

Graduate Student Develops Online Food Systems Curriculum

Project Titles: Graduate Student Develops Online Food Systems Curriculum

Coordinators: Mingla Charoenmuang

Location: Indiana

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To read the full project reports, go to <https://projects.sare.org/> and search for project number GNC18-256.

A food system includes everything involved from producing food on the farm to disposal of food and food-related items. Everyone who eats is involved in the food system, and understanding food systems is important for understanding human health, social equity, and the environment.

When Mingla Charoenmuang was a Ph.D. student in the Department of Agricultural Sciences Education and Communication at Purdue University, she explored sustainable food systems and food security topics. From her time spent as an assistant field instructor in Northern Thailand, teaching outdoor education, and working on organic farms in Indiana and Vermont, to serving as the Community Food Systems Coordinator for the AmeriCorps VISTA program at Vermont Technical College, her past experiences have contributed to her curiosity about sustainable food systems.

“Agriculture has not been a mandatory subject in most schools in the United States for many decades,” explained Charoenmuang. “There are many schools in Indiana that do not have an agriculture teacher. Also, there are a limited number of resources regarding sustainability topics



Mingla Charoenmuang. Photo courtesy of Purdue University.

available at the high school level.”

With support from an NCR-SARE Graduate Student grant, Charoenmuang mobilized a network of high school students, farmers, and agricultural professionals to conduct a qualitative case study, which explored how the instructional design of this learning experience helped students learn about, engage in, and practice systems thinking in the context of sustainable food systems. Next, guided by her advisor, Charoenmuang identified existing resources, and developed an online curriculum called Food Systems Thinker. Fifteen

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high school students tested the curriculum and provided feedback.

The Food Systems Thinker website allows students to holistically view sustainable agriculture and practice systems thinking. Learners navigate through 10 self-directed online lessons where instructional content includes readings, slideshows, audio files, and videos featuring local farmers. After each lesson, learners take time to respond to thoughtprovoking questions and reflect. Learners also participate in experiential learning activities for deeper understanding of sustainable food systems.

Three students who participated in Charoenmuang's test launch of the website told Charoenmuang that they would like to start a farm or garden and use some of the techniques and concepts that they learned from the experience. Other students reported that they had been reducing their food and packaging waste.

"I really enjoyed this," said a student who worked through the curriculum. "I've never been made to think about something. I've always just learned it, memorized it, and then moved on. I've never actually had to do something about it or see what we were learning about. And [this program] makes you think a lot more, and I really liked it."

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