

A Novel Inverted Classroom Concept for Planetary Health Diet Cooking Classes in a University Setting

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Background

- Current eating habits in Germany are not sustainable and harm the climate as well as individual health^{1,2,3}.
- With the Planetary Health Diet (PHD) the EAT-Lancet Commission has made a concrete recommendation for a diet that promotes human health and preserves natural resources³.
- Due to their role as potential future experts and leaders, university students are an important target group when aiming at a social transformation to healthier and more sustainable diets⁴.

Objectives

- The aim of this study is to design and evaluate an inverted classroom concept for PHD cooking classes to improve eating and cooking behavior in university students⁵ and increase their counseling competencies toward sustainable and healthy nutrition to contribute to a social transformation toward healthier and more sustainable diets as well as food systems.

Methods



The intervention of this controlled intervention trial will consist of seven three-hour classes based on Social Cognitive Therapy⁶, offered as an elective to students of all degree programs at the University of Göttingen. The control group will consist of students that have not participated in the course.



At the beginning of each session, student presentations will provide basic information about different topics in the context of the design and implementation of a more sustainable diet in everyday life, meeting the requirements of an inverted classroom concept, in which essential learning content is developed by the students themselves.



In the following cooking class conducted in a teaching kitchen with a concluding joint meal, the students prepare, consume, and discuss sustainable, healthy, and tasty dishes that even fit a limited budget and restricted timetable.



In order to measure the effect of the course, each participant completes an online questionnaire at baseline, postintervention and 6-month follow-up.

Course Outline

Session 1	National dietary guidelines
	Characteristics of the Mediterranean and vegetarian diet
Session 2	Definition, dimensions, and goals of sustainable nutrition
	The Planetary Health Diet (PHD)
Session 3	The climate impact of food (GHG)
	Less is more – meat consumption from a sustainability perspective
Session 4	Sustainably nurtured – animal-based vs. plant-based foods
	Practicable in the long term? Different diets and their effects on health and the environment
Session 5	The vegan diet
	Bio, Fairtrade & Co. – Seals and labels and what they imply
Session 6	Are organic foods always the better choice?
	Global food security – (How) Can we feed 10 billion people?
Session 7	Food waste – Extent and prevention strategies
	Sustainable nutrition with restricted time and budget

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Expected Outcomes

- The intervention addresses constructs of the SCT as shown in the table below.
- It is expected that, compared to the control group, the intervention group will show increased cooking skills, stronger adherence of their own diet with national dietary guidelines, and more sustainable eating habits at postintervention and follow-up.
- Furthermore, it is assumed that the intervention group will reach significantly higher scoring on measures of counseling competencies toward sustainable and healthy nutrition.

Theoretical construct (SCT ⁶)		Course consideration
Outcome expectation		Providing information about the sustainability-related consequences of human food consumption
Self-efficacy		Hands-on cooking classes, weekly preparation of healthy and sustainable dishes; usage and variation of the students' own recipes
Observational learning		Cooking experience is supported by instructors and fellow students, who are confronted with the same challenges
Facilitation		Addressing typical factors that students perceive as barriers to adopting a more sustainable diet

Conclusion

- The study may provide important results about the potential of a university-based elective with integrated teaching kitchen training aiming to contribute to a social transformation toward healthier and more sustainable diets.

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