SUSPLUS Project: 
Innovative Education towards Sustainable Food Systems 

2016-1-PL01-KA203-026652 

O14 – Report on innovative teaching activities in SUSPLUS Part 3: Lectures in Schools 

Project timeframes: September 2016 – December 2018 

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The O14 (Part 3) files are available on the SUSPLUS project website:

http://susplus.eu/susplus-education/lectures-at-schools/
Introduction

This Project Output refers to the SUSPLUS activity ‘Lectures in Schools’ organized between February and April 2018 in all project partner countries. SUSPLUS Lectures in Schools involved university students and secondary schools classes. Selected students (most of them already involved in the SUSPLUS project after joining the summer course, but also new students) prepared lectures, in the form of presentations, workshops, and other activities, in topics related with sustainability of food systems, to present, explain and share them with secondary school pupils. Students’ task included the preparation of the presentation, the activities to be carried out during the ‘lecture’ (in case there are some) and the power point slides to display the different sustainability issues. The final work was supervised by lecturers from their home universities.

Under the heading of Sustainable Food Systems, student chose a variety of topics for their lectures, such as organic versus conventional food, food production strategies and labels, environmental issues, water footprint, role and functions of soil, meat consumption, food and myth, diet sustainability, superfoods, food waste, slow food and many others.

Overall, students involved were very enthusiastic about giving lectures to a younger and different audience. Through this experience they learnt how much they know about the topic and experienced the difficulties to communicate this knowledge to a lay audience. Understanding the importance of planning, dividing tasks and roles, time keeping, students also learnt a lot on the educational side. Willing to avoid formal lectures, students used innovative methods of teaching such as storytelling, video playing, tasting products, small group activities trying to favor participation. Teachers and pupils from secondary schools were also very happy with this experience.

This International Joint Report is a collection of the seven SUSPLUS partner countries national reports, containing information such as description of the group of students and cooperating schools, undertaken tasks/specific topics, outcomes, evaluation of the feedback of pupils and school teachers, photographic documentation, and, at the end, analysis of strengths and weaknesses of this teaching activity and recommendations on how to organise similar initiatives.

Partners from all countries were actively involved in the Lectures in Schools activities. ISARA-Lyon was leading this project task.
National reports of Lectures in Schools

University of Copenhagen

Content of the report

1) School Presentation
2) Students Presentation
3) Short Presentation of the Topic
4) Outcomes (slides of the lecture, including comments)
5) Benefits, Strengths and Weaknesses of the teaching activity (from students and supervising lecturers reflections)
6) Set of recommendations: How to reorganize similar initiatives
7) Summary of the activity
8) Attachments
   Attachment 1: Pupils evaluation of the lecture
   Attachment 2: Teachers evaluation of the lecture
   Attachment 3: Students own evaluation

1) Schools Presentation

Students from the University of Copenhagen gave lectures at the high school, Tårnby Gymnasium and HF. Tårnby Gymnasium and HF is located in Kastrup (just outside the center of Copenhagen): [http://www.tgy.dk](http://www.tgy.dk) (Public Highschool for General Education; 900 students and 125 employees)

Copenhagen Students gave two lectures to:

- Grade 3 class, Biology A (25 pupils)

- Grade 1 class, Biology C (31 pupils)

The reason for deviating from the original purpose of giving the lectures for secondary school pupils and replacing with high school students were due to language. Three of our four U-CPH students were not Danish speaking. Secondary school pupils are not as fluent in English as high school pupils and therefore we changed on accordance.
2) Students Presentation

Four students from the University of Copenhagen were involved in this activity. Two of them attended the SUSPLUS e-learning programme and the summer school in Poland in 2017, and the other two did not attend e-learning or summer school. The two students attending the SUSPLUS program were from USA (William De Montmollin) and Norway (Marianne Erichsen). The other two students were from UK (Tom Oliver) and Denmark (Martin Mariager). The four students are enrolled in the following master programs at U-CHP: Clinical Nutrition, Food innovation and health, Nature Management and Forest and nature management, respectively. They are in their first and second master year at University of Copenhagen.

3) Short Presentation of the Topic

The topic of the lecture was “Your current and future lunch; what is a sustainable diet”. The main purpose of this lecture was to give the students an idea of what sustainability and sustainable foods are, how food is a cultural fulcrum, and how we as individuals can contribute to making the right food decisions for a sustainable future.

Tasting consisted of

- Marmite
- Natto
- Insects (both masked in a cookie and fried whole)

Each lecture was about 90 min. The lecture was carried out twice with 2 different groups of pupils.
Lectures by four University of Copenhagen students, March 2018. From left: Willian De Montmollin, Tom Oliver, Martin Mariager and Marianne Erichsen.

4) Outcomes

Outcomes: 2 x questionnaires + content of the lecture.

46 questionnaires were completed out of 56 pupils total (Attachment 1) and 3 questionnaires from teacher (Attachment 2). Almost all students were satisfied or very satisfied with the lecture (ref. question 4), and approximately ¾ said it was better to have lectures given by students instead of teachers (ref. Question 3).

In short, pupils from high schools expressed that the reason why teaching from students is preferred is because they have a different perspective, makes it more fun and interesting, and they also manage to convey the message in a way everybody can understand.

Answers to question 1 about the „take home message“ mentioned mainly the Co2 equivalent of food production, considerations about where your food comes from, and how it effects the environment. The pupils also emphasize that we have to find new solutions in the future, and that insects could be an alternative.
Answers to question 2 „On what subject would like to hear more?” mentioned all topics introduced in the lecture. *Insects* and *future solutions* were the most popular topics, but *Co2 footprint and consequences of food productions* were topics they wanted to hear more about. Other topics mentioned were sustainability in general, nutrients of foods, and cultural aspects.

Generally, they found it more fun to be taught by students and were interested in hearing more about all the different subjects brought up during the lecture.

Evaluation by the 3 teachers all agreed that they were satisfied or extremely satisfied with the lecture and the students’ performance, but they neither agreed or disagreed that the students were more responsive. Oral feedback mentioned that the language could be a barrier. One teacher answered the question “suggestion for improvements” and said that the U-CPH students could include calculations on Co2 footprint or other exercises.

5) **Strengths and Weaknesses of the teaching activity by students**

An evaluation meeting was conducted short after the activity were finished (Attachment 3).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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</thead>
<tbody>
<tr>
<td>- Good at dividing the tasks</td>
<td>- Too open questions were raised,</td>
</tr>
<tr>
<td>- Facilitating each other</td>
<td>decreasing the potential for</td>
</tr>
<tr>
<td>- Dividing roles and stick to</td>
<td>discussions</td>
</tr>
<tr>
<td>the time</td>
<td></td>
</tr>
<tr>
<td>- Respectful towards each</td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
</tr>
<tr>
<td>- Gave each other room</td>
<td></td>
</tr>
</tbody>
</table>

Benefits (from students’ own reflections):

Generally, the students really enjoyed conducting the teaching activity, and found it very interesting to see how engaged the pupils were surrounding food and sustainability. All the students thought the activity was a valuable experience. They also found it both fun and challenging to try formulating their academic knowledge on a lower level.

Skills developed:

The students learned trusting each other taking responsibility. They learned something about pedagogics and what it’s like to teach in a high school, and that its valuable to have discussions
in small groups in class, especially if it’s complicated questions. They also learned something about sustainable food systems by conducting this activity.

In summary, the students found this activity very valuable, and were convinced that having this as part of their curriculum or as an elective course would help them clarify and consolidate their understanding of the topic.

**6) Set of recommendations: How to organize similar initiatives**

- Put time into planning the lecture and practice a lot.
- Its good to have someone speaking the native language.
- Make it fun and don’t be too teacher-like.
- Avoid asking too abstract questions and maybe keep long terminology to a minimum.
- Include something/e.g. an activity in the lecture that makes the students participate, for example trying to taste insect foods or drawing their own lunch and reflect upon it.
- Group discussion and tastings worked as time buffer, and that way if we could adjust on the fly depending how things were going. It helped us to give ourselves leeway with the timing of the different sections of the lecture. For example, if the discussions took longer than expected, we could reduce the time spent on the group activity and the tasting.
- Finally, give them time to discuss in groups — it really made a big difference in participation!

