and contact was made with the research and development committee within the La Crosse public schools to inquire about the possibility of conducting pilot testing related to F2S program evaluation. From this point, collaborative work continued with both the LCCW F2S team as well as the La Crosse Public Schools to complete a family survey tool, a student focus group interview guide and a plate waste procedure.

### **Family Survey Tool**

The process of developing the survey tool began with a review of current F2S program survey tools and other relevant survey tools, including those distributed to the

CPPW F2S team by WI DHS and UW Extension tools found online. The development of a survey instrument method, listed in 18 steps, based on practices by authors Cottrell and McKenzie (2005). Several sources were consulted for types of measurement and design, instrument reliability and validity, pilot-testing survey tools, and sampling (Groves et al, 2009; Crosby, DiClemente and Salazar, 2006; Green and Lewis, 1986; Saravela and McDermott, 1993; UW-Extension, 2010).

After consulting these references, an important next step was to again contact the community partners. In early December, 2010, meetings were conducted interview-style with the 3 members of the LCHD F2S team and with the nutrition coordinator at the La Crosse School District in order to further define and inform the survey development process. These meetings assisted in identifying valuable content for the survey and to identify these considerations: a length that can be completed in 5-10 minutes, a demographics section at the end of the tool instead of the beginning, a response method that reduces the workload placed on classroom teachers or building administrators in the schools, and inclusion of an incentive for survey completion. The tool was drafted and sent to a team of peer reviewers to determine content validity. Five out of the eight people requested, five reviewed the draft and completed the review form. All 5 noted the survey congruent with the CPPW CAP goals, to be of appropriate length and order, and constructed for adults to easily follow. The reviewers noted subtractions and/or additions to the questions in qualitative format. Based on the review, enhancements were made prior to piloting the tool. While the survey was being reviewed, the researcher contacted the principals of the three elementary-level pilot schools in the La Crosse school district and requested participation in pilot-testing the survey with families of 3<sup>rd</sup> graders. This

target population was chosen because these students receive both F2S nutrition education and F2S menu items. Two schools responded and 20 surveys per school were sent home to families with students using random selection of, done by the teachers, from a complete 3<sup>rd</sup> grade class list. Different return methods were utilized at each site to determine the best rate of return (Table 3.). The families were given five business days to return the survey, and an optional incentive raffle was included. In addition to the survey, the 40 pilot families were asked to complete a seven-question comment form regarding the survey. Three questions were asked to gather quantitative data (i.e. length of time to complete the survey, clarity of directions and difficulty of questions) and four were asked to gather qualitative feedback (i.e. number of any difficult questions, thoughts about the length and order of the survey, and other comments). Fifteen of 40 surveys were returned and completed. A codebook was developed and, for the purposes of testing the codebook usability only, results were entered into an excel spreadsheet. From the information on the 15 survey comment forms, a second round of enhancements were made to the tool, and with review from the student thesis team, final edits were made and a final draft was completed.

Table 3. Description of pilot tests for F2S program evaluation development

Schools	Survey	Focus Groups	Plate Waste
<b>Franklin Elementary</b>	20 sent home with 3 <sup>rd</sup> grade students; mailed return to I.CHD; 3 completed	20 sent out, 4 returned, 3 signed; 3 students in 30 minute pilot group	NA
<b>Emerson Elementary</b>	20 sent out with 3 <sup>rd</sup> grade students; returned to classroom; 11 completed	NA	Conducted with 3 <sup>rd</sup> grade students who took 'hot lunch' option and chose the F2S item wild rice; 12 total

### **Focus Group Interview Guide**

Methods for developing the focus group interview guide mirror that of the family survey tool, and the process began with data collection. There were no interview guides specific to students and F2S for review, but through a review of various sources on developing and piloting interview questions and conducting focus groups in community settings, it was advised that the group should consist of 6-12 people in homogenous groups and the guide should include guided, open questions going from general to specific and most important to least important. The resources also acknowledge that a prepared moderator is key, and that sampling is very often a convenience sample with the number of focus groups to be determined by saturation point of responses. It was also mentioned routinely that pilot-testing with similar subjects helps to ensure a smooth process and questions that gather quality data and that the interview guide should be reviewed by persons who did not develop it (Bowling, 2002; Crosby, DiClemente and Salazar, 2006; Gilmore & Campbell, 2005; Krueger, 1998, Saravela & McDermott, 1993; Stewart, Shamadasani & Rook, 2007).

As with the survey tool, after consulting key resources the community partners were consulted. In the interview style meetings with the LCHD F2S team and the La Crosse School District Nutrition Coordinator, the researcher identified the types of questions they would like to ask the students. With this in mind, an initial draft of the guide was developed and sent to a team of peer reviewers. Five out of the eight people requested, reviewed the draft and completed the review form. All five noted the survey to be in following with the CPPW CAP goals. They also found the guide to be appropriate in length and order, and constructed in a way 3<sup>rd</sup>/4<sup>th</sup> graders could understand.

They also noted subtractions and/or additions to the questions and any other comments in qualitative format. A second draft was developed along with a parent consent (App. E) and student assent form (App. F), and it was piloted in one of the 2 participating pilot schools in the La Crosse County School District (Table 3). Consent was sent home to 20 families via their student's classroom teacher, and returned in a similar pattern within five business days (one reminder was sent home as well). Four consent forms were returned the day of the pilot, with one not signed. Three students signed an assent form and participated in the focus group during the allowable time frame: a 30 minute lunch period. The researcher served as moderator, and a research assistant recorded themes and key quotes while a tape recorder captured verbatim responses. After the pilot, data was reviewed, comments were also garnered from the research assistant and the classroom teacher regarding the focus group. Enhancements were made to the interview guide and the final draft was approved by the thesis committee following.

#### **Plate waste Procedure**

Plate waste studies serve to gather strong quantitative data related to food consumption behaviors and can help inform nutrition staff and stakeholders on student behaviors and cost analysis data for implementing F2S foods within school lunch menus. As in the development process for the preceding two evaluation materials, methods for developing a plate waste procedure began with a review of current procedures and consultation with community partners. Unlike the others, however, there were several methods in existing studies listed in both farm-to-school and other nutrition related professional research articles (Adams, Pelletier, Zive & Sallis, 2005; Marletter, Templeton, & Panemangalore, 2005; Williamson, et. al., 2003). The LCHD F2S team

also developed and piloted a procedure in November, 2010, which this researcher observed; these methods were incorporated into the development of the plate waste procedure. The nutrition coordinator, and two kitchen managers at the pilot schools in La Crosse, helped define the work-flow and staff capacity during lunch and possibilities for plate waste evaluation during the current lunch period. After interviewing three staff, a draft of the procedure was developed along with a data recording form (App. J) and an informational letter designed to be sent home to families (App. H). The procedure was then piloted with 3<sup>rd</sup> graders who ate hot lunch on 2/16/11 in an elementary school in La Crosse school district (Table 3). Enhancements were made to the procedure following the pilot-test based on data from the pilot and the final draft received thesis committee approval, following.

