

Challenges and Opportunities for Integrating Cooking Experiences into EFNEP and SNAP-Ed Nutrition Education for Children and Youth

L. Cunningham-Sabo¹, S. Baker¹, B. McDonnell¹, J. Clifford¹, B. Lohse², S. Smith¹

¹Colorado State University, Department of Food Science and Human Nutrition, ²Wegmans School of Health and Nutrition, Rochester Institute of Technology

ABSTRACT

Background: Despite growing evidence that children's involvement in cooking improves their dietary choices and other health outcomes, it's unclear the extent to which in-school nutrition education curricula include actual cooking activities.

Objective: Examine widely-used 3rd – 5th grade EFNEP- and SNAP-Ed-approved curricula for evidence and extent of cooking activities and related concepts; identify barriers and supports for inclusion of cooking from program leaders; and determine essential content for cooking-inclusive curricula.

Methodology: The most frequently used 3rd – 5th grade EFNEP/SNAP-Ed curricula underwent independent in-depth review of nutrition, food safety, food resource management and cooking/food preparation skill-building content. Individual lessons were scored on content frequency and level of instruction provided. Program leaders were surveyed to assess their experiences with current curricula, value of and barriers to including cooking activities, and interest in new curricula.

Results: Review of the most commonly used curricula (n=6) revealed few student cooking and safe food handling experiences. All curricula included food group-based lessons; lesson length ranged from 30 minutes to > 2 hours. 54 survey responders (72% response rate) indicated program leaders desire 6-8 lesson experiential series that address national evaluation objectives, grade-specific academic standards and incorporate cooking and tasting activities. Responders also support food activities that comply with school food guidelines, and are sufficiently flexible to accommodate limited classroom time and available resources.

Conclusions: A nutrition education curriculum including a series of experiential cooking and tasting lessons that address academic standards and accounts for limited time and resources will fill a curricula gap for this low-income audience.

PURPOSE/OBJECTIVES

Involvement in cooking activities improves the diet quality and other health outcomes of at-risk children and youth. However, the nature of culinary content in nutrition education curricula is not well-described. To determine content and structure, and national need for upper-elementary cooking-inclusive curricula, our team:

- Examined the most commonly used 3rd-5th grade EFNEP and SNAP-Ed curricula for evidence and extent of cooking activities and related concepts, and
- Identified barriers, supports and interest for cooking activities in school-based curricula via surveys with state EFNEP program leaders.

CURRICULA REVIEW

METHODS

- National EFNEP program leaders identified the most frequently used youth EFNEP curricula.
- Each curriculum was reviewed independently by two trained reviewers using tools adapted from a similar project examining content of adult EFNEP curricula (Murray et al., 2015).
- Reviewers completed curriculum overview form (Figure 1) to record general information (e.g., intended educational setting, number of lessons, theoretical foundation, dietary principals).
- An individual lesson review tool (Figure 2) captured frequency and depth of educational instruction on diet quality (nutrition), physical activity, food safety, food resource management and cooking and food preparation skills.
- Completed forms were assessed for interrater reliability by third reviewer (Figure 3).

Core activity: 10-15 minutes
 Core activity: 15-20 minutes
 Food tasting activity: 25-30 minutes
 If all activities are done, total: 70-90 minutes

- Food Activity (type and minutes): Design your own trail mix, 25-30 minutes
- Physical Activity (type and minutes): balance activity, 3-5 minutes

Topic Area	Information Mentioned	Interactive Instruction Provided	Comments:
MyPlate		x	Class discussion, balanced meals activity
Variety, Moderation and Balance			
Energy/calories	x		Mentioned as a comparison on the labels
Label Reading		x	Label reading comparing nutrition in relation to cost
Carbohydrates			
Whole Grains			
Fiber			
Vitamins			
Minerals			
Fruits			
Vegetables			
Calcium			
Low-fat dairy			
Protein			

Figure 2. Lesson Review Tool

Youth EFNEP Curriculum Review Comparison Guide

Curriculum: Professor Popcorn Name: Bridget McDonnell

Compare Review 1 with Review 2 for Each Curriculum Reviewed

Section of Review	Agree	Disagree- Explain
General Curriculum Characteristics		
a. Theoretical Foundation	y?	Reviewer #1 went into detail
b. Evidence-based	y	
c. Reading Level	y	

