

Project Outcomes of Food Systems Thinker Educational Experience

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Learning Outcomes

- 1. Learners increased knowledge about sustainability and systems thinking.
- 2. Learners had a greater understanding of the importance to support sustainable agriculture.
- 3. Learners were aware of the consequences their food choices have on the environment, economy, and community.

Action Outcomes

- 1. This project mobilized a network of high school students, farmers, and agricultural professionals.
- 2. Farmers were recognized for their work and shared their stories as educators.
- 3. The developed resources have been publicly available to foster the appreciation for sustainable agriculture and help learners make informed food choices.
- 4. Learners gained insights in sustainable practices and connected to farmers at the local level to strengthen the local community.
- 5. Learners were supported to develop life-long learning regarding sustainable food systems, apply sustainability concepts in everyday decisions, and change behaviors to be pro-environmental.

Modules	Descriptions
1	 Components & relationships in food systems 6 levels of food systems (individual to global) Interactions with other systems (health, eco-, political, economic, cultural, climate systems)
2	 Key players: roles & various perspectives Influencing forces in food systems Inputs, outputs, stock, and flow in a system
3	 Food waste: problems & solutions Climate change & biodiversity
4	 Supporting a sustainable food system as a consumer & citizen Working with the local community to address food insecurity

CURRICULUM OUTLINE

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FOOD SYSTEMS THINKER EXPERIENCE Categories **Descriptions** Guest - Mary Lutz, urban farmer of - Gary Cox, diversified organi Speakers - Dr. Ken Foster, agricultural - John Sherck, organic grain Sharrona Moore, community - Dr. Steve Hallett, horticultur - Interacting with guest speak Experiential - Volunteering at the local foo Learning Engaging in hands-on activity Activities - Visiting a university student - Using reusable tableware d - Reflecting on the learning ex Systems - relationships - variable Thinking - inputs - boundary - stock 8 Concepts - dynamics - leveraç - perspectives Before moving forward with this lesson, download and review the worksheet. ର୍ 🛧 🔣 M 🔼 🥥 struction: For the worksheet, choose ONE of these food items. Click on your hosen item to learn about its journey in a food system Brear feed Box of raisins Bag of popcorn practice systems thinking by highlighting the relationship ind interactions in a food system. Examples are provided in the bottom section Activity 1: Study the diagram about inputs and outputs in a food system. system as a citizen. Food Systems Thinker Worksheet INPUTS are resources and materials entering a system. Lesson 1.3 Levels of Food Systems OUTPUTS come out of the system in the forms of: Activity 1: Resilience and the Levels of Food Systems with Mary Lut by-products: unintended result from producing something else. 1. Where would you get food from if all the stores in the area were closed pollutants: gases, smokes, chemicals that make the environment dirty or adversely affect the usefulness of a resource. 2. Name two things that can disrupt food from traveling to your grocery stores wastes: unwanted or unusable materials. Download PDF file here 🥕 3. What are the sizes of your three balloons (add up to 100%)? Draw in the space Supply chain staa Outputs Agricultural growing/ Economic ____/100% Environmental ____/100% Social ____/100% transport Breeding/Selection 4. What were three things Mary suggested you could do to prevent your rubber band of food resilience from breaking? to get empty again Output flow Activity 2: Six Levels of Food System eenhouse gases Match the words in the left-hand column with the appropriate phrase in the right-hand column. absorptions 囲 ″greenhouse ga Food shopping emissions' Food Systems Thinker Curriculum https://tinyurl.com/40a8kozp æ (adapted from Astudillo, et al., 2014)

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Greater Lafa ic farmer economics p farmer and s y garden fou re professor a	yette area rofessor and beekeeper eed saver nder and manager and organic farmer
kers to learn od pantry/foo ities at a dive farm luring lunch experiences u	real-world local examples d bank ersified organic farm Ising Scaffolding Worksheets
es & outputs & flow ge point	 delay feedback time horizon interactions



Success Stories

"...I learn more about food systems through the field trips and the lessons and that the food system has a big impact on the environment more than what I thought it had.... I think the field trips were very fun and educational. I really liked going out to the farm and everything. And I also liked going to the food pantry, getting in some volunteer hours, and seeing what they do at the food pantry and what they do for the homeless people. I think the online lessons helped a lot. It put a lot of background information into the field trips."

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

"I really enjoy the field trips to see the farmers. I liked actually being able to get out and see what they are doing and the idea of how they operate a farm without using chemicals and without using traditional large-scale methods. That was interesting." And "If you choose to grow different apples, it can benefit the environment in different ways and it can be more resistant to different diseases. That was very interesting to learn about. That was my favorite episode."

Students' Perceptions Toward the Program (N=12)

Items	% of agreement	
I can use what I learn in this learning experience.		
I have a greater understanding of how my food choices are related to the food systems as a whole.		
I'd recommend this learning experience.		
Interacting with guest speakers was valuable to me.		
Visiting the diversified organic farm was valuable to me.		
This experience effectively challenged me to think.		
I liked learning from examples in Indiana.		
Volunteering at the food pantry was valuable to me.		
I developed the ability to think in systems thinking way.		
Online lessons provided an effective learning experience.	75	
Worksheets effectively helped me learn the online lessons.		
This learning experience gave me skills and techniques directly applicable to my future career.		



STUDENTS' PERCEPTIONS

(Student 1, female, grade 11)

(Student 2, female, grade 11)

(Student 3, male, grade 10)

Systems Thinker