## DISCUSSION

### Results

#### Family Survey Tool

Based on the results of the survey comment form (n=15), 86% of the parent respondents took less than 10 minutes to complete the tool, 93% responded that the directions were clear and 80% reported no difficulties understanding the questions. Qualitative data reported that the length and order was appropriate for 80%, others not responding, and two questions were noted with suggestions for improvement. Based on pilot-testing, returning the survey to the classroom teacher resulted in a much greater rate of return (55%) as compared to mailing the survey via postal mail (15%). Although data was collected from first draft of the survey in pilot-testing and used along with the survey comment form to inform the development of the survey tool, it was not analyzed to use in program evaluation due to the low number of survey responses.

The resulting family survey tool (App. C) is a one-paged, front and back, form designed to assess the knowledge and attitudes families and caregivers have about the Farm to School Program and nutrition, as well as the behaviors related to current fruit and vegetable consumption habits and lifestyle changes due to their child's participation in the F2S Program. The survey includes 10 sections; eight sections are single questions with select one response or select all that apply response options and two sections include groupings of ten and seven statements respectively that have a rating scale of 1-5 response option. The survey is accompanied by a half-page demographic questionnaire,

which includes age, gender, race/ethnicity, marital status, household make-up and income level, employment status and educational attainment, and a tear-off raffle slip to use for incentives. A family survey code book (App. D) was developed along with the survey tool to be used in data entry and analysis. Data from this family survey can be used to determine the need for further clarification via parent focus groups.

### **Student Focus Group**

As with the family survey tool, the data that was collected from three third-grade students utilizing a voice recording and manually recording themes was used only to inform the interview guide development and focus group process, and was not analyzed for program evaluation.

The focus group questionnaire guide (App. G) is a two-page document which includes one page of instruction for setting up the focus group, and a second page with 10 questions to be used during the focus group. The questions are designed to gather qualitative data on student knowledge of healthy foods and the F2S Program as well as their attitudes on the program and the foods offered during meals and at snack-time throughout the school day. Within the La Crosse School District, the only time-period offered for conducting student focus groups during the school day is the 30 minute lunch period, and in some schools, an open classroom is the only option for meeting. This context of students' eating lunch during the focus group proved to work well and even seemed to help the students feel more comfortable initially; similarly, the classroom setting also gave the students a familiar, non-threatening feel. Although the time allotted for the pilot was not optimal, the researcher was able to complete the assent form and all of the questions in 30 minutes due to such a small number of participants; groups with 6

or more participants, which is recommended, may need more time. Another consideration is to utilize after-school programming, like surround care, for the focus group. Although the data from the focus group was not specifically analyzed for program evaluation purposes, it can be noted that the students participating had very little knowledge of the F2S program, some knowledge on healthy eating and identified taste-testing F2S foods as an activity they 'like' and one that makes them more likely to try a F2S item when offered on the school lunch 'hot' menu.

### **Plate Waste Procedure**

During the pilot-testing, of the 24 3<sup>rd</sup> grade students who went through the 'hot-lunch' line, 13 chose to take the F2S item, wild rice. The mean serving size of the pre-portion was 1.52 ounces. 11 of 13 students ate the entire serving of wild rice, which was displayed by the post-photo (Figure 1). Individual post-weights were taken, and then resulting mean weight (n=13) was .13 ounces. Of the 13 students who took the F2S item, 8 paid full-prices for the meal, 3 had reduced lunch prices and 2 had the free lunch prices. It was noted in the comments section during the pilot-testing that taste-testing of the wild rice occurred 2 days prior, the order of servings from the 'pre-photo' to the 'post-photo' does not correlate, and that a digital scale must be used for accuracy in small measurements. The data collected was used to inform the plate waste procedure only, and was not used for F2S program evaluation. The resulting plate waste procedure (App. I) is a set of nine steps designed to be used in determining the amount of F2S menu item eaten by individual students during the regular school lunch service. The steps include portioning the items into containers and gathering a mean pre-weight of the serving and then collecting and weighing the containers after the student has finished with their meal.

A one page instruction guide is used for single items offered during a school lunch meal. Due to time constraints during the lunch preparation process, a mean weight based on 10 different servings (Comstock & Symington, 1982) was used as a 'pre'-weight for each of the portions. In order to get the most accurate data on individual student consumption, the plate waste procedure was set up to collect individual 'post' weights for each portion and was not designed to obtain collective or grouped post-weight data. A photo of the servings taken before the lunch service and a photo of the containers collected after the lunch service offers a quick visual representation of the data, but does not provide enough detail to be used independent of the weights to collect plate waste data (Fig. 1).

The resulting data collection sheet (App. J) contains sections for recording weights of 10 items pre-consumption and individual weights of up to 50 items post-consumption. The form also includes demographic questions regarding the number of lunches served, the number of students who chose the F2S item and the number of free and reduced lunches served during the procedure, which are all reports that the kitchen manager accessed easily after the meal service was complete. To conduct the plate waste procedure, lunchroom staff, kitchen staff and at least one volunteer in a coordinating role proved valuable.