**7) Summary of the activity**

The activity was successfully carried out on Tårnby Gymnasium by four students from the University of Copenhagen. The topic was concerning sustainable diets, with the main purpose to give the students an idea of what sustainability and sustainable foods are, how food is a cultural fulcrum, and how we as individuals can contribute to making the right food decisions for a sustainable future. The pupils found it more fun to be taught by students and were interested in hearing more about all the different subjects brought up during the lecture. The teachers were also satisfied. The students themselves found the experience very valuable, and thought it was a great way for themselves to obtain knowledge about the topic and would be happy to do it again.
8) Attachments

Attachment 1: Pupils evaluation of the lecture

Take home messages
- Co2 equivalent - qualitative food (x2)
- Sustainable food (x2)
- That food takes a lot of CO2 to produce (x18)
- Less meat (x3)
- More vegetables
- Recommendation on meat
- Consider my meat intake (x2)
- Protein sources
- Think about production, resources that are used for the food I buy (x6)
- Nothing is as simple as It looks (x4)
- Think about what I eat and where it comes from (x2)
- Choose local (x6)
- Insects is the new thing (x2)
- Insects are a good protein source – but hard for the society to accept (x3)
- Culture and food (x4)
- Don’t be afraid to taste special foods
- Options for food

On what subject do you want to hear more?
- Insects (x12)
- Consequences of food production (x3)
- Meat production
- Carbon footprint (x4)
- Sustainable foods
- How much it hurts the planet (x3)
- Options for future food (x5)
- Other countries food (x2)
- Sustainability in general
- Content of carbohydrates, protein, and fat in foods
- All of it (2)

Would you say it’s better to get lectures from students then from teachers? If yes, why:
- It’s different, and in some ways more fun (x10)
- I liked the students
- Different way of teaching
- Better explanation, and different aspects (x2)
- They have new knowledge on a higher level
- They know how to convey the message in a way everybody understands (x5)
- You learn a little bit more and act more respectful and focused (x3)
- Nice that more people are talking (several teachers)
- They know how it is to be a student, and how to make it interesting (x5)
- Exciting when people from outside teach
- It’s nice to hear it from student’s perspective
ANSWERS TO QUESTION 4*

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<th>not quite</th>
<th>a little</th>
<th>very</th>
<th>extremely</th>
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<td>Altogether are you satisfied with the lecture?</td>
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ANSWERS TO QUESTION 3

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<th>Yes</th>
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<td>Would you say that it’s better to have lectures given by students instead of teachers?</td>
<td>33</td>
<td>0</td>
<td>13</td>
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*1 student did not fill out this question.

Attachment 2: Teachers evaluation of the lecture

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<th></th>
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<th>disagree</th>
<th>unsure</th>
<th>agree</th>
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<tr>
<td>1. Pedagogical methods are relevant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2. Students’ explanations are relevant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>3. The lecture is suitable to the level of my class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>4. The content of the lecture was of extreme interest for the pupil’s class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5. The pupils are more responsive because lecturers are students instead of teachers</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>not at all</th>
<th>not quite</th>
<th>a little</th>
<th>very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. All together are you satisfied with the lecture?</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Attachment 3: Students own evaluation
Questions and answers:

1. **How did you like it? What did you enjoy in particular?**
   - **TO:** I really enjoyed giving a lecture to the students – it was very interesting to see how engaged the students were surrounding food and sustainability. It was also fascinating to witness high school education in a different country other than the UK.
   - **MM:** Students seemed eager to learn and interested in the topic. It was well organized with the teachers.
   - **ME:** I think it’s fun and challenging to try to formulate some of your academic knowledge on a level that everyone can gasp.
   - **WDM:** They seemed interested, and a couple have some interesting thoughts. Fun that they were so interested, really cool.

2. **What were your main surprises?**
   - **TO:** My main surprise was that many of the students had some awareness of insects as a food source already and that a handful of students had actually tried insects.
   - **MM:** The difference between the two classes. Different teaching approaches had to be used.
   - **ME:** How much many of the students actually knew beforehand, that so many tasted the insects and how quickly time went.
   - **WDM:** They were much more engaged than I expected and the language barrier wasn’t a problem. Especially with the younger students, who we didn’t expect to be interested at all about the presentation. Also, more of the students liked the insects we brought than I was expecting.

3. **Did you learn something from this experience? If yes, what?**
   - **TO:** Yes, I found that students respond more when given time to discuss questions in small groups rather than asking students directly in front of the class.
   - **MM:** I learned something about pedagogics and what it’s like to teach in high school. Also, I learned about sustainable foods.
ME: Yes, trusting to let other people take the control. Teaching high school, different from other schools. Good experience. Its better if you give the students time to discuss before they have to present it for all.

WDM: I learned to let students discuss in groups before asking them a direct question. Especially if it is a broad or complicated question.

4. How do you assess the way you prepared the lecture? And conducting the lecture?

TO: I think that the lecture was prepared well – the timing worked, and the flow of the lecture was smooth with opportunities for teaching and group discussion.

MM: It was good, we divided the work between us in a fine way.

ME: Brainstorm, Insects, dish as a circulation point. Conducting the lecture: Good at dividing, important to agree in advance.

WDM: I think our preparation worked pretty well. It definitely helped that we did a practice run before the lecture, as it allowed us to figure out the flow and choose our words more carefully. I think both lectures were conducted well.

5. Which teaching methods did you use during the lecture?

TO: PowerPoint presentation, Group discussion, Group tasks involving writing/drawing, Tasting/interactive elements

MM: Talking (listening), Inclusion and group work (collaborative), PowerPoint and a movie (visual), Tasting (sensing).

ME: Oral explanation, discussion, groupwork and tasting.

WDM: We tried to engage the students rather than just talking at them for 45 minutes. We didn’t use much writing on our slides, and mostly asked them questions rather than telling them facts. We also tried to vary the activities during the lecture—we had a video, two group exercises, and two interactive “games.”

6. Which of them worked well, which were more difficult?

TO: All had relevant positive points, but I think that the group tasks were good to help students think about the issues which affect them personally. This was less abstract than say the information given from the PowerPoint. The tasting part worked well, and the students were keen to get involved.

MM: They worked as a good mix.

ME: I think all of them worked well. The discussions were the most challenging in the first class, but then we adjusted it and had them discuss in groups before in plenum.

WDM: I think they all worked well. The only exception was with the first group, when we didn’t give them time to discuss the big questions that we asked. They were
very timid about answering, and it was a little hard to have a discussion. But we adjusted with the second group and it went much better. Just by allowing them a few minutes to talk in small groups, they had much more to say and it was easier to conduct.

7. If you had to do it again, what would you improve or do differently?
   - TO: Replace questions put to the whole class with group discussions. Include more time for Danish translations.
   - MM: Longer time, e.g. a full day, and include the teachers more in the program. E.g. so the students could participate in some activities also. E.g. cooking/baking with insects.
   - ME: Smaller group discussions. Maybe work more with one particular topic, and don’t go so broad.
   - WDM: I would allow them to discuss our main questions, as I explained above.

8. What kind of advice would you give to other students preparing such lectures?
   - TO: Put time into planning the lecture. Avoid asking too abstract questions and maybe keep long terminology to a minimum.
   - MM: Make it fun and don’t be too teacher-like. Include something/e.g. an activity in the lecture that makes the students participate, for example trying to taste insect foods or drawing their own lunch and reflect upon it.
   - ME: Set time to plan it properly and practice – a lot! Feel the dynamic in the class, and keep it lose. Good to have one speaking the native language. Group discussion and tastings worked as time buffer. Asked what was one thing they learned today.
   - WDM: It helped us to give ourselves leeway with the timing of the different sections of the lecture. That way if we could adjust on the fly depending how things were going. For example, if the discussions took longer than expected, we could reduce the time spent on the group activity and the tasting. Practicing the lecture also helped a lot as I described earlier. Finally, give them time to discuss in groups—it really made a big difference in participation between the two groups!

9. Do you think giving lectures in schools could be used as a learning tool in your curriculum? If yes, what are the benefits for you?
   - TO: Totally. It helps to clarify and consolidate your understandings of a concept into something everyone can understand. Teaching also allows you to experiment with different styles of presenting.
- MM: It could be part of an elective course in didactics. That would be interesting but require the teaching to take place outdoors in a nature area. Nature managers need to reach out to the greater public with awareness of their activities, in order to obtain an understanding in the public for their work. Inviting high school classes out in the forest for a day would be a great start.

- ME: Yes, for sure. Every time you teach someone else you learn something yourself.

- WDM: Yes, definitely. In my experience, teaching something to someone else really helps you clarify it for yourself. Even if it’s just the basics. And it was a lot of fun!
### Syllabus: Workshops for Students

*Developed within the Strategic Partnership project*

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>The topic of the lecture was “Your current and future lunch; what is a sustainable diet”.</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>University of Copenhagen</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>The main purpose of this lecture was to give the students an idea of what sustainability and sustainable foods are, how food is a cultural fulcrum, and how we as individuals can contribute to making the right food decisions for a sustainable future.</td>
</tr>
<tr>
<td>Description (schedule)</td>
<td>The lecture consisted of the following parts and topics: <strong>Definitions</strong>  - Sustainability  - Food systems (video of CO2 output of a sandwich)  - Dietary guidelines  <strong>Group work</strong>  - 20 minutes  <strong>Defining food</strong>  - How do we define food?  - Alternative source of protein  - Intro  - Nutrition/Sustainability  - Examples  <strong>Group work</strong>  - 20 minutes  - Tasting  <strong>Tasting consisted of:</strong>  - Marmite  - Natto  - Insects (both masked in a cookie and fried whole)</td>
</tr>
<tr>
<td>Time needed to carry out the lecture</td>
<td>Each lecture was about 90 min. The lecture was carried out twice with 2 different groups of pupils.</td>
</tr>
<tr>
<td>Materials &amp; tools necessary to carry out the lecture</td>
<td>Computer, internet connection, blackboard, food for tasting, papers and pens for drawing exercise.</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>None, they were mapping the students understanding as the lecture went along, and keeping it on a basic level of knowledge.</td>
</tr>
<tr>
<td>Effects / learning outcomes (knowledge, skills and social competences)</td>
<td>What the students from U-CPH learned:</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td></td>
<td>• Mixed learning is more engaging than a monologue speech</td>
</tr>
<tr>
<td></td>
<td>• Students already had good general knowledge</td>
</tr>
<tr>
<td></td>
<td>• Don’t ask open-ended questions directly</td>
</tr>
<tr>
<td></td>
<td>• Practicing the lecture in advance is an advantage</td>
</tr>
<tr>
<td></td>
<td>• Delegating roles is important for structure</td>
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</tbody>
</table>

<table>
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<tr>
<th>If applicable, background literature</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional comments</td>
<td>The students were very happy with this experience, and worded it as a very good way of gaining knowledge themselves, when having to explain it to students at a lower level.</td>
</tr>
</tbody>
</table>
Estonian University of Life Sciences

Description of the target groups (group of students and schools)

From the Estonian University of Life Sciences (EULS) 4 students were involved in this activity. One of those students had attended in the SUSPLUS e-learning programme and the summer school in Poland in 2017. Three were newly recruited students who were trained for this specific activity. Newly recruited students were on Master and PhD level.

