

Executive summary

The World Health Organization (WHO) emphasizes that proper nutrition is a key factor in promoting individual well-being and a key protective factor from the development of chronic noncommunicable diseases, including diabetes, cardiovascular disease, and cancer, which are a public health priority and a shared global challenge¹. In particular, the presence of overweight and obesity in youth can lead to harmful consequences for physical and psychological well-being in both the short and long term. At the same time, it is well established that unhealthy diets are also more damaging to the environment.

To address these issues, the Tuscany Living Lab of the North-West Tuscany Local Health Authority, as part of the European FEAST project (feast2030.eu), implemented an intervention co-created with middle and high school students to make eating habits healthier and more environmentally conscious. The longitudinal observational study involved about 100 students from *Piana di Lucca* and *Valle del Serchio District Zones* (Tuscany Region, Italy) who responded to a baseline questionnaire in order to explore the students' eating habits, food literacy level and positive or negative factors influencing their eating behaviors. The results informed a co-creation process, engaging students in defining the objectives and topics to address to support them to eat healthier and more sustainable diets. The intervention, supported by a nutritionist and a psychologist, consisted of seven theoretical and practical thematic modules, where information and strategies for gradual and sustainable behavioral changes were proposed. Ten months later, a follow-up questionnaire was administered to determine whether there were any changes to dietary habits.

The pre–post intervention analyses show a significant improvement in adherence to the Mediterranean Diet (+30%; p -value = 0.004) and in the understanding of its importance. Moreover, significant improvements (p -value < 0.0001) were observed in the consumption of fruit, vegetables, legumes, and breakfast. Similarly, a significant overall improvement in food literacy was recorded (+40%; p -value = 0.0147).

To explore the entire project, consult the pre–post questionnaires used and review the results in greater detail, please send an email to ferravantechiara@gmail.com.

To support the rollout, and further adaptation, of this intervention, TNO has prepared a suite of resources. The “Teachers’ Kit” is designed for teachers and contains the slides and

¹ World Health Organization (WHO, 2019). Essential nutrition actions: mainstreaming nutrition through the life-course. Geneva: World Health Organization

activities included in the thematic modules with students. Moreover, the presentation of the modules has been facilitated by the addition of a specific booklet in which a description of the principal concepts presented in the slides is provided.

Objectives and Structure of the "Teachers' Kit"

The kit was created to facilitate the replication and dissemination of resources developed in middle and high schools. It consists of three resources:

1. Slide package for each thematic module:

This resource contains all the slides used in the intervention. All slides were translated and adapted from Italian to English, this means that some changes have also been made where the graphics in the Italian version were not also available in English.

2. Activity Package:

This resource brings together the additional activities beyond those already included in the thematic module slides. The booklet shows the association between each activity and its corresponding module.

3. Booklet:

The booklets are designed to support teachers in using the slides and performing the activities. Specifically, they contain a concise description of the slide's objective, the key points and a few pieces of advice on the activities. There is also blank text space for taking notes. Since the booklets are not designed to be textbooks, it is recommended that teachers elaborate on and adapt the topics beforehand.

Each module is designed to be completed in one 60-minute school lesson. However, the number of slides can be divided into different lessons depending on the students' needs. For example, if it is not possible to cover all the module topics in one lesson, the unfinished topics can be moved to the next lesson, or specific homework assignments can be given and discussed the next time. In our implementation, the modules were carried out at varying intervals, approximately every two to three weeks. However, to promote consistency and continuity of lessons, it is recommended to have a structured schedule with at least one lesson every two weeks. We believe that the lessons can be included in science or nutrition education classes, if the school curriculum allows for it. Teachers with scientific and/or nutritional backgrounds or knowledge may be better suited to teach the lessons. The Kit is not intended to be a comprehensive theoretical manual for teachers, but rather a useful tool to help convey specific theoretical and practical concepts.

The topics addressed are listed below:

<i>1st Module: "The nutrients that compose our food"</i>
--

Topics:

- *The macro and micro nutrients: what are they and what are they for?*
- *The five food groups*

In order to promote a proper diet, it is important to consolidate the foundation on which healthier, more sustainable and more conscious eating habits can be built. For this reason, our nutrition course begins by explaining the functions of food, the elements that make up food (i.e., macro- and micronutrients), and the classification of food into five food groups.

2nd Module: "Quality, variety and quantity: the three musketeers of the Mediterranean Diet. Part 1"

Topics:

- *Principles of the Mediterranean diet pyramid*
- *The importance of the five meals in daily life*

To promote healthy nutrition, it is important to consolidate the foundation on which healthier, more sustainable and more conscious eating habits can be built. For this reason, our journey into nutrition continues with a brief presentation on the history of the Mediterranean Diet, the introduction of the food pyramid and the pillars of good nutrition, namely "quality, variety and quantity".

3rd Module: "Quality, variety and quantity: the three musketeers of the Mediterranean Diet. Part 2"

Topics:

- *Healthy eating in daily life: where to start?*
- *The effects of our food choices on daily life*

In alignment with the previous module, this module has the following objectives: to emphasize again the importance and functionality of the five meals; to share solutions to the most common mistakes present during the food day; and to provide useful strategies for creating healthier, more sustainable and more balanced meals.

4th Module: "Taste, Flavor and Sustainability"

Topics:

- *What does a sustainable diet mean?*
- *Organic vs. Conventional agriculture*

A proper and healthy diet is not only of benefit to the individual but also to the planet. This module will cover topics related to sustainability as well as organic and conventional farming.

5th Module: "Taste, Flavor and Sustainability: it's the turn of fruit and vegetables"

Topics:

- *Benefits in consuming seasonal fruit and vegetables*
- *How many places for fruit in your food day!*
- *Taste and vegetables: a good match*

To promote fruit and vegetable intake, this module highlights the benefits of seasonal fruit and vegetable consumption and shares some strategies to facilitate consumption throughout the day.

6th Module: "Food and Sustainability: legumes and the protein transition"

Topics:

- *The world of legumes: an interesting discovery!*
- *Practical examples of how to increase legume consumption in daily life*

In this module, presented by an expert from Slow Food Lucca, the importance of the protein transition process is outlined, along with the benefits that legumes provide for both human health and the environment.

7th Module: "In the jungle of food labels"**Topics:**

- Packaging and food labels
- Tips for making informed choices

This final module addresses issues related to food marketing so as to encourage healthier, more sustainable and more informed choices. In particular, useful information and strategies for reading and understanding food labels and claims on products are shared.

Authors:

Francesca Milani, biologist specialized in Nutrition Science - North West Local Health Authority-Piana di Lucca District Zone

Chiara Ferravante, psychologist - North West Local Health Authority-Piana di Lucca District Zone

Marco del Pistoia, Agricultural scientist - Slow Food Lucca, Compitese and Orti Lucchesi (module no.6)

Graphics:

Canva Pro

Metadieta Software version 4.7.1

SEND US YOUR FEEDBACK >> [HERE](#)

To improve our resources, we'd appreciate your feedback and suggestions. Thank you!
It only takes a few minutes



FEAST is co-funded by the European Union's Horizon Europe research and innovation programme under grant agreement number 101060536. Views and opinions expressed are those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.
UK participant in FEAST (Good Food Oxfordshire) is supported by Innovate UK grant number 10041509 and the Swiss participant in FEAST (FiBL) is supported by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 22.00156.