Figure 3. Curriculum Review Comparison Guide

Curriculum Title: Kids in the Kitchen (Level B, Ages 10-12 Only)

Edition #: 3rd
 Publication date: First -May 2004; 3rd Ed. - 2012
 Latest revision date: February 2014

- General Curriculum Characteristics
 - What is the theoretical foundation of the curriculum? You do not need to go into great detail provide the reference or web address. Provide the reference for where you located this information (website link).
 Experiential learning theory – Document in front folder of binder, provided by Candace Gabel, editor of 3rd edition.
 - Is the curriculum evidence-based? If so, please briefly describe how the authors defined the evidence-base. Provide the reference for where you located this information (website link).
 Apparently, yes. Provided in same document as listed above. Developed using the experiential learning theory and utilizes concepts from USDA's MyPlate and the 2010 DGA.
 - What reading level is the curriculum written at?
 Not available.
 - Is the curriculum based on the principles of the Dietary Guidelines for Americans (DGA)? If

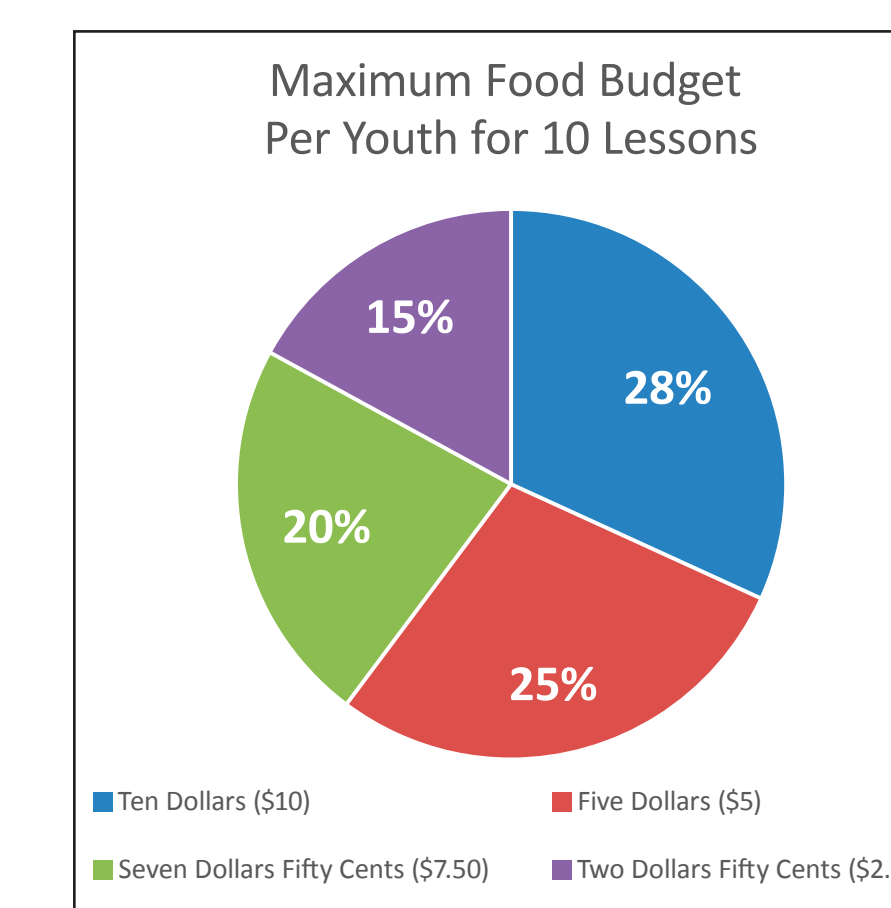
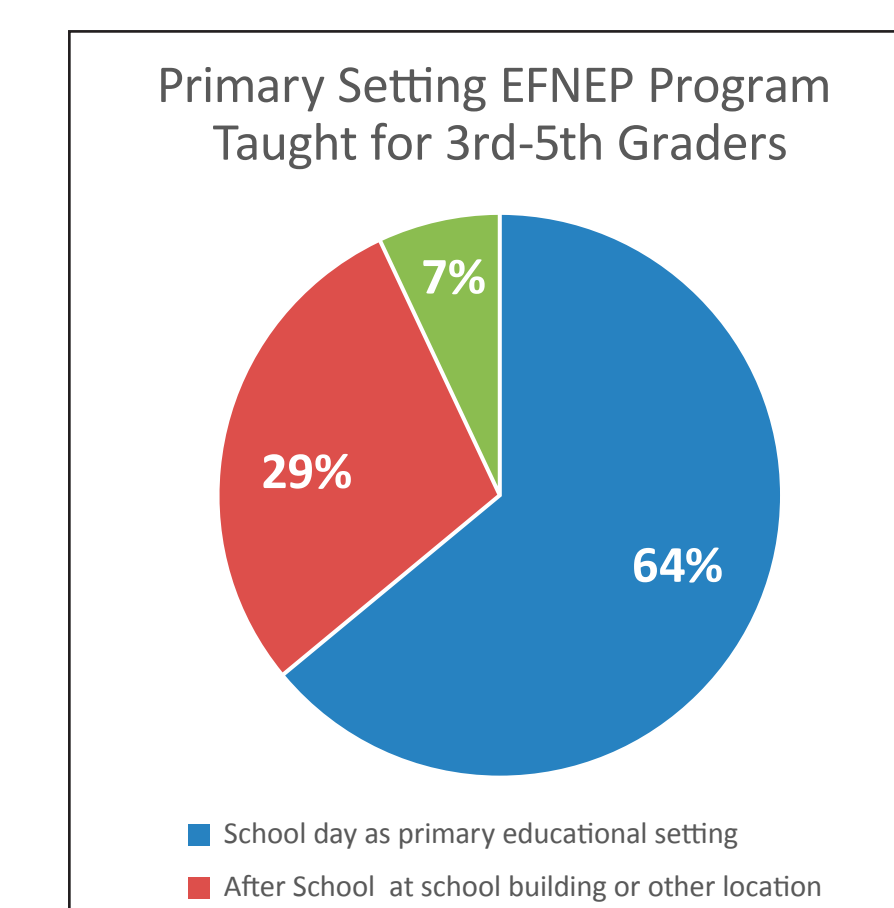
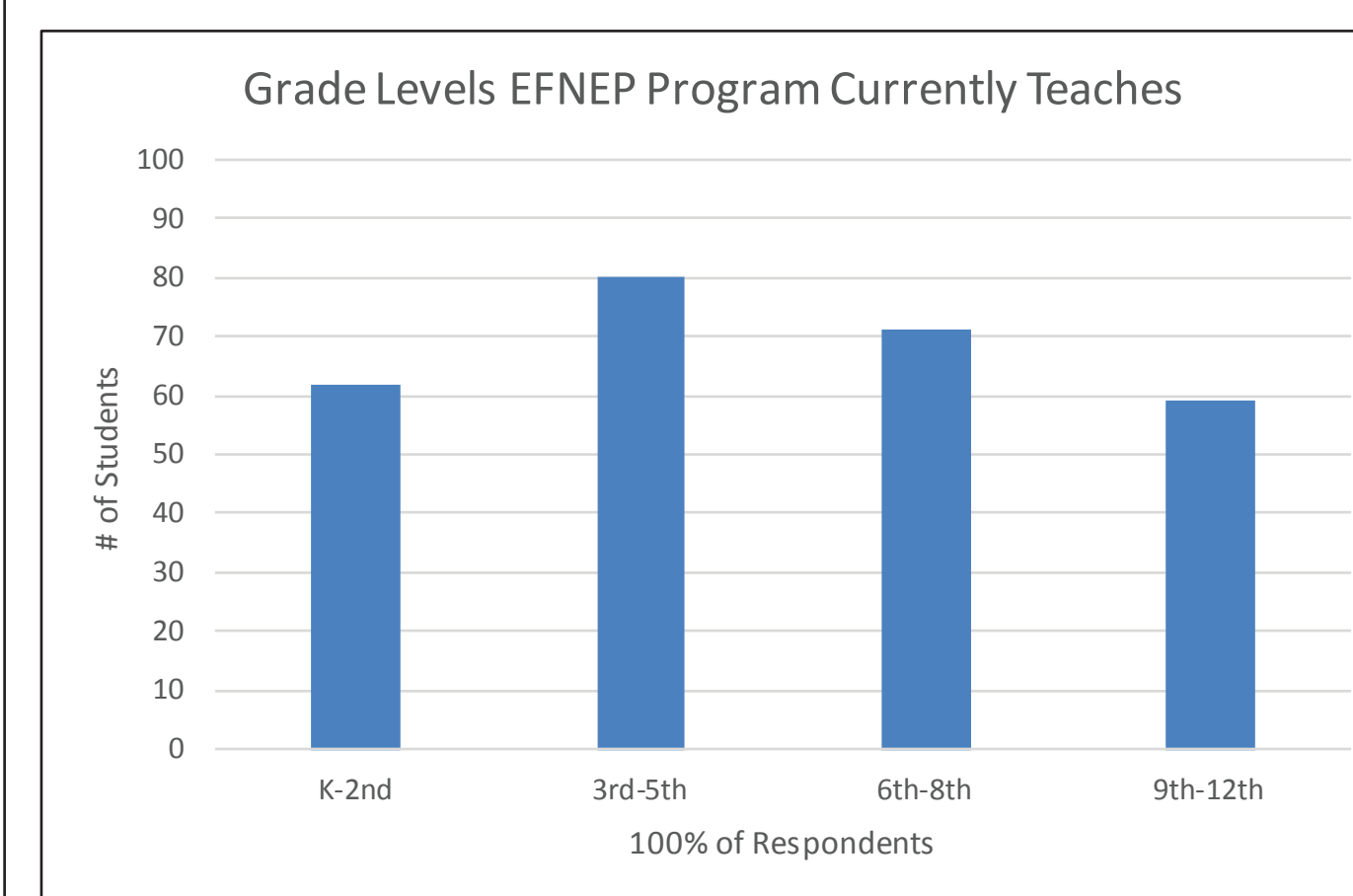
Figure 1. Curriculum Overview Page