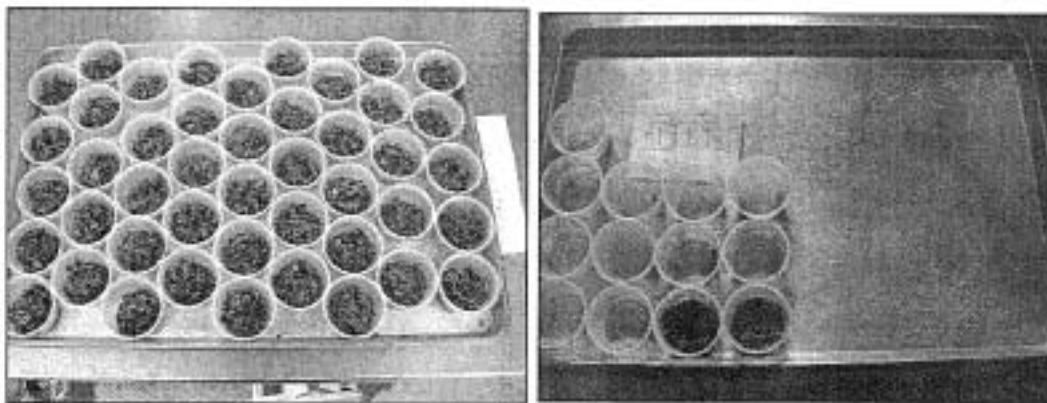


Figure 1. Plate Waste "before" and "after" photo

## **CONCLUSION**

### **Limitations**

During this experience, both difficulties and benefits in coordinating with several agencies were realized. Communication conducted early and often is one of the most beneficial traits in successful collaboration in community-academic partnerships. During interviews, multiple school and nutrition services staff expressed willingness to participate in evaluation procedures, but stressed the importance of being informed in advance on the timeline and process of evaluation procedures by the coordinating staff (e.g. LCHD F2S team). Even with this communication employed and working partnerships in place, limitations resulted. Most significantly is the low number of participants in pilot-testing due to the difficulty generating interest and willingness from the school partners. Additionally, these pilot-tests were conducted within the La Crosse Schools only, and while discussions were had regarding the similarities and differences for F2S programming in the three other La Crosse County School Districts, which resulted in the development of materials and recommendations that took into account the needs of the other districts, no pilot-tests were conducted in them.

Due to the need to develop evaluation materials for use in Spring, 2011 but with difficulty getting in to the schools for pilot-testing over the winter break and first few weeks after that break, timeline was also a limitation of this process as well. Finally, there are a variety of variables that can affect data at any given time, many of which are difficult, if not impossible, to account for, including, degree to which school staff 'up







sell' the Farm to School items, how comprehensively each school and/or teacher incorporates the F2S nutrition education, and nutrition and food opportunities students have outside of F2S programming (e.g. Fresh Fruit and Vegetable Program or a school garden). Although these influences did not significantly limit the ability for the researcher to produce evaluation materials, they are to be considered within the use of the materials for their ability to limit program evaluation data. It is important that these types of influences are noted and recorded at the time of data collection, and incorporated into the evaluation as limitations to the findings.

### **Recommendations**

With the pool of F2S program evaluation so limited and varied in approach the recommendations from this pilot-study are valuable contributions to further the work of establishing a streamlined research protocol for comprehensive F2S program evaluation. Based on this research process, I have developed recommendations for best practices in planning F2S program evaluation, implementing the evaluation materials developed through this research and for further research on F2S evaluation materials and methods.

#### **For Planning F2S Program Evaluation**

- Involve all relevant community partners (e.g. school nutrition staff and F2S coordinators) in decisions related to how and when to conduct program evaluation.
- Define research questions to guide the program evaluation and the selection of evaluation materials, participant groups, sample size and community partners prior to conducting any program evaluation or using the materials developed in this research process. For comprehensive evaluation there will be several research questions, each indicating the use of one or more of the methods and materials developed in this research process.
- Research design, or the way in which the program evaluation will be set up, should be determined based on the research question(s) defined. For example, if

the LCHD F2S staff ask, “What impact does the F2S nutrition education have on students’ dietary behaviors in eating the F2S menu items offered at school lunch?” an experimental research design will be set up using the plate waste procedure in at least one school that offers F2S nutrition education and F2S menu items and one comparable school that also has F2S menu items but does not offer the education. The plate waste data collected on the same day with the same food menued at each school can then be analyzed to answer the question.

- Use the 3 materials developed as a part of this research along with key informant interviews with stakeholders in order to complete comprehensive F2S program evaluation. Consideration should also be given to the inclusion of student/family stories, a cost-benefit analysis and student BMI if resources permit.
- Plan to use only key-informant interviews, student/family stories and the plate waste procedure (if applicable) within those districts that do not offer both education and food items as a part of their F2S program. If resources exist, a cost-benefit analysis and student BMI data should also be considered.

#### **For Implementing the Family Survey Tool**

- This tool should be utilized within school districts that offer both F2S food items, either in the school meals or as snacks, and F2S nutrition education.
- To increase the rate of return, send tool to and from home with students via classroom teacher in a labeled, unsealed large envelope. Include a marked folder for the classroom teacher to house all returned surveys until the final date.
- A letter explaining the survey should accompany the survey tool (App. B).
- Translator services should be utilized (via phone calls home) for all non-English speaking families.
- Use as incentive to increase participation rates. One \$25 grocery gift-card was used in the pilot-study.

#### **For Implementing the Focus Group Interview Guide**

- Use this tool within school districts that offer both F2S food items, either in the school meals or as snacks, and F2S nutrition education.

- Focus groups should be comprised of 6-10 students who are as uniform as possible, including similar grade and school.
- Random selection of sample is suggested by using a numbered class.
- Send a letter home to students' parent/caregiver (App. E) explaining the focus group procedure and requesting signed parental consent. Only students with a returned signed consent may be selected for participation for the focus group. Gather child assent for the focus group by reading aloud a written document for each participant to sign (App. F).
- 45-60 minutes is optimal for the conduction of the focus group; utilizing a lunch period and 15-20 minutes before/after is suggested if the focus group is to be conducted during school hours.
- Use individual participant incentives to increase interest in focus group. A F2S t-shirt designed for the LCHD F2S program was given to each student in the pilot-testing.

#### **For Implementing the Plate Waste Procedure**

- Use this procedure within a school lunch setting for a single F2S menu item.
- Send an informational letter (App. H) home to families via the classroom teacher prior to conducting the plate waste procedure; consent is not required because data collection involves food, not human subjects.
- Use a digital scale because this procedure relies on accurate weights of servings.

#### **For Future Research**

- Further pilot-testing of all three materials to enhance the reliability and validity design to include larger sample sizes for the survey tool and focus groups.
- Adaptations for use of the plate waste procedure with multiple F2S items menued within the same lunch offering, and it's use in another setting, like taste-testing is recommended to enhance the usability of the procedure and accuracy of the data collection.

- Conduct F2S program evaluation using the materials developed and publish results in order to further define best practices in combining various evaluation tools and methods to gather comprehensive F2S program evaluation data that shows program impact in a way that is manageable for staff capacity.

With more and more local, state and federal funds being funneled into efforts aimed school-aged populations to address childhood obesity, the F2S movement seems poised for a course of continued growth. Program evaluation continues to be crucial for understanding the impact of the program on key participants and to ultimately find out if the money allocated for implementing F2S programming does actually lead to the positive health and behavioral outcomes intended and indicated by preliminary findings from the first-generation of F2s programs in the United States. The evaluation materials produced as a result of this collaborative effort by the UW-La Crosse Department of health education and health promotion, the LCHD CPPW F2S team and the nutrition staff in La Crosse County, most specifically in the La Crosse School District serve to fulfill the aforementioned goal: to provide the LCHD CPPW team with tools, methods and procedures to evaluate the La Crosse County F2S program; with these valuable tools and best practice recommendations, the vision of completing comprehensive program evaluation can be more fully realized. Furthermore these materials and best practices are an addition to the growing number of evaluation tools available for conducting F2S program evaluation in school districts throughout the United States.

