

NOURISH: UTILIZING FOOD RESOURCE MANAGEMENT TECHNIQUES AND THE SOCIAL COGNITIVE THEORY TO IMPROVE COOKING SKILLS AMONG SNAP-ELIGIBLE ADULTS

Anirudh Muralidharan
Case Western Reserve University

Background

In the United States, cooking frequency has declined by nearly a third, partly due to decreased home cooking over the past decades. However, research indicates that increased consumption of food prepared at home is linked to a healthier diet and can help reduce the risk of diseases like cancer, diabetes, and obesity. Moreover, individuals with improved cooking skills tend to consume more vegetables weekly and rely less on convenience foods, suggesting a potential mechanism for the association between home cooking and diet quality. Despite these benefits, several barriers inhibit cooking frequency, including the growing popularity of ultra-processed foods, which are often seen as convenient alternatives to home-cooked meals. Additionally, factors such as time constraints, family food preferences, limited access to cooking equipment, and insufficient cooking skills contribute to the decline in cooking at home, particularly among low-income households.

Oakley et al. (2018) indicates that households experiencing food insecurity tend to own fewer food preparation items, such as baking pans, barbecue grills, and kitchen utensils, compared to food-secure households. Despite these challenges, interventions focused on food resource management (FRM) have shown promise in addressing cooking barriers and improving household food security. FRM strategies encompass various aspects of food preparation, including meal planning, shopping strategies, budgeting, and storage, yet, they have received less attention compared to traditional nutrition education. To address these gaps, this study will leverage the experiences of professionals who teach cooking classes to develop and implement *Nourish*, a new SNAP-Ed cooking and food skills curriculum.

Population

The study population for the *Nourish* curriculum consists of SNAP-Eligible adults residing in Cleveland. These individuals, who qualify for nutritional assistance through the Supplemental Nutrition Assistance Program (SNAP) and/or the Electronic Benefit Transfer (EBT) program, represent a demographic often facing economic challenges and food insecurity. By targeting this specific population, the *Nourish* curriculum aims to address the unique needs and circumstances of SNAP-Eligible adults, offering them practical skills and knowledge to make healthier food choices within the constraints of their budget.

Methods

The *Nourish* curriculum comprises eight 1.5-hour weekly in-person cooking education sessions, which encompass improvisational cooking, food resource management, and behavior change techniques. Prior to each in-person session, participants will engage with short video clips as part of their educational preparation. During the in-person sessions, additional short video clips will be integrated, though the primary focus will be on hands-on experiential learning activities facilitated by community workers. These activities aim to bolster participants' self-confidence in the kitchen, enhance their financial literacy in navigating grocery aisles, and foster familiarity with a diverse array of healthy food items through interactive food preparation and tasting experiences.

Learning Objectives

1. Develop meal planning resource guides and informational cooking videos for SNAP-Eligible adults
2. Understand the variety of factors hindering cooking in SNAP-Eligible adults
3. Identify the various cultural values and practices that shape cooking attitudes in SNAP-Eligible adults

Activities

Responsibilities included development and evaluation of educational materials, such as includes educational flyers, video scripts, and videos, pertaining to the *Nourish* curriculum. Specifically, the supplemental videos aimed to guide *Nourish* participants outside of the planned weekly lesson. These short videos aim to provide quick tips to the participants on cooking with leftovers, shopping smart, and other helpful cooking techniques. Literature reviews and qualitative research were also regularly conducted to ensure that information in the educational material was both accurate and inclusive.

Deliverables

1. Educational Flyer for *Nourish* Guidebook
2. *Nourish* Curriculum Supplemental Video Scripts
3. *Nourish* Curriculum Supplemental Videos

