Process Evaluation of a Sustainable Food Systems Course for First Year College Students

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Abstract
Objective: To describe process evaluation findings for a pilot sustainable food systems course.

Use of Theory or Research: The Value-Belief-Norm Theory, a pro-environmental behavior theory used to describe socially responsible behavior, was used. Process evaluation ensured theory-based learning outcomes were properly implemented and participants were reached.

Target Audience: Twelve first-year college students (67% female) enrolled at a large southeastern US university. Most (87%) identified as non-Hispanic White.

Course/Curriculum Description: The curriculum was used for a pilot 12-week, one-credit-hour exploratory course which included guest speakers from various food system sectors, case studies, documentary viewings, a cooking demonstration, class assignments, and reflective writing. Course completion was assessed via situational factors.

Evaluation Methods: Dose delivered was evaluated by curriculum implementation and instructor effectiveness. Student engagement and feedback were used to assess the extent of which the curriculum was received by students. Dose delivered was high with 92.86% of the implementation checklist met. Dose received was adequate with a grade of 70% or higher to receive credit.

Results: Dose delivered was high with 92.86% of the implementation checklist met. Dose received was adequate with a score of 3.80±.63 out of 5 for engagement. Reach was high with a mean class attendance of 11.20±.27 students. Fidelity was considered high with 100% completion reported for the curriculum checklist. The curriculum model was designed to be flexible to accommodate scheduling issues. The course alignment with the curriculum model and was implemented as intended.

Main Findings
Students participants (n = 12) were 67% female with a mean age of 18.07±.27. The class average was 90.66±.25.

The curriculum was adequately delivered.
- 92.86% of lesson checklist completed
- Modifications in schedules and content did not impact overall delivery
- Instructor effectiveness: 4.60±.70 (of 5)

Students learned a lot and were satisfied despite occasionally observed tired and uninterested body language.
- Learning perception scored 4.13±.28 (of 5)
- Engagement scored 3.80±.63 (of 5)
- Students looked uninterested at times
- Students were hesitant to some discussion
- Likability: 3.97±.33 (of 5)

Student attendance was high.
- Students attendance averaged 93.33% of classes
- A mean of 11.20±.68 students attended each class

Evaluation Methods
- Evaluators: Student researcher, student participants, and the lead researcher/instructor.
- Quantitative data and analysis: Lesson checklists, lesson evaluation forms, lesson feedback, course feedback, assignment rubrics, student attendance, and demographics. Data was summarized using mean and standard deviation or mean percent.
- Qualitative data and analysis: Curriculum observation form, lesson feedback, reflections, out-of-class assignments, and field notes. Data were coded and summative content analysis was used.7

Background
Process evaluation can assess the implementation of a curriculum for development and add validity to outcome data.1-3 Process evaluation methods include:
- Dose delivered to assess if curriculum delivery was adequate,3
- Dose received (exposure) to assess the extent to which the curriculum was received by students,3
- Dose received (satisfaction) to assess student likability of curriculum delivery,3
- Reach to evaluate student participation and exposure to the lessons;3
- Fidelity to evaluate course delivery alignment with curriculum model2 and
- Context which provides factors that impact curriculum implementation.1

Objective
- To describe the process evaluation findings of a first-year exploratory college course using a developed food systems curriculum.

Curriculum
Curriculum Model: Model of Integrated Course Design,4 food systems pedagogy,5 and the Value-Belief-Norm Theory6

Curriculum Activities: Reflections, group work, guest speakers, experiential learning

Outcome: Healthful dietary quality

Reach
Students attendance was high.
- Students attendance averaged 93.33% of classes
- A mean of 11.20±.68 students attended each class

Situational factors may have impacted some curriculum delivery.
- Class was taught in evenings
- Schedule changes prevented curriculum to be delivered in order
- Long guest presentations or technology issues delayed or prevented activities in some classes

Conclusion
- Findings support the food system curriculum was well implemented in the course
- Future studies are needed to test the curriculum in a large-scale setting to determine the impact of the course on healthful and environmentally sustainable student dietary behavior

References:

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