METHODS

- Youth nutrition education curricula developers, researchers, and EFNEP program leaders developed online survey including:
 - Description of EFNEP youth programs, e.g., grades reached, settings, curricula used
 - Curricula strengths and limitations
 - Satisfaction with curricula food preparation and cooking skills
 - Feasibility and barriers of cooking activities
 - Importance of teaching cooking skills
 - Preferred curriculum series and lesson length
 - Extent of parent engagement
 - Budget for food activities
- After IRB approval, all state/territory EFNEP program leaders were emailed an invitation to complete the online survey
- Participation encouraged through drawing for gift card
- Reminder sent out one week later; survey available for three weeks
- Descriptive analyses used to summarize results

EFNEP PROGRAM LEADER SURVEY

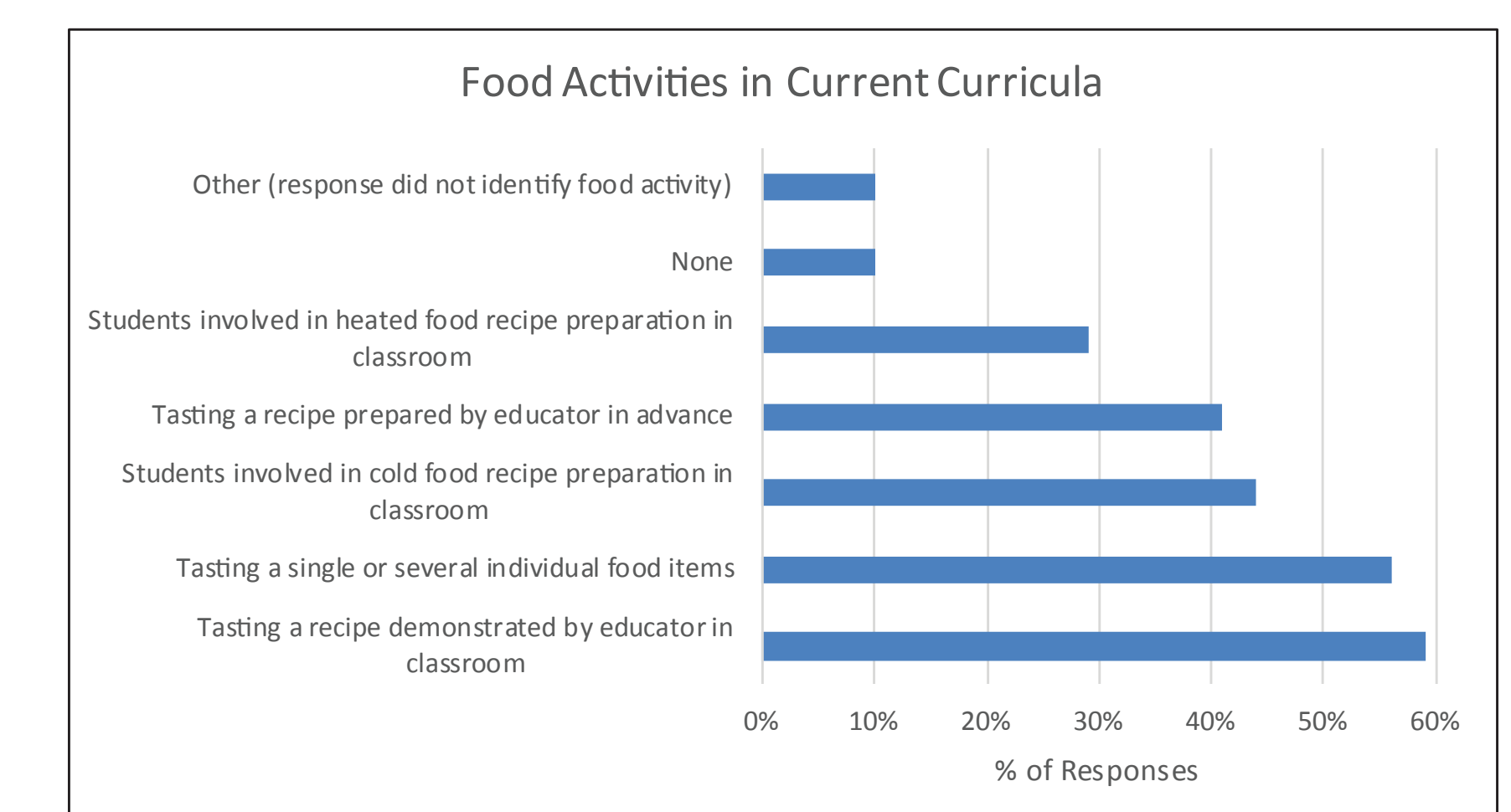
RESULTS



- 77% response rate (n=58); representing all 7 EFNEP funding tiers; 79% conduct programs in 4th grade
- A variety of curricula are currently used (Figure 5).
- 23% were satisfied with current curricula, 40% partially satisfied, and 38% not satisfied.
- Reasons for satisfaction included:
 - Easy to use, flexibility in lesson content, addresses health education standards, online resources, experiential
- Reasons for dissatisfaction included:
 - Lack of EFNEP core content (e.g., food safety), inappropriate for educational setting and time available, expensive, lack of hands-on activities
- Food activities in currently used curricula were primarily tasting foods prepared by educator; only 30% reported hot food recipe preparation.
- Barriers to incorporating cooking activities into classroom lessons included limited time, food costs, and lack of educator skills.
- On scale of 1-7 (1 = not at all important, 7 = very important), 76% rated teaching cooking skills at 5 or higher (mean=5.63, SD=1.32, median=6).
- Yet only 23% reported current youth programming fully meets food preparation/cooking skills needs of 3rd-5th grade students.
- On a scale of 1-7 (1 = not at all successful, 7 = very successful), 61% rated success 3 or lower for engaging parents (mean=3.27, SD=1.27, median=3).



