Poster: Innovative Idea

Food Matters: From Farm to Medical Student

Tiffany Ashland
M.Ed. Student, University of Minnesota
University of Minnesota
17316 Padons Drive
Eden Prairie, Minnesota 55346
(612) 619-2402
ralstont@umn.edu

Amy Smith, Ph.D.
Assistant Professor, Agricultural Education
University of Minnesota
146c Ruttan Hall
1994 Buford Avenue
St. Paul, Minnesota 55108
(612) 624-6590
arsmith@umn.edu

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Introduction/Need for Innovative Idea

Across the nation, public interest in food and agriculture is on the rise. Heightened interest in food-related education programs, foodie movements, farmers markets, community gardens, microbreweries, food marketing tactics, and the like has been observed and documented (Bond et al, 2015; Pingali, 2010; Todd, 2014). While exciting, this increased interest has prompted additional questions about agricultural and food production as it relates to health, environment, and economy (Enns et al, 2016).

Often formal initiatives related to agriculture and food systems education target school-age children (Mercier, 2015). However, educational efforts targeting a greater range of individuals, particularly those with decision-making capacity as consumers, or who serve in helping professions, are necessary to ensure an informed citizenry. Recognizing that many factors including geographic location, occupation, political ideology, family background, education, and life experiences influence how an individual thinks about agriculture and food (Anderson, Velez & Thompson, 2014; Specht, McKim & Rutherford, 2014), it is critical that educational efforts are well-designed to strategically achieve certain objectives.

Medical doctors and healthcare providers are one such audience that could benefit from agricultural and food systems education. Although western medicine is traditionally siloed from food production, many modern pharmaceuticals have roots in plant-based compounds. Further, there is evidence showing favorable health impacts of nutrition education within the medical field (Katch, 2017). This "farm to pharma" approach is the essence of a course, created by physician Kate Shafto, MD and chef Jenny Breen, MPH. In response to a knowledge gap identified among medical students, a course was designed to provide clinically-relevant, food-based nutrition education for integration into healthcare professionals' training programs (Kolhmeier et al, 2015). Teaching doctors, and in turn, patients, to approach food source education and nutrition is one step toward preventive medicine and healing.

How It Works

Food Matters is a University of Minnesota course that teaches agriculture and nutrition concepts and facilitates connections between producers and health providers. The half-semester course was first piloted in 2015 with 20 medical students and has since been expanded to multiple sessions per semester. Students in health-related professional programs may choose to complete the course as an elective. The course is taught off-campus, in the CSA warehouse and teaching kitchen of The Good Acre, a Twin Cities-based food hub. This facility includes a commercial kitchen, classroom space, greenhouses, and a large refrigerated warehouse.

The course is divided into six educational units, including: lifestyle's role in health & healthcare, impact of diet on obesity/chronic diseases, acute vs chronic illness paradigm of healthcare, macro nutrients (carb/fat/protein), food and diabetes/metabolic syndrome, fructose/glucose metabolism, and the gut microbiome. Units emphasize self-care and lifestyle choices which may

impact one's role as a healthcare provider. Additionally, each unit involves a farm-fresh menu prepared by students in the course.

A typical 3-hour class session begins with discussion of the week's readings and assignments, before the weekly health topic and menu is introduced. This portion of class occurs in a traditional classroom space. Students then move into the teaching kitchen space, where they observe a cooking demonstration and prepare the weekly menu at assigned cooking stations. Time allotted for weekly cooking and lesson schedule depends on menu items and cooking times needed.

Results/Implications

Analysis of student narratives collected at the conclusion of each course reveals promising outcomes for the course. Outcomes include: increased familiarity with food production practices, possess a framework through which to convey food-related information to patients, bolstered student wellness and resilience, emphasizing a lifestyle of wellness, food as an essential contributor to health and disease and an instrumental component of the patient encounter. In addition, there were some less anticipated outcomes that resulted from the course, including an appreciation for mindfulness, awareness of the value of self-care, and improved well-being. The experiential nature of the course helped to "level the playing field" among students and they were able to connect with one another and the content through food, which was relevant and applicable to all (Breen et al, 2016).

Future Plans

Future plans include further adapting course curriculum and format for multiple audiences, including health practitioners in clinical and hospital settings, care teams in long term care facilities, residency curriculums in Internal Medicine & Family Medicine at University of Minnesota, University of Minnesota Extension food and nutrition educators, and community programs - particularly those affiliated with hunger and food access focus (Breen et al, 2016). With increased exposure throughout local, regional, and national university and medical communities, the course could serve as a model to others who aim to offer something similar.

Costs/Resources/Advice to Others

To successfully implement a course like this, finding an appropriate facility is key. The Good Acre offered a large classroom space and large commercial kitchen space. It was helpful to have it located in close proximity to campus. Facility rental and menu costs were estimated at approximately $200 per week for each 20 student class. Costs have been offset by grants, tuition, and a course materials fee ($150 per student). Instructor costs were approximately $3,000 per course. Additionally, the instructor(s) must have extensive knowledge of agriculture, food production, nutrition, and medicine. Teaching assistants are valuable assets to provide teaching kitchen support, complete grocery shopping, and assist with setup and cleanup. Menus must be designed to meet course objectives and use seasonal produce, while being mindful of cultural sensitivity and student diet restrictions.

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