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APPENDIX A  
WORKPLAN

**PROPOSAL NAME:** Evaluation of an Inaugural F2S Program: Development of tools and protocols for selected evaluation methods to be used in La Crosse County

Wisconsin/Communities Putting Prevention to Work F2S Evaluation \_\_\_\_\_ **TIME PERIOD:** December 1, 2010- February 28, 2011

**PROPOSAL GOAL:** By February 28, 2011, graduate student Bethany Kies will provide staff at the La Crosse County Health Department with tools, methods and procedures to use in conducting Farm to School Program evaluation

**Behavioral Objective:** By June, 2012, the tools, methods and procedures contributed by graduate student Bethany Kies, will be used to conduct Farm to School Program evaluation research within La Crosse County school districts

**Objectives:**

1. By February 28, 2011 Bethany Kies will develop focus group interview guide and protocol for use in determining student attitude and knowledge related to the La Crosse County Farm to School Program
2. By February 28, 2011 Bethany Kies will develop and validate a survey tool and develop a protocol for use in determining parent and caregiver eating habits related to the La Crosse County Farm to School Program
3. By February 28, 2011 Bethany Kies will develop and pilot protocol for plate waste method to assess student school lunch consumption habits related to the La Crosse County Farm to School Program

**CPPW Community Action Plan Correlation:**

**Goal 1:** CPPW project infrastructure is formed to support policy, system and environmental changes that assure achievement of project goals

- > **Objective 3.** By 9/30/10, the CPPW project evaluation plan will be complete.
- > **Strategy 1.1** Design CPPW project evaluation plan  
Activity: Work with project evaluator to design CPPW project evaluation plan to include process and outcome measures

**Goal 3:** As a result of CPPW, 4 public school systems implemented improvements in their school nutrition and school wellness policies

- > **Objective 1.** By 3/18/12, 4 public school districts in La Crosse County will adopt district-wide Farm to School policies, with targeted efforts focused on school districts with high rates of students on free/reduced lunch.
- **Strategy 1.3** Evaluate impact of Farm to School Program on school environment & wellness policies  
Activity: Evaluate impact of Farm to School Program on students (knowledge, eating habits), teachers (curriculum), parents (eating habits), food service supervisor (school meals), local health (YRBS), and the local economy

Key Strategies and Activities	Lead Responsibility	Timeline	Evaluation Indicators
<b>1. OBJECTIVE</b> By February 28, 2011 Bethany Kies will develop focus group interview guide and protocol for use in determining student attitude and knowledge related to the La Crosse County Farm to School Program	Bethany Kies  Supported by:	December 1, 2010-February 28, 2011	<b>Process Measures:</b> 1 Bethany Kies will complete an initial draft of the interview guide

<p><b>1.1 STRATEGY</b></p> <ol style="list-style-type: none"> <li>1. Develop interview questions</li> <li>2. Test and modify the questions</li> <li>3. Complete interview guide</li> </ol> <p><b>ACTIVITIES (Gilmore &amp; Campbell, 2005; Bowling, 2002; Cottrell &amp; McKenzie, 2005)</b></p> <ul style="list-style-type: none"> <li>• Gather data on focus group procedure and Farm to School evaluation</li> <li>• Determine population, purpose and objective for focus group</li> <li>• Identify items from other existing instruments/interview guides</li> <li>• Compile a list of interview questions</li> <li>• Create directions for use of the questions and instructions for focus group procedure</li> <li>• Assemble draft of interview guide</li> <li>• Check the readability of the guide</li> <li>• Establish content validity for the guide</li> <li>• Review, revise and reassess</li> <li>• Refine as needed and create final version of interview guide</li> </ul>	<p>Thesis committee, La Crosse County CPPW staff and La Crosse School District Nutrition staff</p>		<p>2. Bethany Kies will establish readability, content validity of the interview guide</p> <p><b>Outcome Measure:</b> Bethany Kies will complete an interview guide and a list of recommendations for focus group procedure</p>
<p>Key Strategies and Activities</p>	<p>Lead Responsibility</p>	<p>Timeline</p>	<p>Evaluation Indicators</p>
<p><b>2. OBJECTIVE</b></p> <p>By February 28, 2011 Bethany Kies will develop and validate a survey tool and develop a protocol for use in determining parent and caregiver eating habits related to the La Crosse County Farm to School Program</p> <p><b>2.1 STRATEGY</b></p> <ol style="list-style-type: none"> <li>1. Develop a survey tool</li> <li>2. Validate the survey tool</li> <li>3. Complete a final survey tool and list of recommendations for future use</li> </ol> <p><b>ACTIVITIES (Cottrell &amp; McKenzie, 2005)</b></p> <ul style="list-style-type: none"> <li>• Become familiar with related literature</li> <li>• Determine purpose and objectives for instrument</li> <li>• Determine population to be measured</li> <li>• Identify conceptual theory/model that will provide the foundation for the instrument</li> <li>• Create a table of specifications for the instrument</li> <li>• Identify items from other existing instruments (WI DHS farm to school)</li> <li>• Create new instrument items</li> <li>• Create directions for completing the instrument and direction and instructions for administering</li> </ul>	<p>Bethany Kies</p> <p><u>Supported by:</u> Thesis committee, Derek Moore and La Crosse County CPPW staff, La Crosse School District Nutrition staff</p>	<p>December 1, 2010-February 28, 2011</p>	<p><b>Process Measures:</b></p> <ol style="list-style-type: none"> <li>1. Bethany Kies will complete an initial draft of the survey tool</li> <li>2. Bethany Kies will establish readability, content validity and pilot the survey tool</li> </ol> <p><b>Outcome Measure:</b> Bethany Kies will complete a validated survey tool and list of recommendations for future use</p>