Students prepared training activities in pairs and each pair of students gave a lecture in Tartu Jaan Poska Gymnasium. Students gave two lectures for 11th and 12th grade (17-19 year old pupils). The lectures took place on the January 30th and April 10th. Both lectures were about 45 minutes.

Tartu Jaan Poska Gymnasium (JPG) started work in 2011. The school is bearing the name of Estonian Major-General Jaan Poska and located in the historical house of Tartu Peace. The school has 525 students in classes 10 to 12 in 2017/2018.

Undertaken tasks/topics

The general topic of the lectures was “Sustainability of Food Systems”.

The titles of lectures were the following:

1. „Production and consumption of environmentally friendly food“
2. „Organic food is an environmentally-friendly food“
The central objective of the lectures was to raise pupils knowledge on how and what farmers produce and why it is needed to change the food consumption patterns. Student’s message for pupils was: organic food is an environmentally-friendly food and food should not be wasted.

Outcomes (most spectacular)

University students had prepared different activities for teaching. They started teaching with the introduction: where do they come from, what they are doing in the university and how they came to agriculture. For testing pupils’ knowledge background, they asked to prepare and present short group works “What is sustainable food production” and “What do you think is environmentally friendly food production?”. Discussion of group works was followed by a lecture, food tasting with evaluation and quick Q&A round.

Feedback from the participants

a. Pupils feedback

38 questionnaires were completed out of 47 pupils total. Pupils were mostly extremely satisfied (68%) or very satisfied (28%) by the lectures given by students, 4% pupils were satisfied.

Answers to question 1, about the „take home message“ mentioned mainly: Don’t waste the food, local food production is important, reasonable consumption, sustainable food production is better than conventional. Answers to question 2 „On what subject would you like to hear more?“ mentioned: organic farming, vitamins, local food, quality of local and non-local food.

Pupils said that it is better to have lectures given by students instead of teachers, only 7% of respondents were unsure.

Lectures given by students were: humorous, more open, more understandable, more interesting, something new, easier to understand and a good alternative.

b. Teachers feedback

Both lectures were held within the geography lesson.

Teacher was very satisfied with the lecture.

She strongly agreed that:

pedagogical methods used were appropriate;
students’ knowledge and explanations were appropriate;

lecture was suitable for classes;

content of lecture was of very interesting for pupils;

the pupils were more responsive.

**Analysis of strengths and weaknesses of this teaching activity**

Well managed time planning. Lecture appears to be well prepared and presented (supported by Powerpoint slides). Food tasting was a good idea. Pupils did well in cooperation and succeeded in answering questions.

Student feedback: Certainly, this undertaking gave them much confidence that they could handle similar activities in the future. It gave a good experience of how to work with pupils. It was very interesting and useful.

**Set of recommendations: How to organize similar initiatives**

Be open to any question, facilitate questions raising. Start the lecture with very short introduction and then do something exciting.

**Photos**

![Lecture](image_url)
Pupils discussing what is environmentally friendly food production

Products for tasting (conventional vs organic)
## Syllabus: Workshops for Students

**Developed within the Strategic Partnership project**

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<tr>
<td><strong>Students Lecturer (University)</strong></td>
<td>PhD student Helena Madsen, PhD student Merili Toom. Estonian University of Life Sciences</td>
</tr>
<tr>
<td><strong>The aim of the lecture</strong></td>
<td>The central topic of the lectures was to raise pupils knowledge about food production systems and to explain why organic food is more sustainable than conventional. Students’ message for pupils: organic food is more environmentally-friendly food than conventional.</td>
</tr>
<tr>
<td><strong>Description (schedule)</strong></td>
<td>University students prepared different activities for teaching. They started teaching with the introduction: who they are, what they are doing in the university and how they came to agriculture. For testing pupils’ knowledge background, students asked to prepare and present short group works “What is sustainable food production” and “Is organic production environmentally friendly food production?” Discussion of group works was followed by a lecture, quick Q&amp;A round.</td>
</tr>
<tr>
<td><strong>Time needed to carry out the lecture</strong></td>
<td>45 minutes</td>
</tr>
<tr>
<td><strong>Materials &amp; tools necessary to carry out the lecture</strong></td>
<td>Slide presentation (Powerpoint slides)</td>
</tr>
<tr>
<td><strong>Target group (background, study level)</strong></td>
<td>Tartu Jaan Poska Gymnasium, 11th grade (17 year old pupils).</td>
</tr>
<tr>
<td><strong>Prerequisites</strong></td>
<td>No prerequisites</td>
</tr>
<tr>
<td><strong>Effects / learning outcomes (knowledge, skills and social competences)</strong></td>
<td>Pupils became understanding of the main principles of organic farming as an example of sustainable food production. They got an overview of the Estonian organic farming, products and marketing. Pupils got group work experience and leadership experience in group work.</td>
</tr>
<tr>
<td><strong>If applicable, background literature</strong></td>
<td><a href="http://www.maheklubi.ee/">http://www.maheklubi.ee/</a></td>
</tr>
<tr>
<td><strong>Additional comments</strong></td>
<td>Students and pupils were mutually very satisfied – new experiences in teaching and learning.</td>
</tr>
</tbody>
</table>
SYLLABUS: WORKSHOPS FOR STUDENTS

Developed within the Strategic Partnership project

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Keskkonnasõbralik toidutootmine ja tarbimine</td>
</tr>
<tr>
<td></td>
<td>Environmentally friendly food production and consumption</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>PhD student Mariana Maante, Master student Jorma Kütt. Estonian University of Life Sciences</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>The central objective of the lectures was to raise pupils knowledge how farmers produce food and why it is needed to change the food consumption systems. Student’s message for pupils was: for sustainable development is environmentally-friendly food production very important and food should not be wasted.</td>
</tr>
<tr>
<td>Description (schedule)</td>
<td>University students prepared different activities for teaching. They started teaching with the introduction: who they are, what they are doing in the university and how they came to agriculture. For testing pupils’ knowledge background, students asked to prepare and present short group works “What is sustainable food production” and “Is organic production more environmentally friendly?”. Discussion of group works was followed by a lecture, food tasting (organic/conventional) with evaluation and quick Q&amp;A round.</td>
</tr>
<tr>
<td>Time needed to carry out the lecture</td>
<td>45 minutes</td>
</tr>
<tr>
<td>Materials &amp; tools necessary to carry out the lecture</td>
<td>Slide presentation (Powerpoint slides), organic and conventional food for tasting.</td>
</tr>
<tr>
<td>Target group (background, study level)</td>
<td>Tartu Jaan Poska Gymnasium, 12 th grade (18–19 year old pupils).</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>No prerequisites</td>
</tr>
<tr>
<td>Effects / learning outcomes (knowledge, skills and social competences)</td>
<td>Pupils have an understanding of the main principles of environmentally friendly food production and consumption. They know why is important to use the food without wasting. They got experience in group work and were very happy about very active communication with teachers.</td>
</tr>
<tr>
<td>Additional comments</td>
<td>Both sides – students as teachers and pupils were very satisfied. Also school teacher was very satisfied.</td>
</tr>
</tbody>
</table>
ISARA-Lyon

Description of the target groups (group of students and schools)

Three French students from Isara-Lyon were involved in this activity. The three of them attended before the SUSPLUS e-learning programme and the summer school in Poland in 2017. They are in their second master year at Isara.

Isara-Lyon students gave lectures in two different High Schools


Public Highschool for General and Technological Education

1500 pupils – 45 classes from grade 10 to 12

Lectures were given to :

- Grade 11 class, Economics and Social Science Major (15 pupils)

- Grade 11 class, Litterature and Langues major (16 pupils)


Public Highschool for General and Technological Education

1100 pupils from grade 10 to 12

Lectures were given to a Grade 11 class, Economics and Social Science Major. The class was divided in two groups of 18 pupils.

**Undertaken tasks/topics**

The broad topic of the lecture was “Sustainability of Food Systems”. The central objective of the lecture was to raise questions, to enhance pupils’ reflection about what means sustainable food and to try to tear down some misconceptions often occurring in debates.
Students choose to organize their lecture as a participative workshop. The workshop was based on collective reading / finding information on the packaging of three products:

- pears (conventional production, from supermarket)
- goat cheese (organic, from a local producer)
- goat cheese (conventional production, from supermarket)

Whole lecture was about 45-50 min. In total, it was carried out 4 times with 4 different groups of pupils.