Figure 5. EFNEP Youth Curricula



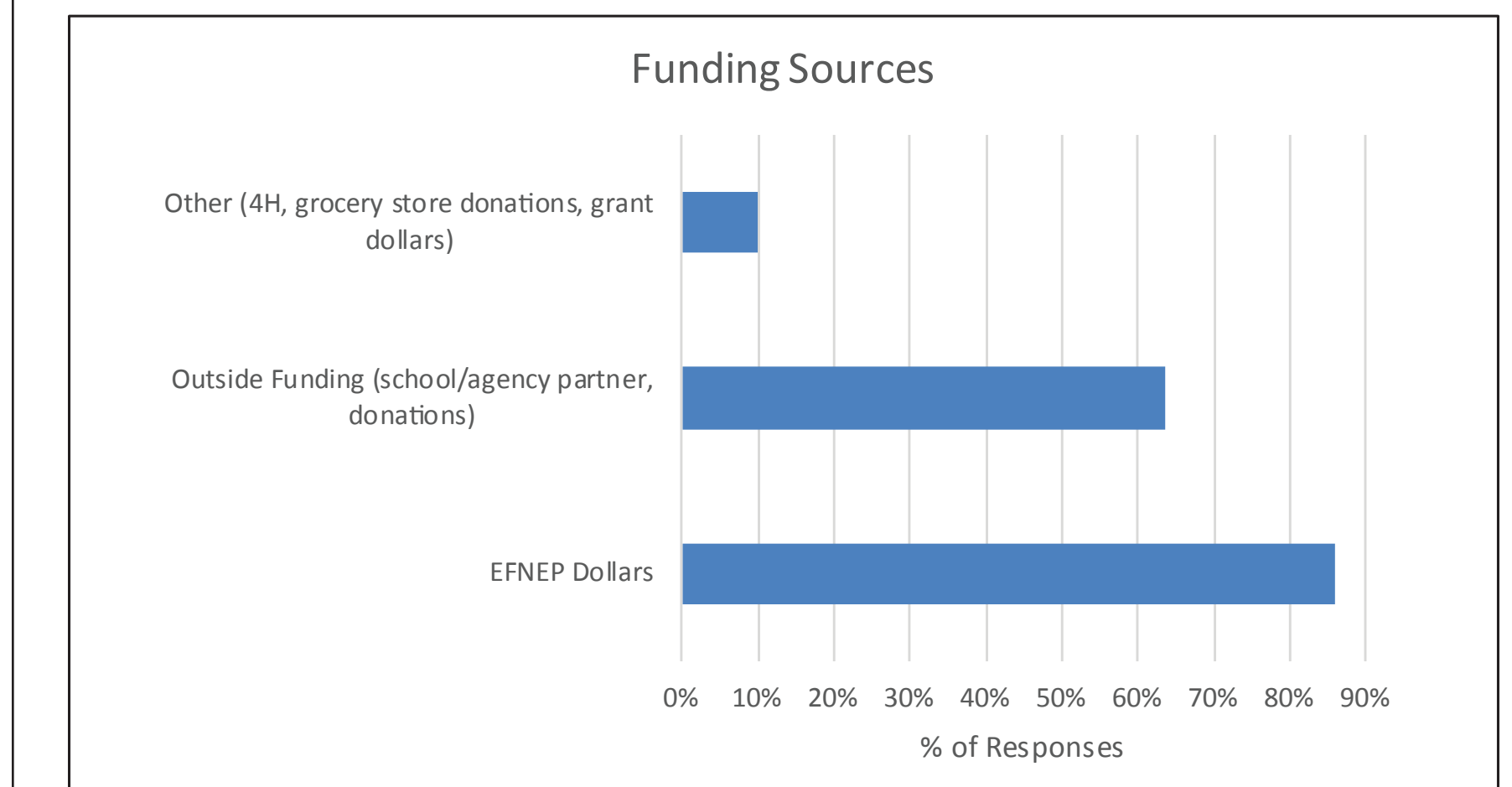
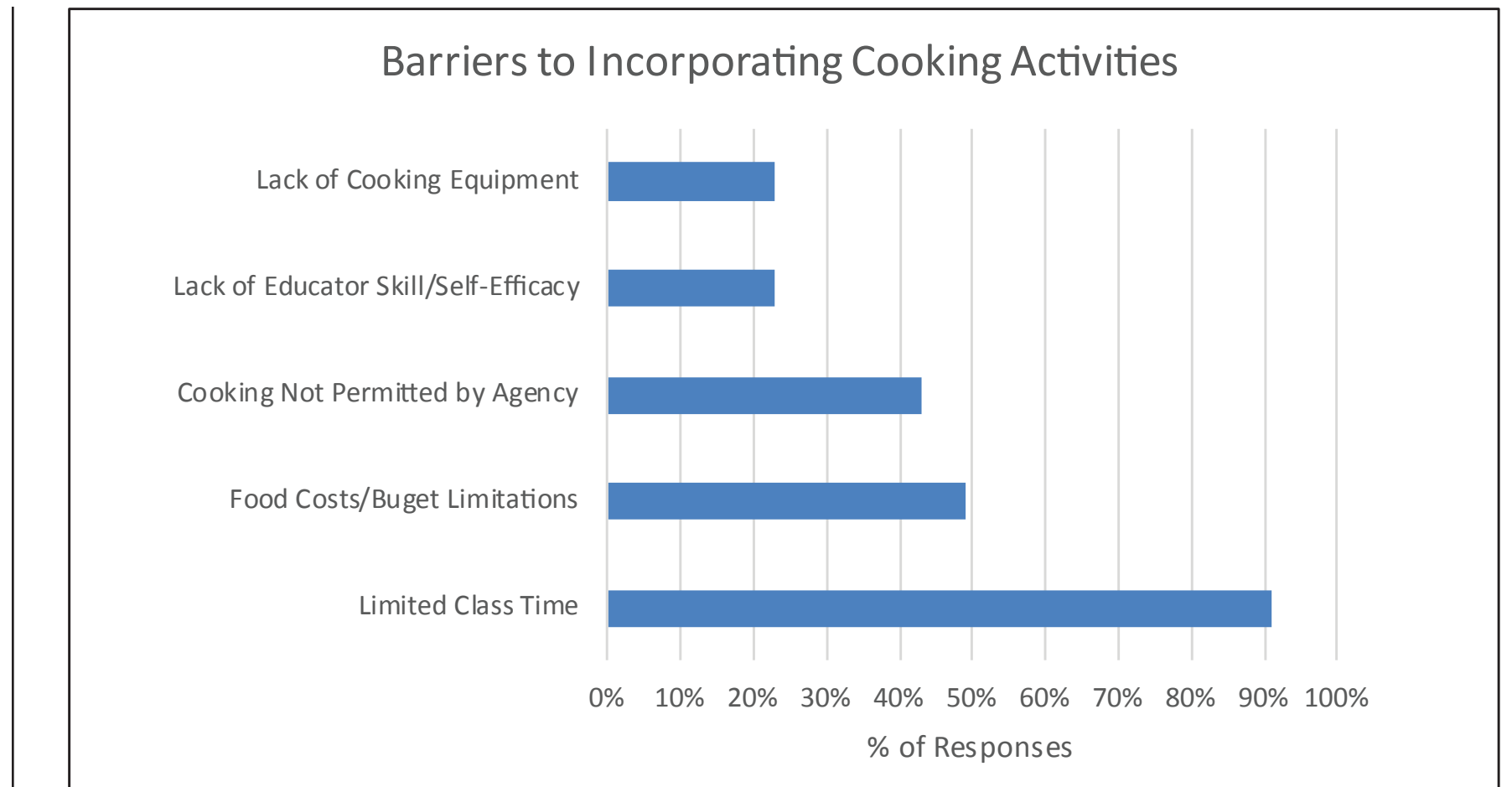
Summary – Program leaders desire a 6-8 lesson experiential series addressing EFNEP evaluation objectives, grade-specific academic standards, and cooking and tasting activities; responders also support food activities that comply with school food guidelines, and are sufficiently flexible to accommodate limited classroom time and available resources.

CONCLUSION/IMPLICATIONS

Findings confirm evidence-based nutrition education resources that include cooking skill development and meet EFNEP and SNAP-Ed core content areas are lacking. To fill this curricular gap for 4th graders in limited resource environments, a prudent approach is to design cooking and tasting lessons that address related academic standards.

Reference

Murray, E., Auld, G., Inglis-Widrick, R., Baker, S. (2015). *Nutrition Content in a National Nutrition Education Program for Low-Income Adults: Content Analysis and Comparison with the 2010 Dietary Guidelines*. *Journal of Nutrition Education and Behavior*, 47(6), 566-573.



FUNDING

This material is based on work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2012-68001-19603. Any opinions, findings, or recommendations in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.