



# SKILLED: Key Competences for Building Sustainability Knowledge Through Food



# 101



## SUMMARY

Report on the state of the art of food & environmental sustainability and areas of improvement



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# INTRODUCTION

The food system is a good example of global connections. Healthy and sustainable food production and consumption pave the way to reach all the 17 Sustainable Development Goals (SDGs) of the United Nations. Sharing citizenship values, attitudes and behaviours supporting sustainable development in the food system is part of the solution for a better world and educating the younger to be global citizens through food a priority.

In Europe, since the beginning of the new millennium, the discussion about the role of education in the field of food and nutrition has attracted a lot of attention. In particular, with the rising number of overweight and obese children around the world<sup>1</sup>, several actions have been taken. For example, the WHO included nutrition education in their European Core Curriculum (WHO, 2000). According to research conducted in relation to the compulsory nutrition education indicator in the Food Sustainability Index (BCFN, 2021), **nutrition education is compulsory in more than half of the national European curriculum for primary and/or secondary schools.**

Most the healthy eating guidelines have been updated after 2015, but **only few refer specifically to environmental sustainability** (e.g., Germany and Sweden). However, although it is not mandatory, the number of education modules dedicated to food sustainability, available at all levels in the schools, is growing among the EU Countries.

In this context teachers seem to play a pivotal role. Grey literature (e.g., MIUR & FEI, 2018) showed that education for sustainability through food is still based on individual teachers' initiative and methods. Hence, didactic uniformity is lacking.

Since sustainable food initiatives are gaining attraction and importance, the time is right to introduce them in the system, with a more systematic and comprehensive approach, based on skills and contents, that can be replicable and widespread. With is in mind, the SKILLED 4 Food project has been launched. In particular, teachers and learners will benefit from:



- Professional updating, designed on a specific matrix of learning outcomes, aimed at promoting teachers' acquisition of knowledge on the topics related to sustainability through food, including the development of specific teaching skills and competences, together with innovative methodologies, in line with the principles of the "Triple O" (i.e., Open Science, Open Education, Open to the World).
- Promotion of transversal knowledge and skills that are essential for the formation of their role as European citizens, aware of issues related to sustainability through food.

1. Over 340 million children and adolescents aged 5-19 were overweight or obese in 2016. The prevalence of overweight and obesity among children and adolescents aged 5-19 has risen dramatically from just 4% in 1975 to just over 18% in 2016. The rise has occurred similarly among both boys and girls: in 2016 18% of girls and 19% of boys were overweight (WHO, 2019).

# 101 – Aims and methods

In general, in order to increase the efficiency and effectiveness of education to sustainability through food, Skilled 4 Food intends to provide tools and methods capable of systematically training an increasing number of school staff. That aims at ensuring constant quality standards over time, capable of significantly affecting the students' full awareness of the advantages of a healthy and sustainable diet, for their health and that of our planet.

The first phase of the project is an activity of investigation and analysis of needs through two integrated modes of action:

- **Desk analysis** on partner Countries' national policies on education for sustainability through food in every order and grade of school, as well as on Best Practices in Europe related to sustainable education through food in school;
- **Field research**, carried out with two types of questionnaires, administrated by partner schools, aimed at identifying and evaluating the needs of the main stakeholders directly within the school system in relation to the knowledge of the project themes.



The output and outcomes will be helpful for the elaboration of the content of other project outputs, ensuring that target group needs are met. However, it must be said the **data collected** provide a contextualized understanding of the sample of schools analysed and generalizability is not possible. Hence, **in this context, names of the Countries are used as an abbreviation (or contraction) for "students/teachers from Country's name", saving space and improving the understanding of the text.**





# 101 - Desk Analysis

## BEST PRACTICES AND POLICIES IN THE FIELD OF EDUCATION TO SUSTAINABILITY THROUGH FOOD

In order to have a better picture of how nutrition and food sustainability are taught at school, this section presents the results of a qualitative analysis of national policies and actual/best practices currently applied in EU and partner Countries (i.e., Bulgaria, Greece, Italy, Latvia and Spain). All partner schools took part to the collection of these materials (October - December 2020) filling the forms that had been prepared by the coordinators, to make sure that the data collected could be uniformly read.