<p>the instrument</p> <ul style="list-style-type: none"> <li>• Establish procedures for scoring the instrument</li> <li>• Assemble an initial draft of the instrument</li> <li>• Check the readability of the instrument</li> <li>• Establish content validity for the instrument</li> <li>• Pilot test the instrument</li> <li>• Conduct item analysis, factor analysis and checks of psychometric qualities</li> <li>• Review, revise and reassess</li> <li>• Conduct a second pilot if necessary</li> <li>• Refine as needed and create final version</li> </ul>			
Key Strategies and Activities	Lead Responsibility	Timeline	Evaluation Indicators
<p><b>3. OBJECTIVE</b> By February 28, 2011 Bethany Kies will develop and pilot protocol for plate waste method to assess student school lunch consumption habits related to the La Crosse County Farm to School Program</p> <p><b>3.1 STRATEGY</b></p> <ol style="list-style-type: none"> <li>1. Develop a protocol for plate waste collection method</li> <li>2. Pilot test the protocol</li> <li>3. Complete a final protocol and recommendation for use in future plate waste data collection</li> </ol> <p><b>ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>• Review professional literature and data from CPPW team on plate waste methodology</li> <li>• Develop plate waste protocol</li> <li>• Submit protocol to graduate project team and CPPW team for comment</li> <li>• Complete and submit Research and Development Proposal for the La Crosse School district; with approval, determine pilot schools</li> <li>• Conduct pilot</li> <li>• Enter data from pilot procedure</li> <li>• Complete final protocol document, recommendations and data from pilot schools</li> </ul>	<p>Bethany Kies</p> <p><u>Supported by:</u> Thesis committee, undergraduate student volunteers, La Crosse County CPPW team, La Crosse School District Nutrition staff</p>	<p>December 1, 2010-February 28, 2011</p>	<p><b>Process Measures:</b></p> <ol style="list-style-type: none"> <li>1. Plate waste method will be piloted in at least 2 schools and 1 school district in La Crosse County</li> <li>2. Data from plate waste pilot will be collected and entered into excel spreadsheet</li> </ol> <p><b>Outcome Measure:</b> Bethany Kies will complete a document explaining the plate waste procedure and a list of recommendations for future use and a spreadsheet containing the plate waste pilot data</p>

APPENDIX B  
FAMILY SURVEY INFO LETTER

(DATE)

Dear Parent or caregiver,

As many of you may know, this year the La Crosse School District started a Farm to School Program through federal grant funds received by the La Crosse County Health Department. This means that students at pilot schools who participate in the hot lunch program have been able to eat several foods each month grown by local and regional farmers. Some students in the district have also received have farm to school nutrition education. It is the hope of the school district and the La Crosse county Farm to School coordinator that this Farm to School Program will continue and expand in future years.

In order to measure the success of the Farm to School Program this first year in the La Crosse District, each school, with the help of the Farm to School Program coordinator, Josh Miner, will ask for student, parent, farmer and school staff input through surveys, interviews, focus group discussions and a study on the amount of food students' waste during lunch. This evaluation will be done throughout the year. (School Name) has agreed to partner with the Farm to School Program, and would like to survey the families of our students to get their thoughts and feelings about nutrition, nutrition education and the Farm to School Program.

Attached to this letter, is a copy of this survey. Please fill it out and return it in the envelope provided with your child to his/her classroom teacher by (Date). Entries for the (INCENTIVE) drawing may also be returned at this time. I will collect and review your surveys to help in creating the final version of a parent survey that will be sent out later in the school year.

Thank you in advance for your time in completing the survey; it should take less than 10 minutes to complete, and it will contribute to sustaining the Farm to School Program at (NAME) Elementary School.

Thank you!

NAME HERE

*Josh Miner*

Farm-to-School Coordinator  
Nutrition Division  
La Crosse County Health Department  
Ph: [608] 785-5579  
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Email: [miner.joshua@co.la-crosse.wi.us](mailto:miner.joshua@co.la-crosse.wi.us)

APPENDIX C  
FAMILY SURVEY TOOL

Today's Date:

School Code\_\_ Survey Code\_\_

La Crosse County Farm to School Program Family Survey

**Directions:** Please read and answer each question on the front and back of this sheet, and fill out the attached comment section. Place these back in the original envelope for return. Enter to win a (incentive) by submitting your name and contact information in the envelope marked 'Drawing'. **Due by: (date).**

First we would like to ask you a few questions about the Farm to School Program (F2S).

1. Does your child's school currently participate in a Farm to School Program? (NOTE: please continue with the remaining questions even if you select 'no')
  - a. Yes
  - b. No
  - c. Not sure
  - d. Other \_\_\_\_\_
  
2. How would you describe a Farm to School Program? (circle one letter)
  - a. A program that provides food from local farms to school lunch
  - b. A program that provides nutrition education materials and food items from local farmers
  - c. A program that provides nutritional information and education to students about fresh foods
  - d. I am not sure how to describe the program
  
3. What Farm to School related items has your child has brought home from school? (circle all that apply)
  - a. Recipe cards
  - b. Storage/cooking tips
  - c. Nutritional information
  - d. Handouts on Farm to School
  - e. Information on Farm to School events
  - f. School lunch menu highlighting Farm to School items
  - g. Handouts on local farmers, growers or Community Supported Agriculture
  - h. Cooking/activity sheets
  - i. My child has not brought any F2S items home from school
  - j. Other \_\_\_\_\_

Next we would like to ask you a few questions about your opinions of the Farm to School Program

4. Circle a number 1-5 for the following items
- 5.

	No Opinion	Strongly Disagree	Disagree	Agree	Strongly Agree
I want my child's school to be a part of the Farm to School Program.	1	2	3	4	5
I want my child to have Farm to School nutrition education in class.	1	2	3	4	5
The F2S Program makes my child's school nutrition program better.	1	2	3	4	5
My child will be more likely to eat hot lunch if a Farm to School option is on the menu.	1	2	3	4	5
I find the Farm to School Program handouts and materials useful at home.	1	2	3	4	5
I want more information sent home about the Farm to School Program.	1	2	3	4	5
Programs like cooking classes are helpful	1	2	3	4	5
The Farm to School Program influences what my family eats at home.	1	2	3	4	5
Fresh fruits and vegetables are easy to buy and prepare for meals and snacks.	1	2	3	4	5
My family likes to eat fruits and vegetables.	1	2	3	4	5

6. Typically, 3 or more days a week, my child: (circle one letter)
- a. Eats from the school lunch menu                      b. Eats cold lunch/brings a lunch from home
7. How has the Farm to School Program changed your family? (circle all letters that apply)
- a. We cook more fruits and vegetables  
 b. We buy more fruits and vegetables  
 c. We shop at new places for fresh produce (like farmers' market)  
 d. We have visited a local farm  
 e. We look for more fresh, local foods to buy when we are shopping  
 f. We have tried new recipes or meals
- g. My child helps with the cooking  
 h. We cook at home more often  
 i. My child has asked for certain foods he/she had at school  
 j. We have talked about changes, but have not made them yet  
 k. We have not made any changes due to the Farm to School Program  
 l. Other \_\_\_\_\_

Finally, we would like to ask you questions about the foods you and your family eat during the **current** season.