**Outcomes (most spectacular)**

- Design and management of lectures make students develop (or being aware of) new skills: time management, facilitation, giving an oral presentation. Not only intellectual inputs but also sound organization of lectures appeared to be learning experiences. See picture in Annex I.
- Regarding the content of the lecture, see the presentation and comments in Annex II.
- Lectures developed pupils’ awareness of food sustainability challenges.

**Feedback from the participants: pupils and their teachers**

58 questionnaires were completed out of 77 pupils total. Almost all of them were satisfied or very satisfied by the lecture (see question 4) and said it is better to have lectures given by students instead of teachers (see question 3). The reasons why teaching students are preferred to teachers were not very informative like “younger” “closer to us” “cooler”.

<table>
<thead>
<tr>
<th>ANSWERS TO QUESTION 4</th>
<th>not at all</th>
<th>not quite</th>
<th>a little</th>
<th>very</th>
<th>extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altogether are you satisfied with the lecture?</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>19</td>
<td>38</td>
</tr>
</tbody>
</table>
ANSWERS TO QUESTION 3

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you say that it’s better to have lectures given by students instead of teachers?</td>
<td>54</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Answers to question 1 about the „take home message“ mentioned mainly two key words: *organic agriculture* and *sustainability*. Only a small number of answers were about paying more attention of different things when buying food.

Answers to question 2 „On what subject would like to hear more?“ were more diverse. *Organic Agriculture* came first (mentioned 20 times) but also *Faire Trade* (6 times) and *Foreign Countries Diets* (4 times). Were also mentioned *Food Economics, Quality labels, Alternatives to industrial food, Husbandry, Being Vegan*.

Evaluation by the 3 teachers has been quite poor since they did not answer the open questions (lack of time). The three of them agree or strongly agree to all the questions and were very or extremely satisfied with the lecture.

**Analysis of strengths and weaknesses of this teaching activity**

Benefits (from students’ own reflections): „Teaching is a very efficient way to structure knowledge because you have to go straight to the point and tell only what is essential”, „That is the best way of learning in the interaction with pupils. They raise questions that I never thought about.” „Teaching is a very rewarding activity for students”.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Using real food is a very good idea</td>
<td>-Products were purchased at the last minute, students couldn’t find exactly what they wanted</td>
</tr>
<tr>
<td>-Students did well in the interactions, they facilitate questioning and succeeded in answering questions</td>
<td>-Too much information was prepared (a talk about Coke couldn’t be given because a lack of time)</td>
</tr>
<tr>
<td></td>
<td>-Distribution of roles between students was not prepared enough and had to be tuned on the way</td>
</tr>
</tbody>
</table>
Set of recommendations: How to organize similar initiatives

- Comparison of two or three different cheese (industry/farm product, local/non local, pasteurized/raw milk, organic/non organic, quality labels, PDO) might be a perfect choice
- Buy the products in advance in order to build the lecture on the specific products
- Start the lecture with food tasting and reading packaging then go to sustainability questions
- Be precise in the programming of the lecture: steps, time, who is doing what
- The logistics is crucial: spatial organization in the room, food display and pass out, cleaning…
- Slides are reassuring
- Be prepared to very basic explanations
- Always ask questions even on what you think is obvious
- Be open to any question, facilitate questions raising.

Annex

Lecture by Isara-Lyon students, October 2017
**SYLLABUS: WORKSHOPS FOR STUDENTS**

*Developed within the Strategic Partnership project*

<table>
<thead>
<tr>
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<th>2016-1-PL01-KA203-026652</th>
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<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Idées reçues sur la durabilité des systèmes alimentaires. Sustainability. What about Food Systems?</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>Clarisse, Maxime, Pierre (isara-Lyon)</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>Encourage reading and understanding information on food packaging + understanding food system behind</td>
</tr>
</tbody>
</table>

**Description (schedule)**

- Introduce ourselves and the opportunity of participation in the SUSPLUS Summer school
- To you, what is sustainable food? What are the points you would looking at to assess sustainability of a specific food?
- Examples of points to question now and in everyday life
- Introduction to the workshop « read and find the information on the packaging ». Three products were used : fresh pears, local goat cheese and organic goat cheese
- Concluding the workshop, points to stress: assessment of sustainability means several dimensions to integrate and some dimensions can be conflicting.
- Food is more than biology, diet or even more than the product. Food is also about emotions, cultural habits and social aspects. Open discussions about pictures by Peter Menzel : families with their weekly food.
- What are the differences and similarities? How can you explain? Can you guess where from are these families?

<table>
<thead>
<tr>
<th>Time needed to carry out the lecture</th>
<th>50 minutes</th>
</tr>
</thead>
</table>
| Materials & tools necessary to carry out the lecture | Food products with their packaging
Tools to prepare and share products (knife, towels, plates…)

**Targeted groups**

Secondary schools pupils, grade 11 (15-17 years old pupils).

**Prerequisites**

None

**Effects / learning outcomes (knowledge, skills and social competences)**

Time management, facilitation, giving an oral presentation. Not only intellectual inputs but also sound organization of lectures appeared to be learning experiences for students.
Münster University of Applied Sciences

Here is the report of the activity SUSPLUS Lectures in Schools (O8) conducted in Germany – FH Münster University of Applied Sciences. FH Münster took on all additional lectures in schools from SUSPLUS Partner University of Kassel. The report was prepared by Vanessa Lüder.

1. **Description of the target groups (group of students and schools)**

A total of eight female and one male student from FH Münster University of Applied Sciences, Germany, were involved in this activity. They comprised seven Bachelor students (Alina, Anna, Geraldine, Helena, Johanna, Lydia, Pascal) and two Master students (Anna-Lena and Ramona) at the Department of Food | Nutrition | Facilities of FH Münster. The degrees that they were studying for are

- **Bachelor of Science**: Home Economics and Nutrition Science
- **Master of Science**: Sustainability in Service Management and Food Industries

The students gave lectures in six different High Schools spread across three different federal states (Baden-Württemberg, Hesse, North Rhine-Westphalia).

1.1. **Martin-Heidegger-Gymnasium (Anna)**

- General secondary school/ high school with a scientific and linguistic profile
- 397 pupils - grade 5 to 12
- The lecture was given to: grade 9; subject: Biology, social/community studies (current topic: microbiology and nutrition) (16 pupils)

1.2. **Freiherr-von-Stein-Gymnasium (Anna-Lena and Ramona)**

- Municipal secondary school/ high school with a linguistic-artistic and a mathematical-scientific-technical profile
- 959 pupils - grade 5 to 12
- Two lectures were given to: Grade 7; subject: biology (25 pupils)
1.3. Theodor-Heuss-Gymnasium (Geraldine)
- located in Waltrop, North Rhine-Westphalia (south of Münster):
  http://www.thg-waltrop.de
- High school with four profiles: culture, sports, language and MINT (maths, computer science, natural sciences, technology)
- 742 pupils - grade 5 to 12
- The lecture was given to: grade 5; subject: geography (26 pupils)

1.4. Ahnatal-Schule Vellmar (Johanna)
- located in Vellmar near Kassel in Hesse:
  http://www.ahnatalschule-vellmar.de
- Comprehensive school with a music and a sports profile
- 950 pupils - grade 5 to 10
- The lecture was given to: grade 5; subject: religion (16 pupils)

1.5. Geschwister-Eichenwald Schule (Alina, Lydia, Pascal)
- Located in Billerbeck, a small town in North Rhine-Westphalia (west of Münster):
- Municipal Community School
- 411 pupils – grade 5 to 10
- The lecture was given to: grade 6; subject: science (22 pupils)

1.6. Offene Schule Waldau (Helena)
- pilot/experimental school located in Kassel in Hesse:
  http://www.osw-online.de/index.php
- c. 900 pupils – grade 5 to 10
- The theory lecture (I) and the practical lessen (II) was given to: grade 7-10; subject: the school’s first aid group (extra-mural) (19 pupils)

2. Undertaken tasks / topics
The overall subject area for the lectures was “Sustainability of Food Systems”. The students were free to choose a topic within this subject area in collaboration with the chosen schools and teachers. Each lecture was about 45 – 60 minutes. The participating students presented lectures on different topics as detailed below.
2.1. Food waste in private households (Anna, November 2017)
In this case the student prepared the lecture, but the teacher gave it. The teacher showed a picture in the beginning to let the pupils guess the subject. Afterwards they collected reasons for food waste in a mind map. Then they got a worksheet to reflect about: What did I throw away? How can I avoid it? In the end the teacher concluded the lecture with three sentences which the pupils should remember.

2.2. Sustainable Nutrition (Part I) and Virtual Water (Part II) (Anna-Lena and Ramona, January 2018)
Two students gave two lessons, one after the other. The first lesson was about sustainable nutrition (Anna-Lena). The students brought different products (fair trade, organic, market-bought) to the lecture and let the children guess the topic. Afterwards the understanding of sustainability of the pupils was checked. The student introduced sustainable nutrition as the subject of the lesson. The pupils were divided into groups of five to work on the criteria according to German literature. After the group work the pupils presented their results and received a handout.
The second lesson of this teaching team was about virtual water (Ramona). The topic was introduced and explained at the outset. The pupils’ knowledge was tested in a quiz which they had to answer in pairs. The questions and solutions from the quiz were collected and explained in the plenum.

2.3. Sustainable Nutrition and organic food (Geraldine, January 2018)
The lesson was started by defining the terms “sustainability” and “sustainable nutrition” in the plenum. Then the children were asked to think about how they imagine a sustainable nutrition. Afterwards they watched two videos about how organic agriculture works and about organic food. They then had to decide how to divide organic food up into the four dimensions of the sustainable nutrition model used (according to a worksheet). The answers were collected and summarised.

2.4. Environmentally friendly apples (Johanna, February 2018)
To gauge the scholars’ knowledge about the term “environmentally friendly” their ideas were collected in a mind map on the blackboard. This lecture was designed to be held like a TV award show. The class was given the task to decide which is the Most Environmentally Friendly...
Apple of 2018. Therefore, three groups of pupils analysed six different types of apples according to one of these criteria: (non-) organic farming, (non-) seasonal food, (non-) regional food. After the group work the results of each group were compared and the pupils voted for the Most Environmentally Friendly Apple of 2018.

2.5. Consume meat more sustainably (Alina, Lydia, Pascal, May 2018)
At the beginning of the lecture, the whole class discusses what their own daily meat consumption looks like, and why – or why not – they eat meat. Data on animal use for meat production and meat consumption was then presented. This was followed by a quiz game played with the schoolchildren to show what meat consumption means to animals and the world. A short film was shown, explaining the development of meat consumption over the last 40 years and highlighting the feed angle. After some discussion a second short film was shown, presenting insects as an alternative to pork, beef and poultry, i.e. as a food alternative for meat consumption. Scholars were exposed to real food with insect matter: chocolate was offered with insects (mealworms) for tasting at the end of the lesson. In this way more senses were addressed while learning.

2.6. Superfoods – really super and sustainable? I and II (Helena, August 2018)
The student gave two lessens, one after another. In the theory lesson (Part I, 45 minutes) scholars were given coloured cards and pens to write down bullet points about the meaning of the term sustainability. Cards were collected and briefly discussed, so that the teaching student could take their knowledge level into account. This was followed by some input about models of sustainability using presentation slides. Subsequently a variety of organic and non-organic müsli bars were presented on a table and scholars were invited to choose ones they would also buy in a shop. They presented their reasons to their classmates. This was used as a basis to discuss ingredients and other aspects, and to identify commonalities and differences between the bars. The discussion was supported by various superfoods passed around for inspection. The lecture closed with further presentation slide supported inputs about sustainability dimensions applied to superfoods. In the practical lessen (Part II, 45 minutes) then followed a session wherein pupils worked in small groups. They were given recipes, ingredients and utensils to make some snacks which were then tasted. Afterwards there was a short reflective round and everything was cleaned up and put away.
3. Outcomes (highlights)

The specific content of each lecture can be found in the PowerPoint presentations as well as the teaching materials of the students in Annex II.

- The students were surprised by the great interest and curiosity of the pupils and all students were happy about how the lectures went. Furthermore, some students were surprised that the pupils already knew much about the topics even though they hadn’t had a lecture about them yet.

- The students had the opportunity to develop their skills by giving the lectures. These are the areas of the skill development: time management, giving an oral presentation/a lecture to an unknown target group, research for specific information, learn to estimate a new situation, to get along in new situation, to react flexibly; organize the framework for the lecture by themselves, take responsibility.

- The students learnt to estimate the situation of giving a lecture better (Learning by Doing as they are not teacher training students), because they had to overcome various uncertainties in the preparation of the lectures. For the students there was a difficulty to correctly assess the level of the pupils in order to adapt the lecture to them (pupils in one class are not all on the same level as well).

- Mostly the students were highly satisfied and enriched by the experience; all agreed that they had learnt much during the entire exercise. They also enjoyed finding pupils to take a lively interest and active participation. Students reported being aware that issues of sustainable food systems are complex and hence challenging to design lessons for pupils, but none seemed unduly hampered by this. Instead they were complimented by the teachers.

4. Feedback from the participants

4.1. Anna (November 2017)

4.1.1. Pupils’ feedback to Anna

- 15 of 16 pupils filled out the questionnaire
- Question 1: take home message
  The two key elements were: “don’t throw away food/conscious food handling/don’t throw away food which is still good” (15 times). Then there were one or two answers of each aspect like “environmental consciousness” (2 times), “no panic buying” (2 times), “be more sustainable” (1 time), “new experiences” (1 time).

- Question 2: On what subject would like to hear more?
The pupils do mainly want to know more about “food waste” (5 times), plus “reasons for food waste” (1 time) and “how to prevent food waste” (1 time), “the waste per country per year” (1 time) and “possibilities for supermarkets to prevent food waste” (1 time). Then they mentioned “possible uses for old food” (1 time), “consumption in general” (1 time), 2 didn’t answer this question, 1 didn’t care about it and one doesn’t want to hear anything about a subject like this.

- **Question 3:** *Would you say that it’s better to have lectures given by students instead of teachers?*

Eight pupils said they prefer lectures given by students instead of teachers. One pupil doesn’t prefer lectures with students and six pupils weren’t sure. In this case it is difficult to interpret the answers because the student didn’t do the lecture, the teacher did.

- **Question 4:** *Altogether are you satisfied with the lecture?*

Nine Pupils are very satisfied, two extremely satisfied, three are a little and one is not quite satisfied with the lecture.

### 4.1.2. Teacher’s feedback to Anna

The student carried out an oral evaluation with the teacher after the lesson. The teacher indicated that he would change some things of the lecture, like the beginning, because it took the pupils too long to get to the subject. The children had some difficulties to build a bridge between food waste in supermarkets and food waste in their own home. The teacher was very satisfied with the lecture overall. He agreed to question 1 – 4. He thought that the pupils were as active as in other lessons (question 5). Note: not comparable to the other lectures because the student did not give the lecture.

### 4.2. Anna-Lena and Ramona (January 2018)

#### 4.2.1. Pupils’ feedback to Anna-Lena and Ramona

- 25 of 25 feedback sheets

- **Question 1:** *take home message*

12 pupils take home that they would like/should consume less (virtual) water. Further, these topics were mentioned three times: “it’s better to buy organic products”, “humans should eat less meat” and “humans should pay more attention on the origin of their food”. In addition, the pupils wrote down that seals and labels like fairtrade and regionality should be taken more into account.

- **Question 2:** *On what subject would like to hear more*
17 pupils would like to know more about “virtual water”, “water consumption” and “water saving”. 5 pupils would like to hear more about organic products and sustainable nutrition.

- **Question 3:** *Would you say that it’s better to have lectures given by students instead of teachers?*

17 pupils said that lectures with students are better than with teachers, 8 were unsure. The following reasons were named: “more fun”, “interesting”, “nonchalantly”, “more diverse”, “students make more effort than the teachers”.

- **Question 4:** *Altogether are you satisfied with the lecture?*

16 pupils are very, and nine pupils are extremely satisfied with the lecture of the two students.

### 4.2.2. Teacher’s feedback to Anna-Lena and Ramona

The teacher of the class was very satisfied with the two lectures. She rated the pedagogical methods used and the students' knowledge as appropriate but would have preferred less oral presentation and a higher activation of the pupils in the lesson on sustainable nutrition. She agreed that the lectures fitted the level of the pupils and that the subject was of great interest to the pupils. She thought that the pupils were as active as in other lessons (Question 5).

### 4.3. Geraldine (January 2018)

#### 4.3.1. Pupils’ feedback to Geraldine

- 26 of 26 feedback sheets
- **Question 1:** *take home message*

The pupils took home the following information of the lecture: “fairtrade products“ (two pupils) and „the terms ecology and health“ (2 pupils). Further one pupil each takes home the following: „what animal husbandry appropriate to the species is”, “what organic food is”, “that an organic label guarantees organic farming”, “it is important to know what you eat”, “expanded knowledge about organic food”, “you should look for the green organic label to find organic food”, “learnt much about healthy nutrition”, “protect the environment and animals through organic food”, “extended knowledge about nature”, “It is not normal/self-evident that we have that much”, “take care of the environment”, “I know now what economy, ecology, social and health means”.

- **Question 2:** *On what subject would like to hear more*

Two pupils don’t want to hear more about anything. One each would like to hear more about the following topics: sport, ecology, fairtrade, animal husbandry appropriate to the species, sustainability, health, agriculture, CO₂, “more about the four fields of sustainable nutrition”,
“more videos about organic agriculture”, “what you should eat”, “how do things come to Germany from abroad?”, “everything”.

- **Question 3:** *Would you say that it’s better to have lectures given by students instead of teachers?*

There have been a few questions from the pupils because they did not know how to answer the third question on the valuation sheet. Nevertheless 12 pupils do think that lectures given by students are better, 13 were unsure. The reasons for more lessons with students named by the pupils were: “you learn much in lectures with students”, “more interesting and more exiting”, “it’s fun”. These keywords have been also named by the pupils who were unsure about question 3.

- **Question 4:** *Altogether are you satisfied with the lecture?*

10 pupils were very and eight extremely satisfied with the lecture. Five pupils were a little and three pupils were not quite satisfied with the lecture.

### 4.3.2. Teacher’s feedback to Geraldine

The teacher agreed that the student used suitable pedagogical methods (question 1). Further she strongly agreed that the student’s knowledge and explanations were appropriate (question 2), but she did not think that the lecture was suitable for the level of her students (question 3). She recommended carrying out the lecture for the seventh instead of the fifth grade, because they would understand the terms “economy, ecology and agriculture” better. The understanding of the seventh grade would make it easier for the pupils to work on sustainable nutrition. The teacher was unsure if the children were more active than usual. Nevertheless, she agreed that the subject of the lesson was of great interest for the pupils (question 4). Overall the teacher was very satisfied with the lecture and said that the pupils are open minded for different lectures and students are always welcome for teaching. Also, she thinks that the students have difficulties to use a suitable vocabulary for the level of the children (this is similar for teachers-in-training).

### 4.4. Johanna (February 2018)

#### 4.4.1. Pupils’ feedback to Johanna

- 16 of 16 pupils answered the feedback sheet
- **Question 1:** *take home message*

Four pupils think that “organic apples are more delicious” than conventional apples. A further 4 pupils say that they “will be more careful about the origin of the apples” when buying them.
2 pupils say that “German organic apples do have the least CO₂ footprint/emissions”. One person each takes home: “a good apple from Spain”, “new knowledge”, “organic apple is eco-friendly”, “did like everything”, “organic apples are healthier”, “everything”, “you should buy an organic apple”. Three pupils answered that they take home a “full stomach”.

- **Question 2:** *On what subject would like to hear more*

Most of the students do want to hear more about the origin (5 pupils), the transport (3 pupils) and the storage (2 pupils) plus CO₂ (3 pupils) of the apples. One wants to know more about apples, one about the time when apples are ripe and two don’t want to know more about anything of the lecture.

- **Question 3:** *Would you say that it’s better to have lectures given by students instead of teachers?*

14 pupils think that it is better to have lectures given by students, two were unsure. The reasons for preferring student lectures are: students are “cool”, “more fun” and “more relaxed”. One pupil added that he “wants to know more about foreign apples”.

- **Question 4:** *Altogether are you satisfied with the lecture?*

12 pupils were extremely and three were very satisfied with the lecture. One pupil did not answer question number four.

### 4.4.2. Teacher’s feedback to Johanna

The teacher of the class is very satisfied with the given lecture overall. She strongly agrees to the first four questions, but she is unsure if the pupils were more active with the student than they usually are with the teacher. She recommends that each group of pupils should know in the end what the other groups did to understand the reasons why this apple is the environmentally-friendliest.

### 4.5. Alina, Lydia, Pascal (May 2018)

#### 4.5.1. Pupils’ feedback to Alina, Lydia and Pascal

- 22 of 22 pupils answered the feedback sheet

- **Question 1:** *take home message*

Almost all answers were about eating meat and/or treatment of animals: eat less meat (9) or eat it with more awareness (2), take more care of animals (2), insects are edible (4), one mentioned CO₂, one stated coming late, one did not answer this question.

- **Question 2:** *On what subject would like to hear more*
Pupils mentioned animal husbandry (3) and its consequences (1), CO₂ (2), insects (9), pork (2) and meat production (3) and consumption (2) and slaughtering (1). One pupil gave no answer.

- **Question 3:** *Would you say that it’s better to have lectures given by students instead of teachers?*

Of the 22 pupils, 10 said they would like more lectures with students and 3 were unsure. Reasons given included “cool”, “exciting”, “new”, “different”, “one learns more in this way”, “its playful and is fun”, “interesting” and “not a real lesson”.

- **Question 4:** *Altogether are you satisfied with the lecture?*

Pupils indicated their satisfaction in the following way: 12 pupils were extremely satisfied and 10 were very satisfied.

### 4.5.2. Teacher’s feedback to Alina, Lydia and Pascal

Two teachers attended the lesson prepared by the students. Both completed the questionnaires with the same assessment marks. The teachers were very satisfied with the lesson overall. They agreed strongly that the pedagogical methods were appropriate and agreed that the students had relevant knowledge and explanations. They were unsure whether the lesson matched the level of the class but strongly agreed that it was of great interest for the pupils. They did not agree at all that the pupils were more responsive or active due to students taking the lesson. Suggestions for improvement were made concerning the quiz, which had some questions deemed too difficult. The teachers suggested more practical examples be included. Furthermore, they suggested that the some interrelationship between aspects, e.g. CO₂ and water use be explained at the beginning of the lesson.

### 4.6. Helena (August 2018)

#### 4.6.1. Pupils’ feedback to Helena

- 15 of 19 pupils answered the feedback sheet; 3 had to run for the bus

- **Question 1:** *take home message*

Pupils mentioned that there are regional alternatives to superfoods, and that they would therefore prefer these over exotic superfoods, amongst other points. 3 pupils said that they want to live more sustainably in general and a further 3 pupils said that they want to look out more for local foods. Organic foods were mentioned by 2 pupils.

- **Question 2:** *On what subject would like to hear more*

- 6 pupils wrote that they would like to know more about alternative superfoods. The more general topics of sustainability and environment also were mentioned, as was – by
2 pupils - child labour (mentioned in the social dimension of sustainability). One scholar said “everything” and 3 did not answer this question.

- Question 3: Would you say that it’s better to have lectures given by students instead of teachers?
- 13 pupils of the 15 that filled in the questionnaires said they would like more lessons by students. Reasons given included “it’s more fun”, “you can talk to the students differently than to the teachers”, “a different working atmosphere”. One answered “no” and one “unsure” but neither explained their answers with a reason.

- Question 4: Altogether are you satisfied with the lecture?
- 10 of 15 pupils were very satisfied and 5 were extremely satisfied with the two lessons.

4.6.2. Teacher’s feedback to Helena
The teacher was very satisfied with the lesson overall and she judged the knowledge and explanations of the student as appropriate. It was not possible for her to make an indication whether the level matched that of the class as in this case it was not a usual subject class, but a group brought together by an extra-mural activity across 4 grades. In a personal debriefing with the student after the sessions she mentioned that she found it particularly positive, that sustainability had conveyed the essence so well and made it understandable to the pupils. She agreed that the pupils were very interested in the lessons but was unsure whether pupils were more active or participative than usual.

4.7. In total

<table>
<thead>
<tr>
<th>ANSWERS TO QUESTION 3</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you say that it’s better to have lectures given by students instead of teachers?</td>
<td>83</td>
<td>1</td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANSWERS TO QUESTION 4</th>
<th>not at all</th>
<th>not quite</th>
<th>a little</th>
<th>very</th>
<th>extremely</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altogether are you satisfied with the lecture?</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>58</td>
<td>48</td>
<td>1</td>
</tr>
</tbody>
</table>

119 of 124 questionnaires were completed by the pupils. 7 of 7 teachers completed the evaluation.
Overall the results of the 8 lessons about sustainable food systems given by the 9 students in 6 different schools as reflected by the answers of 119 pupils and 7 teachers are very positive. The answers mentioned to the take-home messages show that for a significant portion of the pupils one or more aspects made a lasting impression, often aspects to do with their own behaviour or that of people in their surroundings. Scholars were mostly further interested in the issues raised during the lessons, as is evident in the majority of answers to the question of what they would be interested in hearing more about. The desire to learn more and delve more deeply into individual subjects can also be seen. These are valuable outcomes for the pupils, the students and the topics addressed, especially in the light of arising from a 45-minute lesson (or 90-minute session in two cases) in a once-off situation (students as guest teachers). The high levels of satisfaction – 58 pupils were very satisfied and 48 were extremely satisfied with the lessons) are testament to the good work of the students in the preparation and carrying through of their tasks. This is echoed by the teachers’ evaluations: all consistently reported that the subjects were of great interest to their pupils or classes and stated that they were very satisfied with the lessons overall.

5. Analysis of strengths and weaknesses of this teaching activity

- Benefits: self-assurance and fun, it is good to strengthen one’s expertise, intensive work for good teaching and gain experience on how to educate groups of people of different ages.
**Strategic Partnerships**

- **Strengths**
  - learning to react in the moment and be flexible in unpredicted situations
  - knowledge is established/strengthened and new aspects of known topics are learned by the necessity to prepare these for another audience
  - learning to break down information so that the children understand it and learning to choose which points are important, learning to summarise
  - give young people an insight in an important topic to raise awareness, getting direct feedback by activity and participation levels of the pupils
  - the students like giving lectures at school because the children get new impulses about topics they might otherwise not have dealt with in class (something special for the children).
  - the students see potential for cooperation’s between the FH Münster and schools, possibly through school projects, e.g. a school garden
  - learning to plan own activities (encourage independence) → self-developed topic/lecture
  - practicing public speaking, presenting a topic
  - having the teachers present in a supportive way

- **Weaknesses**
  - students don’t have teaching experience / their studies are not aiming on training to be future educators, they usually have no training in pedagogy or didactics
  - a lesson about nutritional education would have been a better choice for students of nutritional sciences and home economics
  - the term ‘lecture’ is misleading for some students (they did not understand that they can use more innovative and active methods)
  - evaluation sheets are difficult to understand for some ages, should be adjusted to the age
  - asking teachers whether they find the pupils more or less responsive in the class presented by students
  - difficulties to correctly assess the level of pupils
  - (limiting the lesson to a presentation-slide based lecture would probably not have been appropriate, but this was not followed so stringently)
6. Set of recommendations: How to organize similar initiatives