School teachers were asked to report on national and local policies on education to food sustainability and nutrition and provide examples of their application according to their experience. Examples from real life applications help understanding how issues related to the promotion of EU citizenship and sustainable development awareness, food consumption and food waste, healthy/sustainable diets and sustainable food production are actually addressed.



In general, data mining was hampered by the lack of easily accessible official information and the absence of repositories for best practices and examples of their applications. Although the response was not uniform in terms of the quantity of examples provided, common trends emerged across the partner Countries.

First of all, in agreement with EU recommendations, all national guidelines collected highlight the importance of fighting overweight and obesity since early childhood. For this reason, all partner Countries agree on the importance of food education and recognize canteens as a strategic place to provide healthy food (for example, fighting junk food and sugary drinks). Particular attention is also given to quality food and organic products, whatever possible. However, canteens are not meant to be an educational space where health and sustainability issues could be dealt with through practical examples.

In general, focus is mostly on nutrition and sustainability, if mentioned, is paid much less attention. According to our data, it seems that a sustainable diet, based on a Planet's and the individual's health approach, is far from being routine. Moreover, food education seems to be a priority for primary schools only. Not surprisingly, canteens and similar facilities are rare in secondary schools.



From the data collected, clear guidelines to teach food education are generally missing and most of the burden is left to the initiative of teachers/schools. That may be supported by municipalities, communities and/or private sector representatives. The importance of the role of individual initiatives is reflected by the diversity of the examples and best practices collected throughout this study. From them it emerges that the activities carried out are mainly focused on the development of healthy and sustainable diets, with little attention to the issues related to European values and sustainability awareness.

This analysis shows an interest in issues related to sustainable development but, at the same time, not all the facets of sustainability through food are included, and a trans-disciplinary approach to these issues is rarely adopted. In this perspective, the SKILLED project can help in filling this gap, by providing professional updates and supporting materials with the aim of fostering the development of educational skills and competences.

Last but not least, a common weak point, in our opinion, is the lack of activities focused on European citizenship values and on environmental and societal sustainability. There is a need for a more holistic and systematic approach to see healthy food not as an aim but rather as an educational tool to promote a general understanding and awareness of what sustainable development is about.



# 101 - Field research

## ADMINISTRATION OF QUESTIONNAIRES TO STUDENTS AND TEACHERS REGARDING FOOD ISSUES AND SUSTAINABLE DEVELOPMENT

In order to ascertain the level of awareness and understanding on issues connected with Sustainable Development (SD) and food sustainability, as well as to verify whether schools are an appropriate environment to move forward in raising awareness on sustainable development through food sustainability, this section presents the results of a quantitative analysis.

School teachers were asked to administrate two types of questionnaires (February - April 2021): one to their students and one to their colleagues. Despite the enthusiasm of partners, data collection was hampered by COVID situation and schools performed differently in data collection, although everyone achieved the minimum quote requested.

## RESULTS OF STUDENT QUESTIONNAIRES

**869 questionnaires** have been collected in school partners, with a good gender balance.

**The first area of the questionnaire** investigated the level of knowledge regarding the environment and SD. In general, collected data show some differences among schools that took part in the survey. Students answers from Italy and Spain show more knowledge about the topics, followed by students from Greece and Latvia. On average, instead, Bulgarian students seem to be less familiar with the topic<sup>2</sup>. In general, SD seems much more linked to environmental issues rather than social dimensions.