8. **Currently** we get most of our fruits and vegetables from: (circle one letter)
- a. Our garden  
 b. A convenience store (like Kwik Trip)  
 c. A grocery store (like Festival Foods or the People's Food Co-op)  
 d. A supercenter (like Wal-mart)  
 e. A farmers' market or CSA  
 f. Other \_\_\_\_\_
9. The fruits we buy **most often** are: (circle one letter)
- a. In a ready-to-eat product (like in a pop-tart, muffin or yogurt)  
 b. Canned  
 c. Frozen  
 d. Fresh  
 e. In a juice  
 f. We don't buy fruit
10. The vegetables we buy **most often** are: (circle one letter)
- a. In a ready-to-eat product (like on a frozen pizza or in a can of soup )  
 b. Canned  
 c. Frozen  
 d. Fresh  
 e. In a juice  
 f. We don't buy vegetables

9. Currently, during **most weeks**, how often does your family (circle a number 1-5 for each question):

	Never	Occasionally (1-2 times)	Frequently (3-5 times)	Daily (7 times)	More than once a day
Eat fruits	1	2	3	4	5
Eat Vegetables	1	2	3	4	5
Cook meals at home	1	2	3	4	5
Make quick-meals at home (microwavable or canned)	1	2	3	4	5
Eat at fast-food places (like pizza or drive-through)	1	2	3	4	5
Eat at full restaurants (like Perkins or Applebee's)	1	2	3	4	5
Order take-out meals from a fast food restaurant	1	2	3	4	5

We would like to ask a few questions about you to help us review the results.  
These are optional.

1. What is your age? \_\_\_\_\_ years
2. What is your sex? (Circle one)
  - a. Male
  - b. Female
3. Which of the following groups best describes your total household income in 2010? (Circle one letter)
  - a. 0-\$25,000
  - b. \$26,000-\$50,000
  - c. \$51,000-\$75,000
  - d. \$76,000-\$100,000
  - e. \$100,000+
4. How do you describe yourself? (Circle letter that best describes you)
  - a. American Indian or Alaska Native
  - b. Hawaiian or Other Pacific Islander
  - c. Asian or Asian American
  - d. Black or African American
  - e. Hispanic or Latino
  - f. Non-Hispanic White
  - g. Other \_\_\_\_\_
5. How many adults live in your household? \_\_\_\_\_
6. How many children live in your household? \_\_\_\_\_
7. Are you: (circle one letter)
  - a. Married
  - b. Divorced
  - c. Widowed
  - d. Separated
  - e. Never been married
  - f. A member of an unmarried couple
8. Are you currently: (circle one letter)
  - a. Employed for wages
  - b. Self-employed
  - c. Unemployed
  - d. A homemaker
  - e. A student
  - f. Retired
  - g. Unable to work
9. What is the highest grade or year of school you completed? (circle one letter)
  - a. Never attended school
  - b. Less than grade 12
  - c. Grade 12 or GED (High school graduate)
  - d. College 1 year to 3 years (Some college or technical school)
  - e. College 4 years (College graduate)
  - f. Graduate School(Advance Degree)

---

**Detach this bottom portion** and return in the envelope marked 'Drawing' for a chance to win a (INCENTIVE).

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone Number \_\_\_\_\_

APPENDIX D  
FAMILY SURVEY CODEBOOK

## Codebook for F2S Family Survey 2011

Description of Variable	SPSS variable Name	Coding instructions
School Code	School	1= school1, 2=school2, etc...
Survey Code	ID	List number on survey
Today's Date	Date	1=(November-May) 2=(June-October)
Does school participate in F2S Program?	Participate1	1=a, 2=b, 3=c, 4=d
Describe F2S Program	Description	1=a, 2=b, 3=c, 4=d
F2S Items brought home?	F2Sitems	1=a, 2=b, 3=c, 4=d, 5=e, 6=f, 7=g, 8=h, 9=i, 10=j
Want school to do F2S Program?	Participate2	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
Want F2S nutrition ed.?	Nutred	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
F2s makes school nutrition better?	Schnut1	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
F2S item increase hot lunch?	Schnut2	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
F2S handouts useful?	Materials	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
Want more F2S info?	Info	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
Programs are helpful?	Programs	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
F2S influences family eating?	Influence	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
F/V easy to buy and prepare?	FVuse	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
Family likes Fruits and vegetables	FVlike	1=no opinion, 2=strongly disagree, 3=disagree, 4=agree, 5=Strongly Agree
Current lunch practice?	Schnut3	1 a, 2 b
How has F2S changed your family?	Change	1=a, 2=b, 3=c, 4=d, 5=e, 6=f, 7=g, 8=h, 9=i, 10=j, 11=k, 12=l
Where does family get F/V from?	FVbuy	1=a, 2=b, 3=c, 4=d, 5=e, 6=f, 7=g
Fruits are in what form?	Ftype	1=a, 2=b, 3=c, 4=d, 5=e, 6=f
Vegetables are in what form?	Vtype	1=a, 2=b, 3=c, 4=d, 5=e, 6=f
How often does family eat fruits?	Feat	1=Never to 5=More than once a day
How often does family eat veggies?	Veat	1=Never to 5=More than once a day
How often does family cook meals?	Cook	1=Never to 5=More than once a day
How often does family quick meals?	Qmeals	1=Never to 5=More than once a day
How often does family eat fast food?	FstFood	1=Never to 5=More than once a day
How often does family eat out?	Restaurant	1=Never to 5=More than once a day
How often does family order out?	takeout	1=Never to 5=More than once a day
What is your age?	Age	In years
What is your sex?	Sex	1=a, 2=b
What is your household income?	Income	1=a, 2=b, 3=c, 4=d, 5=e
How would you describe yourself?	Ethnic	1=a, 2=b, 3=c, 4=d, 5=e, 6=f, 7=g
How many adults in household?	Adults	Number of adults
How many children in household?	Children	Number of children
Marital status?	Status	1=a, 2=b, 3=c, 4=d, 5=e, 6=f
Employment?	Employ	1=a, 2=b, 3=c, 4=d, 5=e, 6=f, 7=g
Highest level of schooling completed?	Education	1=a, 2=b, 3=c, 4=d, 5=e, 6=f

APPENDIX E  
FOCUS GROUP CONSENT FORM

Dear Parent or caregiver,

Your child may be invited to participate in a focus group as a part of the Farm to School Program Evaluation. The evaluation is being done with the support of the La Crosse school District and La Crosse County Health Department Farm to School coordinators.

