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## **Researching and shaping local sustainable food systems–development of a learning module**

This article presents a learning module that was developed within the framework of an international Erasmus+ project and in cooperation with 20 prospective teachers. The learning module enables learners of school-based vocational education to intensively deal with the food system(s) of their region. The comprehensive learning materials and lesson plans are made freely available.

**Keywords:** locality, food system, food and consumer education, nutritional practices, green pedagogy

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### **1 Introduction**

The current global food system and its processes along the food supply chain are major contributors to climate change (EU, 2014). The environmental degradation, social hardship and economic changes should actually make people rethink their everyday behaviours (IPCC, 2012). The current state of the food system shows that in the areas of food security and productivity, the sustainability goals are being met, but in the areas of the environment, animal welfare and health, key sustainability goals are barely being met, if at all. Accordingly, the current food system is not yet considered sustainable in the overall view (Umweltbundesamt, 2019a). The reimplementation of local cycles is currently being intensively discussed as a solution (EC, 2017; StMUV, 2019).

The learning module "A look beyond the horizon: Our region – our food – our future" enables learners to engage in a differentiated and structured way with the region they live in and its food system(s). The aim is to get to know and analyse the food system of the region and then to participate in a transformation towards a sustainable, regional food system. To perceive oneself as part of the system and to learn to know as well as reflect on one's personal scope for action and design, are central didactic concerns in this context.

### **2 Methodology and genesis of the learning module**

The basic idea for the learning module was developed within the framework of the Erasmus+ project "Teaching Local Sustainable Food Systems" together with an in-

ternational team from five EU countries. The project aims to professionally support teachers in teaching local, sustainable food systems and to provide them with a scientific basis on the topic as well as ideas for the didactic implementation and learning materials. At the beginning of the project, following questions were addressed: What are local sustainable food systems (LSFS) from the point of view of the project partner countries and what best-practice-examples are there? International field trips were made, and indicators for LSFS were defined. Based on a common understanding of local sustainable food systems, ideas for didactic implementation in schools were generated. In cooperation, three learning modules with different time frames were developed and the main topics, structure and format were defined. The learning module presented in this article "*A look beyond the horizon: Our Food – Our Region – Our Future*" is the most comprehensive of the three learning modules, which was concretised at the national level in terms of subject and content. Under the supervision of the authors of this article, 20 prospective teachers from the Master's programme of the University College of Agricultural and Environmental Pedagogy have developed detailed lesson plans and teaching materials in German and English. The learning materials were then nationally and internationally tested and evaluated at schools. The results were considered in the improvement of the lesson plans. The interdisciplinary character of this learning module is due to the large number of actors from different disciplines, organisations and universities involved.

Interdisciplinarity is defined by the cooperation of different disciplines, as well as their approaches, ways of thinking and methods, in order to work out solutions to problems for jointly determined objectives (Defila & Di Gulio, 1998, p. 117).

Not only the development of this learning module can be described as interdisciplinary, but also the application or implementation in the school context must be interdisciplinary. It will not be possible for one teacher alone to implement the learning module in his/her school. The learning module is suitable, for example, for implementation in the context of project weeks or in the context of modular or learning field-oriented teaching.

The developed teaching and learning materials will be made available to teachers as open-source materials and the implementation will be accompanied within the framework of further training seminars.

### **3 Theoretical background of the learning module**

In addition to the subject-specific content, which is the focus of the learning module, the focus was primarily placed on the didactic foundation and subject-specific didactic implementation.

Figure 1 provides an overview of these subject contents and didactic perspectives, which are described in more detail below.