2. It must be noted that Bulgaria, Greek and Latvia have a smaller sample.



With some differences in terms of percentages among Countries, students think sectors that have a major impact on SD are education and health, followed by the energy sector and food industry. Interestingly, daily consumption, pharmaceutical industry, transport, and agriculture are not considered important for SD. Regarding the impact on climate change, students agree on the negative impact of plastics, but they do not have a clear position on the role of meat consumption and the use of sprays. Both have been the subject of information campaigns and some messages may have passed but they couldn't be as strong/recent as plastics ban.

However, regarding meat consumption, most of the students is omnivorous but, in every Country, there is a percentage (around 20/30% depending on the Countries) who considers her/himself as flexitarian or vegetarian. That is an interesting sign of changing. Finally, they rank lower internet, traditional foods, fruit and vegetable, and light packaging.

These results are slightly in contrast with **the area that investigated issues related to responsibility**. Italian, Latvian and Spanish students strongly believe individual actions matter on SD (a little bit less Greeks and far more less Bulgarians), and they have the desire to contribute to the Agenda 2030, even though daily actions ranked lower in the previous area and, when they take a shower, they mainly consider personal comfort and economic saving and not so much the environmental impact. That suggests students are interested in SD and they yearn for doing something, but they do not have a clear idea about what to do and they may underestimate the power of real daily actions. Hence, school and education can play an important role, offering specific knowledge and stimulating their sense of agency, because many things that can be adopted into a normal routine can make a big difference.

**Regarding their lifestyles**, students have quite a positive image of themselves. They leave room for improvement, but nobody consider her/himself not sustainable. However, when it comes to put theory into practice, students favor choices that have an immediate personal advantage, such as health or price, or actions with a clear benefit, such as saving food and energy, buying from sustainable sources and using public transport (also because many of them do not have a car).



Conversely, more challenging actions, such as reducing meat, volunteering, or striking, are much less desired. It is not surprising that many of them are not particularly interested in finding a job in the sustainability field. Again, school and education can help students to reflect on sustainable lifestyles and gently push them into action, for example, providing correct information, promoting voluntary work and internship in sustainable workplaces, or supporting student movements, such as Fridays for Future.





In fact, **talking about sustainability** at school seems to be important for the sample. With exception of Italy, students rarely discuss about sustainability issues and school provides, after the internet, the place for a dialogue and for information. Hence, school is considered an important information channel but considering the role on the internet, it should provide students with skills and competences to correctly search on the web.

Then, the specific **role of school** has been analyzed and some differences among schools emerged. Students from Italy and Spain seem to have done more external activities linked to environmental protection (e.g., visiting a farm, talking to experts), they would like to have dedicated lessons and they expect their civic education teacher delivering lesson about sustainability (instead of their science teacher). Finally, all the students (except those from Spain) think the most correct method for sustainability education in schools are curricular activities to be developed in class through the teacher's support and not as an occasional activity. Again, that suggests some level of interest in approaching environmental issues.

## RESULTS OF TEACHER QUESTIONNAIRES

**188 questionnaires** have been collected in partner schools.

Most of the teachers in the sample are middle aged women (average age 48,6 years old), with a long experience in the school field (more than 10 years of teaching experience). Overall, there is a good balance among STEM sciences and humanities.

**The first area of the questionnaire** investigated the level of knowledge regarding the environment and SD. Not surprisingly, teachers replied better than students, but collected data show some relevant differences among schools that took part in the survey. In general, Italian and Spanish teachers are more familiar with these topics, followed by Latvians and Greeks. Bulgarians seem to be less familiar with these topics.

They highlighted the role of education for Sustainable Development, followed by the energy sector and they seem to be more aware of the impact of small actions, since for the majority they have an average impact. Interestingly, none of them is vegetarian and only 10-20% reduced meat consumption. That suggests that the diet of student is more varied.



The **second area** of the questionnaire investigated how SD and SDGs are taught. According to teachers, both are taught at school, even though not so often. Environmental issues are very important, but they are not the only topics related to SD and SDGs. In fact, they can be implemented within several disciplines, and not only by science teachers (who, however, are still recognized as qualified people to do so; but it must be taken into account that in the sample there were many science teachers, and this data could be biased). Finally, no one thinks that teaching SD is easy and that suggest teachers could be happy to have more support and/or to develop specific skills and competences.