The purpose of this evaluation is to examine the students' knowledge and attitudes about the Farm to School Program. If your child is selected, and you agree to let your child participate, he/she will be asked to answer questions about the school lunch and the farm to school program with a group of other (3<sup>rd</sup> graders) in a focus group. This focus group will take about 40 minutes his/her time during school on February (17, 2011) and will be over the lunch period.

Risks that your child may experience from participating are considered minimal. There are no costs for participating. There are no benefits to your child other than to further research. The information your child offers by answering questions during the focus group will help decide how to complete further Farm to School Program evaluation in the La Crosse School District.

Your child's information collected for this study is completely confidential and no individual student will ever be identified with his/her research information. Non-identifying data from this study will be recorded, put into a Word document in grouped form and saved on password protected computer. The information will be grouped so that your child's information will be anonymous. Only the (NAMES) will have access to the information. However, the La Crosse County Health Department Farm to School Coordinators and the La Crosse School district nutrition services manager and Research and Development Committee or appropriate federal agencies like the Office for Human Research Protections may review this study's records.

Your child's participation in this study is voluntary. You may choose that he/she not to take part in this study, or if you decide that he/she can take part, you can change your mind later and withdraw your child from the study. If you allow your child to participate in this research, (NAMES) will review the rights and procedures of the focus group with him/her on the day of the focus group. Your child will be free to not answer any questions or to leave the focus group at any time. Your decision will not change any present or future relationships with the La Crosse County Health Department or the La Crosse School District. There are no known alternatives available to participating in this research study other than not taking part.

If you have questions about the study or study procedures, you are free to contact the investigator at the address and phone number below. If you have questions about your child's rights as a study participant and the protection of human subjects or complaints about your treatment as a research subject, ( address them to [irb@uwlax.edu](mailto:irb@uwlax.edu).) By signing this document and returning it with your child to his/her teacher by (2/17/11) you are giving voluntary consent for your child to be selected to be in the focus group. If you DO NOT wish to give consent for your child to voluntarily participate in DO NOT sign and return this document.

I give consent for my child \_\_\_\_\_ (write child's name) to participate in the above explained research project.

Parent/Guardian Name: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_

*Josh Miner*

Farm-to-School Coordinator, Nutrition Division  
La Crosse County Health Department  
Ph: [608] 785-5579  
Fax: [608] 785-9846  
Email: [miner.joshua@co.la-crosse.wi.us](mailto:miner.joshua@co.la-crosse.wi.us)

APPENDIX F  
FOCUS GROUP ASSENT FORM

## Farm to school program focus group methods study

We are asking if you are willing to be a part of a focus group with others 3<sup>rd</sup> graders today, because we want to know what you think about the Farm to School Program and nutrition education at your school. Because you are a third grader at Franklin we are asking if you want to be this study. We hope that the Farm to school program and the nutrition education helps to teach 3<sup>rd</sup>-graders and other students about eating healthy foods from farmers around La Crosse, and those students are eating more of these good foods because of the program. We won't know if that is happening unless we ask good questions to the students to find out the answers.

If you agree to be in this study, we will ask you to be a part of a focus group today for 40 minutes during your lunch time. In the focus group, you and other 3<sup>rd</sup> graders will sit in a circle and answer questions that the project leader, (NAME), will ask you. Your answers will be recorded, and (assistant) will write down some of the words you say. We will not keep your name or use your name in the study. That means your answers will be anonymous.

To be in the study, you will have to miss some of your lunch time today, but other than that, nothing else will change for you by being in the study. Even though it might seem like being a part of the study doesn't help you in any way, your answers and participation will help (ME/NAME) and the people working on the Farm to School Program at your school and at the La Crosse County Health Department. They will be able to learn what questions work best to ask other students about the Program and it will eventually help them decide if they need to make any changes to the Farm to School Program and nutrition education in the future.

(Name) sent a letter home to your parents/caregivers about this study, and they think is ok for you to participate. Being in this study is totally up to you, though, and no one will be mad at you if you don't want to do it. *And, if you change your mind during the study, you can always go back to your class.*

You can ask any questions that you have about this study. If you have a question later that you didn't think of now, you can ask us next time. You or your parents can talk to the members of the (R & D). Signing here means that you have read this paper or had it read to you and that you are willing to be in this study. If you don't want to be in this study, don't sign. Remember, being in this study is up to you, and no one will be mad at you if you don't sign this or even if you change your mind later.

Signature of participant \_\_\_\_\_

Signature of person explaining study \_\_\_\_\_

Date \_\_\_\_\_

APPENDIX G  
FOCUS GROUP INTERVIEW GUIDE

**Conducting focus groups for Farm to School Program Evaluation in La Crosse County**  
**For use in schools participating in the Farm to School Program**

After obtaining the authorization for conducting student research from the school district; contact individual school principals and classroom teachers to discuss the evaluation procedures

- Review or develop consent forms and child assent forms
- Determine the location and time of the focus group
- Secure at least 2 staff/volunteers to conduct the focus groups (Moderator and assistant to record themes)
- Obtain incentive (s) to give for student participation (items to be worth around \$5 each,( e.g. F2S t-shirt, pencil, water bottle, nylon bag w/ logo)
- Randomly select 20 students per school per grade level selected for research. (NOTE: select grade levels that are most aligned with the program intervention efforts. If school district's intervention is uniform across the K-12 system, select 4<sup>th</sup> and 6<sup>th</sup> grades at the elementary and middle school levels; a combined 'all-school' class list at the high school level is appropriate, but more than 1 focus group may be required in large high schools). This may be done with the assistance of the classroom teachers by using a complete class list and selecting every other or every 3<sup>rd</sup> student on the list.
- Send out a letter and parental consent form home with 20 selected students 7 days prior to the focus group experience. (must be signed and returned for the student to be considered for participation)
- From the group of students with parental signed consents, randomly select 6-8 students for participation at least 1-day prior to the event and inform classroom teachers of the students
- Assemble tools to use during the focus group: Tape recorder, flip chart to record themes, assent forms, pens, incentives, questionnaire guide

**Day of the event**

Set up the room with chairs in a circle or oval around a table if possible

Place tape recorder in the center of the table

Align flip chart (for recording themes) several feet away from the table in eye line with the moderator

- Include the number of each question at the top of the chart

Moderator greets children and gives instructions; assistant will distribute assent forms

Welcome and Child Assent

- Read the assent form and have children sign; those who choose not to sign may return to class

Introductions and 'ice-breaker'

- Moderator/assistant names and role during the group
- Ice breaker: "Since we will be talking about food today, I would like us all to share our favorite school lunch meal"
- **START RECORDING**

### Begin Focus Group Questions

1. Have you heard about the Farm to School Program (or other name depending on school district)?
  - a. What are some things you have heard about the (Farm to School) Program?
  - b. Where did you hear these things about the (Farm to School) Program?  
PROMPT: Who (parent, sibling or teacher?) What (read a flyer from school, email, website, tv?)