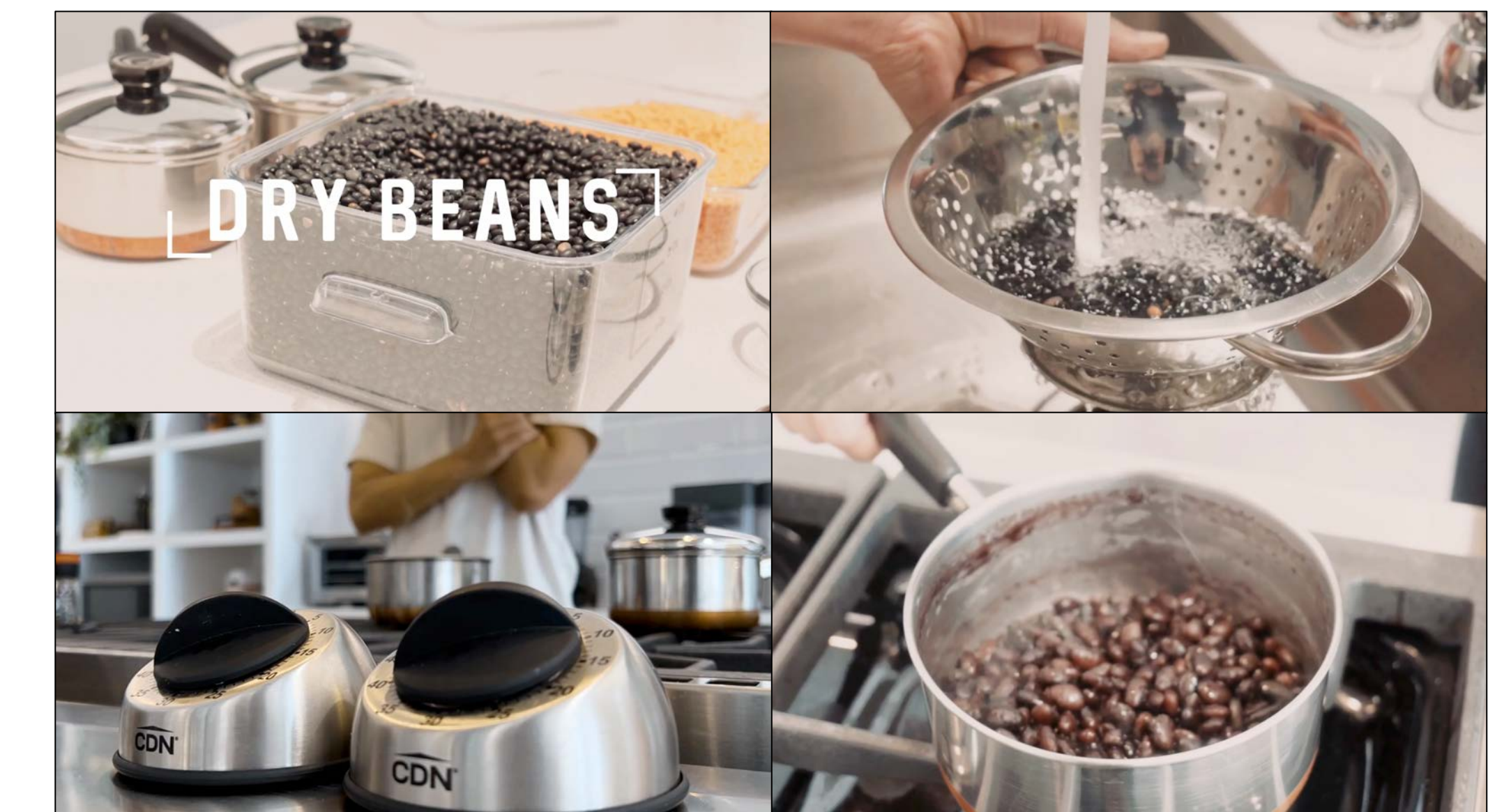
How To Cook Rice and Grains

	White Rice	Brown Rice	Quinoa
Stovetop	<ol style="list-style-type: none"> 1. Rinse the white rice under cold water until it's clear of starch. 2. In a pot, combine the rice and water. For every cup of rice, add 1.5 cups of water. 3. Bring the water to a boil, then reduce the heat to low, and cover it with a tight-fitting lid. 4. Let rice simmer for 15-20 minutes. 5. Let rice rest, covered, for an additional 5 minutes, then fluff with a fork. 	<ol style="list-style-type: none"> 1. Rinse the brown rice under cold water until it's clear of starch. 2. In a pot, combine the rice and water. For every cup of rice, add 2 cups of water. 3. Bring the water to a boil, then reduce the heat to low, and cover it with a tight-fitting lid. 4. Let rice simmer for 15-20 minutes. 5. Let rice rest, covered, for an additional 5 minutes, then fluff with a fork. 	<ol style="list-style-type: none"> 1. Rinse quinoa under cold water for 1 minute. 2. In a pot, combine the quinoa and water. For every cup of quinoa, add 2 cups of water. 3. Bring to a boil, then reduce heat, cover, and simmer for 15-20 minutes. 4. Let it stand, covered, for 5 minutes, then fluff with a fork.
Microwave	<ol style="list-style-type: none"> 1. Rinse the rice and place it in a microwave-safe bowl. 2. For every cup of white rice, add 2 cups of water and cover the bowl with a microwave-safe plate. 3. Microwave on high for 10-15 minutes, checking at the halfway mark. 4. Let it stand, covered, for 5 minutes, and then fluff the rice with a fork. 	<ol style="list-style-type: none"> 1. Rinse the rice and place it in a microwave-safe bowl. 2. For every cup of brown rice, add 3 cups of water and cover the bowl with a microwave-safe plate. 3. Microwave on high for 10-15 minutes, checking at the halfway mark. 4. Let it stand, covered, for 5 minutes, and then fluff the rice with a fork. 	<ol style="list-style-type: none"> 1. Rinse quinoa and place it in a microwave-safe bowl. 2. For every cup of quinoa, add 2 cups of water and cover the bowl with a microwave-safe plate. 3. Microwave on high for 6-8 minutes. 4. Allow it to stand, covered, for 5 minutes, then fluff the quinoa with a fork.

Bonus Tips:

- Cooking rice in larger batches and storing it in the refrigerator can save time and energy for future meals. If the rice starts to get hard, add a bit of water over the rice and microwave it with a damp paper towel.
- Try cooking your rice in bone broth instead of water! Bone broth adds a savory flavor and provides additional nutrients.
- After fluffing the rice, add seasoning to the rice to enhance its flavor!

Deliverable 1. *Nourish* Guidebook Flyer: *How to Cook Rice and Grains*



Deliverable 3. *How to Cook Dried Beans* Supplemental Video

Lessons Learned

Participating in the development of educational materials and hands-on cooking sessions highlighted the significance of tailoring interventions to meet the specific needs and circumstances of vulnerable populations. Understanding the socioeconomic factors influencing food access, cooking habits, and nutritional choices allowed for the development of a curriculum that addressed barriers to cooking and healthy eating effectively for SNAP-Eligible adults. Recognizing the impact of income, education, and access to resources on health behaviors is crucial for designing interventions that address disparities and promote health equity.

Public Health Implications

The *Nourish* study targets a population that often faces economic challenges and food insecurity. By teaching participants meal planning, budgeting, and shopping strategies, the curriculum helps empower individuals to make the most of their limited resources and improve household food security. This can lead to greater access to nutritious foods and reduced reliance on emergency food assistance programs. By offering culturally relevant education and support, the curriculum strives to meet the needs of SNAP-Eligible adults and empower them to make positive changes in their dietary habits and food practices.

Acknowledgements

I would like to acknowledge Dr. Prescott for guiding me through my Practicum and being an amazing mentor. I would also like to thank Caleb, Eric, Michelle, Eesha, Erin, and the entire UIUC team for their great teamwork developing the *Nourish* curriculum.

Lesson Plan: Knife Identification Tips

Video Title	Pre-Clip Video	Main Video	Key Points
Lesson Plan: Knife Identification Tips	Pre-Clip Video	Main Video	Key Points
Identifying different types of knives	Pre-Clip Video	Main Video	Key Points
How to use a paring knife	Pre-Clip Video	Main Video	Key Points
How to use a utility knife	Pre-Clip Video	Main Video	Key Points
How to use a bread knife	Pre-Clip Video	Main Video	Key Points
How to use a chef's knife	Pre-Clip Video	Main Video	Key Points

Deliverable 2. *Knife Identification Tips* Supplemental Video Script