As expected, **teachers are more familiar with the topics** than students and, on average, they often hear about SD (or quite often), with the exception of Bulgaria. Teachers prefer traditional information channels (such as newspaper and tv) but school remains an important channel for everyone.

**The last area of the questionnaire** investigated about teaching (food) sustainability at school. First of all, teachers consider the introduction of healthy food and dedicated lessons the most suitable options to promote sustainability at school. Instead, Greece, Bulgaria and Spain think activities carried out by experts are the best solution to teach sustainability (perhaps because they have less experience on these issues, compared to their Latvian and Italian colleagues). On the other hand, Italian and Latvian teachers state that a curricular activity managed by teachers is better. Despite the method, all the teachers recognize the importance of teaching sustainability, and no one states it is an activity to do occasionally.

Teachers want to deal with sustainability for personal reasons (such as, being a better person or contribute to the Agenda 2030). No one chose it because part of their school program. Only Latvian and Bulgarian teachers (and some Greeks) want to deal with sustainability because they believe they could have some benefit for their job.



Teaching sustainability through food does not seem to produce extra value. For all the teachers, regardless the subject taught, it's an interesting topic (especially for Latvians and Italians) but it's not fundamental. It must be said that Latvians and Italians are the only ones who have already used the themes of food to talk about sustainability and the latter had a variety of ready-made material available.



As far as **competences** are concerned, there are some interesting differences among teachers. “How to do” is very important for almost everyone, especially for our Latvian school. Another competence for almost everyone (except for Spain) is “knowing”. For everyone (except for Latvia) the human dimension of skills is important, which is translated into “learning to be” (Italy, Greece, Spain and Bulgaria) and “learning to live together” (Italy, Spain and Greece).

Finally, all the teachers state that acquiring specific skills to teach sustainability through food would be useful. Italy, Greece, Latvia and Bulgaria expressed their opinion on teaching sustainability through food (data from Spain are missing). Except for Greeks, everyone thinks teaching sustainability through food is not easy, and that all the subjects are suitable (hence science teachers are not the only one equipped for doing so) and that a multidisciplinary approach is important (but not essential). Instead, field experiences do not seem to be particularly important although it must be said that only few schools organize them (above all, Italy and Latvia).



Last but not least, almost everyone thinks that teaching sustainability through food does not require specific attitudes but specific skills, and that it may be useful to use specific approaches.

# CONCLUSION

In this summary data for the IO1 are presented. It must be said such data provide a contextualized understanding of the sample of schools analysed and **generalizability is not possible**.

Data collected from desk analysis and field research suggest that both teachers and students will benefit from being more knowledgeable about food sustainability and Sustainable Development. In particular, it seems that the role of sustainable diets for the health of people and the one of the Planet is not fully exploited. However, everyone fully agrees on the importance of teaching sustainability and thinks the most correct method for sustainability education in schools are curricular activities, to be developed in class through the teacher's support and not as an occasional activity.

Although students think their lifestyles are quite sustainable, they seem to lack practical information and need to be more involved in sustainable topics. They should be exposed to specific knowledge (e.g., they should know what kind of actions can have a real impact on the environment) and teacher should stimulate their sense of agency. This is useful for immediate action but also for long-term planning. However, teachers suggest to remind the human dimension of learning, focussing also on "learning to be" and "learning to live together". At the same time, food is a very versatile topic, and it can be used not only to teach health and sustainability but also cultural and individual dimensions.



On the other hand, teachers state that it would be useful for them to acquire specific skills to teach sustainability through food, which is not perceived as an easy subject. Moreover, data suggest that readymade materials to teach this subject, such as lesson plans or glossary for technical terms (in order to share a common language) could help them in this task.





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# SKILLED THROUGH FOOD



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