Moderator describes program: "The Farm to School is a program that brings healthy foods grown by local farmers to into your school, either at lunch or another time of the day, for students to eat. It also is a program that helps your teachers tell you about eating health fruits and vegetables that are grown around your town. Your school has this program."

2. What things have you learned at school about eating healthy foods?  
PROMT: What kind of foods should we eat?
3. Why is it important to eat fresh, local foods? (middle school/high school only)
4. Tell me about the kinds of food you have for school lunch or foods you have during the day at school for a snack.

Moderator describe F2S foods: "The F2S Program has a lot of fresh fruits and vegetables and some grains like, rhubarb, squash, coleslaw, and wild rice"

5. Which kinds of F2S foods have you had at your school for lunch or for a snack during the day?
6. Do the (Farm to School) foods taste different from the other foods?
7. What makes you want to try (Farm to School) food?  
PROMPT: If you taste it before it is served at lunch, how does that change it you try it for lunch? If you know that your food comes from a farm near (town), do you want to eat it more? (less?)
8. What makes you NOT want to try a Farm to School food?
9. Do you ever ask your family to buy a fruit or veggie that you had at school so that you could eat it at home, too? (If yes, PROMPT: give examples)
10. The F2S Program tries to use things like taste-testing, cooking classes, gardening, visiting farms, and other educational activities. What do you think is the most fun way you could learn about eating healthy and the F2S Program? PROMPT: Is there something on the list or do you have a new idea?

APPENDIX H  
PLATE WASTE INFO LETTER

(DATE)

Dear Parent or caregiver,

As many of you may know, this year the La Crosse School District started a Farm to School Program through federal grant funds received by the La Crosse County Health Department. This means that students at pilot schools who participate in the hot lunch program have been able to eat several foods each month grown by local and regional farmers. Some students in the district have also received farm to school nutrition education. It is the hope of the school district and the La Crosse county Farm to School coordinator that this Farm to School Program will continue and expand in future years.

In order to measure the success of the Farm to School Program this first year in the La Crosse District, each school, with the help of the Farm to School Program coordinator, Josh Miner, will ask for student, parent, farmer and school staff input through surveys, interviews, focus group discussions and a study on the amount of food students' waste during lunch. This evaluation will be done throughout the year. (School Name) has agreed to partner with the Farm to School Program in order to find out just how much of the food items our students are eating by having a plate-waste study.

The Farm to School food item, (wild rice), served on (February 16<sup>th</sup>) will be used in the plate waste study. This means that if your child takes 'hot lunch' from the school on (2/16/11) the remains from his/her the farm to school item at lunch will be placed in a paper container and weighed after lunch to see how much your child had left over. Used with the weights from the other student's food, this 'plate waste' will help tell us about student eating habits related to the new farm to school foods offered during the school lunch.

If you have any questions about the Plate waste study trial-run on (2/16/11) or would like to know more about the Farm to school program at (Emerson) Elementary School feel free to contact Josh Miner.

Thank you!

NAME HERE

*Josh Miner*

Farm-to-School Coordinator  
Nutrition Division  
La Crosse County Health Department  
Ph: [608] 785-5579  
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APPENDIX I

PLATE WASTE POCEDURE

## Plate Waste Data Collection Procedure

**Date:**

**Schools:**

**Food item:**

In order to find out how much of the Farm to School items students are actually eating, and to find out if the Farm to School nutrition education that some (3<sup>rd</sup> graders) are given really makes a difference in the amount of the item eaten, we need to collect consumption data. The following steps 1-9 will be used, along with the attached data collection sheet. Thanks for your help in this process- your thoughts and suggestions are welcomed as feedback on how things go on (Day of the procedure). We will be tracking how much wild rice the (3<sup>rd</sup> grade students) eat on (Date). They will be served (rice in a 4oz. clear container). To be the most accurate we will get an average weight of the serving before it's taken and then weigh each serving after they eat it. Here are the directions:

1. Scoop the (rice into 4oz clear containers). *(Kitchen Staff)*
2. Choose 10 containers and record the weight in ounces for each on the sheet provided. *(Kitchen Staff)*
3. Serve the containers to the (students) with the rest of their meal. Do not draw attention to the rice or encourage the students to take it. *(Kitchen Staff)*
  - a. NOTE: If the population for the evaluation is the whole school, then a sample can be used by offering the item served in a container to every 3<sup>rd</sup> or 4<sup>th</sup> student who takes the item (see sample size chart). Other students not in the sample size can have the item served directly on their tray; their waste will not be collected.
4. Count the number of (3<sup>rd</sup> grade) students who have taken the rice with their hot- lunch and record the number on the sheet provided. *(School staff/UW-L volunteer)*
5. When the (3<sup>rd</sup> graders) are finished eating instruct the students to place their containers on a cart or table instead of throwing them away with the rest of the lunch waste. *(School staff/UW-L volunteer)*
6. Weigh each container and record the weight in ounces on the sheet provided. Discard the lids at this time if applicable. *(School Staff/UW-L Volunteer) \*More than one data sheet will be needed for larger sample sizes.*
7. Arrange the containers onto a metal serving tray with the first container weighed in the upper left corner, continuing to place them left to right in rows until the last container weighed is in the bottom right corner. Take one digital photo of these containers making sure to get the outline of the tray into the edge of the photo. *(School Staff/UW-L volunteer)*
8. Discard the containers and return the scale and metal tray to the kitchen.
9. Record the number of (3<sup>rd</sup> grade) students who were served hot lunch, and the number of those lunches that were free and reduced. *(kitchen manager)*

APPENDIX J

PLATE WASTE DATA COLLECTION FORM

## Plate Waste Protocol Data Collection Sheet

Date: \_\_\_\_\_

Schools: \_\_\_\_\_

Food item: \_\_\_\_\_

**Average weight of serving:  
Container:**

**Weight of the Waste per**

Container	Weight in Ounces
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
Average	

Container	Weight in Ounces
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

Container	Weight in Ounces
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	

Number of students who took a container: \_\_\_\_\_

Number of hot lunches served: \_\_\_\_\_

Number of Free and Reduced lunches served: \_\_\_\_\_

Comments on the data collection process: