

# KNOWLEDGE, PERCEPTIONS AND CRITICAL THINKING SKILLS IN A FOOD SCIENCE, INNOVATION AND NUTRITION COURSE WITH UNDERGRADUATE ENGINEERING STUDENTS

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## Background

- Create a sustainable food science educational training program to offer unique opportunities for undergraduate engineering students to participate in interdisciplinary instructional and research activities in nutrition, food science and technology. These results of this study are part of one component of the program.

## Methods

- The online course was developed and taught by two Registered Dietitian Nutritionists and a graduate student.
- Eight students met for a total of 12 hours via Zoom engaged in nutrition content from Introductory Course, Food Science and Food Innovation materials. The course included a sensory/taste component.
- Students received food “kits” (spices, herbs, grains, sweeteners, seaweed, tea, coffee) for hedonic sensory analysis on a weekly basis to introduce the nutritional elements that guide food product development.
- A survey was administered through Qualtrics™ at the end of the 8-week course to assess perceived knowledge and perceptions of critical thinking skills.

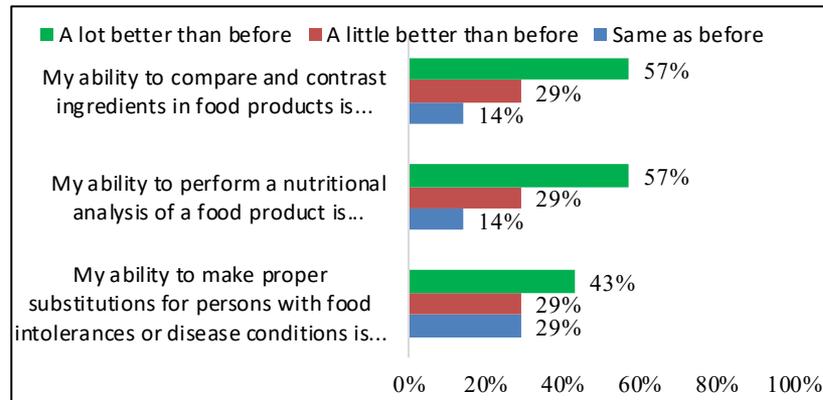


Figure 1. Perceived Improvement by Students about Various Abilities

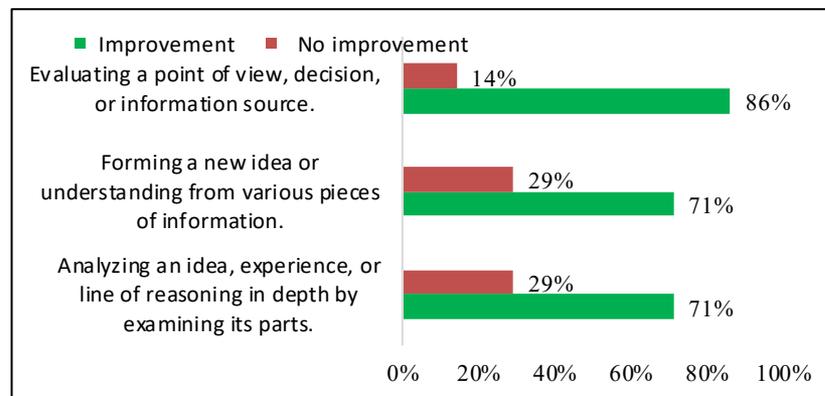


Figure 2. Perceived Improvement by Students about Their Critical Thinking Skills

## Outcomes

- 87.5% of students completed the survey.
- Using a Likert Scale, students reflected on their perceived abilities (See Fig. 1).
- All of students reported Low to Average knowledge about the 2020–2025 Dietary Guidelines for Americans<sup>1</sup> before the course and 72% reported average to high perceived knowledge after the course.

## Discussion

- Student’s perceived abilities in nutrition analysis and ingredient comparison and substitutions improved in all 3 areas (See Fig. 1).
- A majority of the students indicated they could better evaluate a source of information after the course (See Fig 2).
- More than half (57% of students) indicated the course improved their communication skills.

## Acknowledgements

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## Reference

1. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025.