- **Preparation:**
  
  - searching for examples / sketches in the internet
  
  - Step by step preparation instead of planning in the big picture
    
    o do not give too much input and don’t use too many methods
  
  - If possible, do the lecture in a room with flexible tables to prepare the room for group work etc.
    
    o For group work think about a method of dividing the whole group into subgroups quickly (save time)
  
  - Be in contact with the teacher beforehand intensively
    
    o discuss the current level of the pupils
    
    o adjust the content to the time and age / level of knowledge
  
  - Talk the presentation through and practice it in front of others, in order to gain self-confidence

- **During lecture:**
  
  - Be prepared for any kind of question
  
  - Try to get access to the classroom before the lecture starts to settle in and prepare everything
  
  - Stay flexible to adjust the process
  
  - Pay attention to the time management:
    
    o Plan some time for carrying out the evaluation sheets
    
    o Good to have a double lesson (back-up-time) for the first time giving a lecture
    
    o Include the pupils as much as possible
## Workshops for students

Developed within the Strategic Partnership project: 1

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Biolebensmittel in die vier Themenfelder der Nachhaltigkeit einordnen (EN) Categorizing organic food into the four fields of sustainability</td>
</tr>
<tr>
<td>Student Lecturer (University)</td>
<td>Geraldine (FH Münster University of Applied Sciences)</td>
</tr>
<tr>
<td>The aim of the Lecture</td>
<td>The overall aim is to provide the pupils with an insight into the topic of sustainability and its definition and importance. At the end of the lesson the pupils can identify and explain the four fields (ecology, economy, health, social) of a sustainable diet.</td>
</tr>
<tr>
<td>Description (schedule)</td>
<td><strong>Topic</strong></td>
</tr>
<tr>
<td></td>
<td>General information about sustainability and introduction to a sustainable diet with its four thematic fields</td>
</tr>
<tr>
<td></td>
<td>Presenting organic food as an example of supporting biodiversity, GM-free agriculture etc. and the tasks that follow</td>
</tr>
<tr>
<td></td>
<td>Discussing the solutions of the task set</td>
</tr>
<tr>
<td></td>
<td>Summarizing the solutions</td>
</tr>
</tbody>
</table>

In a first step, definitions for the terms „sustainability” and „sustainable diets” as well as the introduction to its four fields are given and explained. In the second step, the example of organic food is contextualized within the four fields of a sustainable diet.

<p>| Time needed to carry out the Lecture | 45 minutes |
| Materials &amp; tools necessary to carry out the lecture | 2 worksheets, a blackboard for summarizing the results, a laptop, beamer and speakers to show films, internet, tables and chairs for the amount of participating pupils (pupils need to write) |
| Target group (background, study level) | 5th grade high school |
| Prerequisites | Understanding the terms ‘economy’, ‘ecology’, ‘social’ and ‘health’ |
| Suggested size of scholar’s working groups if applicable | No groupwork in the lecture, but the pupils in the 5th grade could work in pairs and in 7th grade in bigger groups |</p>
<table>
<thead>
<tr>
<th><strong>Effects / learning outcomes (knowledge, skills and social competences)</strong></th>
<th>The pupils can explain the meaning of the term ‘sustainability’ as well as the four fields of a sustainable diet. Also, they are able to contextualize different examples within them.</th>
</tr>
</thead>
</table>
| **If applicable, background literature** | Heinis, Monika; Kunze, Cornelia; Weber, Steffi: *Ernährung - gesund und nachhaltig*, Dr. Felix Büchner- Verlag Handwerk und Technik GmbH  
| **Additional comments** | The topic would be more fitting for a 7th grade since then there would be a wider basis of knowledge to work with. |
## Workshops for students

Developed within the Strategic Partnership project: 2

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
</tbody>
</table>
| Title of the Lecture (original and translated into EN) | Nachhalige Ernährung  
Sustainable Food Consumption |
| Student Lecturer (University) | Anna-Lena (FH Münster University of Applied Sciences) |
| The aim of the Lecture | The aim of the lecture is to give students an insight into the topic sustainable food consumption in order to reflect on their own food consumption. |
| Description (schedule) | - Introduction of the lecture: showing organic and fair-trade food to the pupils; explanation of sustainable food consumption  
- Definition of sustainability, six criteria of sustainable food consumption:  
  1.) Eat more vegetarian food  
  2.) Consume organic food  
  3.) Cook more by yourself  
  4.) Prefer fair-trade food  
  5.) Buy regional and seasonal food  
  6.) Safe resources in your household (15 minutes)  
- Group work (20 minutes) about the six criteria of sustainable food consumption by working with a text. The students should find out which phrases of the text are part of their criteria of sustainable food consumption  
- Students present and explain their solution of the group work (10 minutes)  
- Take home messages to help students to integrate sustainable food consumption in their daily life |
<p>| Time needed to carry out the Lecture | 45 minutes |
| Materials &amp; tools necessary to carry out the lecture | Digital projector, power point presentation, worksheets (printed), document camera, typical ‘sustainable’ products (e.g. fair trade chocolate, organic fruit or vegetables), two pieces of paper to attach on the wall (right or left means ‘yes’ or ‘no’; for asking questions to the pupils to get to know them like “Do you know the term “sustainability”?”), handout |
| Target group (background, study level) | 7th grade (age 12-13) |
| Prerequisites | No previous lectures on or knowledge of sustainability required |</p>
<table>
<thead>
<tr>
<th>Suggested size of scholar’s working groups if applicable</th>
<th>Groups of 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effects / learning outcomes</strong>&lt;br&gt;(knowledge, skills and social competences)</td>
<td>The students…&lt;br&gt;- reflect on their personal food consumption.&lt;br&gt;- Can explain sustainability.&lt;br&gt;- know why sustainable food consumption is important.&lt;br&gt;- know the six criteria (Eat more vegetarian food; consume organic food; cook more by yourself, prefer fair-trade food; buy regional and seasonal food; safe resources in your household) of sustainable food consumption&lt;br&gt;- integrate the new knowledge in their everyday lives.</td>
</tr>
<tr>
<td><strong>Additional comments</strong></td>
<td></td>
</tr>
</tbody>
</table>
Workshops for students

Developed within the Strategic Partnership project: 3

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Preisverleihung: Klimafreundlichster Apfel im Februar 2018 / Award for the environmentally friendliest apple of February 2018</td>
</tr>
<tr>
<td>Student Lecturer (University)</td>
<td>Johanna Leister (FH Münster, University of Applied Sciences)</td>
</tr>
<tr>
<td>The aim of the Lecture</td>
<td>The pupils should know which criteria an apple must meet to be environmentally friendly: difference between organic and non-organic farming, difference between regional and non-regional fruits, difference between fresh, seasonal and stored, non-seasonal fruits. The pupils should be able to answer the question: Which apple is the environmentally friendliest apple at this time of the year?</td>
</tr>
</tbody>
</table>
| Description (schedule) | 1. **Introduction** by warmly welcoming the scholars as part of the award show for the environmentally friendliest apple of February 2018 (adaptable), where they themselves are the jury and the student is the presenter. Introducing the six candidates: one organic apple from Germany, one non-organic apple from Germany, one organic apple from Spain, one non-organic apple from Spain, one organic apple from New Zealand and one non-organic apple from New Zealand. Pointing out that the goal of the lecture is to award the environmentally friendliest apple.  
2. **“Opener”**: Finding out about how deep the scholar’s background knowledge is by creating a mind map about: “What do you know about the term “environmentally friendly”?”. Making sure that scholars know that you can measure how environmentally friendly a product is by knowing how much energy it spends and how much CO₂ it emits (on blackboard: “the less energy it spends and the less CO₂ is emitted, the environmentally friendlier is the production of food”).  
3. **Introducing the group work**: One group will get information about the differences between organic and non-organic farming, the second group will find out more about seasonal and non-seasonal, stored fruits and the third group will gather knowledge about regional and non-regional food.  
4. **Implementing the group work**. Supporting the scholars when it comes to difficulties or questions. In the end each group rates how environmentally friendly the different apples are in context of their own group topic.  
5. **Instructing the presentation** of the group work in front of the class: scholars bring together their results in a big table at the blackboard. After every group presented their results, the scholars vote for the environmentally friendliest apple of February 2018.  
6. Giving **Feedback** and repeating the content of the lecture.  
7. Explaining why this lecture has been carried out (describing the SUSPLUS project). |
<p>| Time needed to carry out the Lecture | 45 minutes |
| Materials &amp; tools necessary to carry out the lecture | Blackboard, six different apples, worksheets, label for the different apples, group tables, chairs |</p>
<table>
<thead>
<tr>
<th><strong>Target group (background, study level)</strong></th>
<th>5th – 7th Grade, any kind of school.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prerequisites</strong></td>
<td>Background knowledge about environmentally friendly behavior is preferable.</td>
</tr>
<tr>
<td><strong>Suggested size of scholar’s working groups if applicable</strong></td>
<td>Six scholars per working group</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Effects / learning outcomes (knowledge, skills and social competences)</strong></th>
<th><strong>Knowledge</strong></th>
<th>to get to know the terms organic, seasonal and regional; to be able to decide which apple you should buy in which time of the year to harm the environment the least.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Skills</strong></td>
<td>Working with seasonal calendars, working with world maps, working with texts, compromising information of a text into a few words to sum it up, working in groups, presenting in front of the class.</td>
</tr>
</tbody>
</table>
|                                                                          | **Social Competences:** | a) Group work: considering other scholars and their knowledge and skills, helping them out or letting oneself be helped by the others. Working cooperatively to facilitate the ability to work in teams.  
b) Presenting the results of the group work: Showing solidarity.  
c) Learning Outcomes: Strengthening the social responsibility by learning how not to harm the environment and therefore to act in a sustainable way for themselves and future generations. |

|-----------------------------------------|-------------------------------------------------|

<p>| <strong>Additional comments</strong> | |
|------------------------| |</p>
<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Virtuelles Wasser EN: Virtual Water</td>
</tr>
<tr>
<td>Student Lecturer (University)</td>
<td>Ramona (FH Münster University of Applied Sciences)</td>
</tr>
<tr>
<td>The aim of the Lecture</td>
<td>The aim of the lecture is to give students an insight into the topic ‘virtual water’ in order for them to start reflecting on their personal (food) consumption.</td>
</tr>
</tbody>
</table>
| Description (schedule)        | - Introduction and general information on virtual water (10 minutes)  
- Quiz – individual work or in teams of two (15 minutes)  
- Solution to the quiz and explanation (15 minutes)  
- Take home messages (2 minutes)  
- Time for questions (3 minutes) |
| Time needed to carry out the Lecture | 45 minutes |
| Materials & tools necessary to carry out the lecture | Digital projector, power point presentation, quiz (printed) |
| Target group (background, study level) | 7th grade (age 12-13) |
| Prerequisites                 | No previous lectures on or knowledge of sustainability required |
| Suggested size of scholar’s working groups if applicable | Individual work or teams of two (for the quiz) |
| Effects / learning outcomes (knowledge, skills and social competences) | The students  
- can explain virtual water.  
- have a sense of the amount of virtual water used for different products.  
- understand why the topic is important and relevant for everyone.  
- get ideas about what they can do in their everyday lives to reduce their personal consumption of virtual water. |
Inspiration for the presentation:  
Vereinigung Deutscher Gewässerschutz e.V., online: http://virtuelles-wasser.de/startseite_virtuelles_wasser.html  
Water Footprint Network, online: http://waterfootprint.org/|
| Additional comments           | |


## Workshops for students

**Developed within the Strategic Partnership project: 5**

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td><strong>Title of the Lecture + workshop (original and translated into EN)</strong></td>
<td>Lebensmittelrends und nachhaltige Entwicklung – einige kritische Aspekte</td>
</tr>
<tr>
<td><strong>The aim of the lecture &amp; workshop</strong></td>
<td>Pupil should understand the connection between their decisions in food consumption and the development of a sustainable food system</td>
</tr>
</tbody>
</table>
| **Description & time schedule** | - Brainstorming: What does the term “sustainability” means? Collection of memos on pin board  
- Lecture: Definition of the term “sustainability” and the five dimensions  
- Comparing different muesli bars: which one would they like to eat and why? Brainstorming: what do all this snacks have in common?  
- Definition of the term “superfoods” and a critical view on them in the five dimensions of sustainability  
- Lecture: Definition of the term “regionality” and introducing local superfoods with their advantages in the five dimensions of sustainability  
- Preparation of energyballs and smoothies with local superfoods |
| **Time needed to carry out the lecture & workshop** | 90 minutes (45 minutes lecture, 45 minutes preparation) |
| **Materials & tools necessary to carry out the lecture & workshop** | Digital projector, computer, power point presentation, memo papers and pens, pin board, muesli bars, ingredients for energy balls, kitchen stuff like blender, knifes and cutting boards |
| **Target group (age of pupils)** | Pupil between 7th and 10th grade (age 13 to 16) |
| **Prerequisites** | No special knowledge required; basical information about nutrients advantageous |
| **Effects / learning outcomes (knowledge, skills and social competences)** | Pupils…  
- Know the term “sustainability” and the different dimensions  
- Know the term “superfoods”  
- Can connect their consumer decisions and the effect of sustainable systems  
- Know local superfoods and their advantages compared to exotic superfoods  
Learn how to prepare snacks from local superfoods |


| Additional comments | This lecture is also doable without the part of food preparation

The Materials are listed as followed:

Superfood wirklich so super wie gedacht_Helena_PPP |
## Workshops for students

Developed within the Strategic Partnership project: 6

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture + workshop (original and translated into EN)</td>
<td>Wirf mich nicht weg – Lebensmittelabfall im Privathaushalt (EN) Don’t throw me away – Food wastage in the private household</td>
</tr>
<tr>
<td>The aim of the lecture &amp; workshop</td>
<td>Prevention measure, stimulate the pupils to reflect on their behaviour concerning waste and garbage</td>
</tr>
<tr>
<td>Student Lecturer (University)</td>
<td>Anna (FH Münster University of Applied Sciences)</td>
</tr>
</tbody>
</table>
| Description & time schedule | - Lecture shows a photo which is representative for food waste for about 5 minutes, asks pupils to describe the picture  
- Poses questions, backs answers with factual evidence  
- Pupils individually or together with student teacher create a Mind Map about the reasons of food waste/throwing away food  
- Work sheet is handed out and pupils work in twos |
| Time needed to carry out the lecture & workshop | 45 minutes |
| Materials & tools necessary to carry out the lecture & workshop | Digital projector (for showing photo), USB Stick (photo), (black or white) board, pens (mindmap), photocopier |
| Target group (age of pupils) | Secondary school children/pupils, background knowledge on the subject is not necessary |
| Prerequisites | Basic knowledge about food |
| Effects / learning outcomes (knowledge, skills and social competences) | Scholars are able to: …  
… develop a behaviour regarding food waste  
… analyse and reflect their own consumer behaviour  
… understand the problem of food wastage  
… recognize the ecological and social consequences  
… change from a low esteem of food  
… undertake distinct activities to avoid food waste |

Rechtsquellen:


**Additional comments**

Materials are listed as followed:

A_Unterrichtsskizze_Lebensmittelabfall_Anna_pdf
B_Arbeitsblatt_Lebensmittelabfall_Anna_word
C_Unterrichtsskizze_Lebensmittelabfall_Ausführlich_Anna_word
<table>
<thead>
<tr>
<th><strong>Workshops for students</strong></th>
<th>Developed within the Strategic Partnership project: 7</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Number of the project</strong></th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title/name of the project</strong></td>
<td>SUSPLUS - Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td><strong>Title of the Lecture (original and translated into EN)</strong></td>
<td>Fleisch nachhaltiger konsumieren (EN) Consume meat more sustainably</td>
</tr>
<tr>
<td><strong>Student Lecturer (University)</strong></td>
<td>Alina, Lydia, Pascal (FH Münster University of Applied Sciences)</td>
</tr>
<tr>
<td><strong>The aim of the Lecture</strong></td>
<td>To encourage thinking about the own meat consumption and have fun with the topic of sustainability</td>
</tr>
</tbody>
</table>

**Description (schedule)**

At the beginning of the lesson, the whole class shares habits and experiences to know what daily meat consumption looks like. Then a quiz game is played with the schoolchildren to show what our consumption means to animals and the world. Insects are presented as an alternative to pork, beef and poultry. Teaching media (two video clips) support this. In order to better internalize the learned content, chocolate with insects (mealworms) will be offered for tasting at the end of the lesson. Thus, more senses are addressed while learning.

<table>
<thead>
<tr>
<th><strong>Time needed to carry out the Lecture</strong></th>
<th>45 minutes</th>
</tr>
</thead>
</table>

**Materials & tools necessary to carry out the lecture**

- insect chocolate (or something similar)
- writing tool,
- chairs in the shape of a U.
- Writing paper to write down the answers in the groups.
- A computer, a screen and speakers
- Slides and video clips

**Target group (background, study level)**

6th class (11-13 years old), they have discussed the topic of sustainability in science class. The schoolchildren have already made trips to fattening farms and have pictures in mind.

**Prerequisites**

The teaching unit is designed in such a way that a prior knowledge about sustainability should exist. In this case the topic has already been dealt with in the school. This provides a knowledge base for the students. In addition, participation in the quiz game required a certain level of teamwork, by agreeing on one answer per question in the team. In addition, the knowledge of the group members had to flow together to give the right answer. Also, skills like math, imagination and articulating experiences are necessary. The students as the lecturers can always be consulted with questions.

**Suggested size of scholar’s working groups if applicable**

It is a class of 30 pupils which is divided into two groups of 15 students who compete against each other during the lesson.

**Effects / learning outcomes (knowledge, skills and social competences)**

To get an open vision of life in the context of sustainability in everyday life and to know what mass animal farming and meat consumption mean for our world.


Videoclips shown in the lecture:

Additional comments
Materials are listed as followed:

A_Consume meat more sustainably_Planung der Unterrichtsstunde_Aлина, Lydia, Pascal_word
B_B_Consume meat more sustainably_Wer wird Millionär_Vorlage_Arina, Lydia, Pascal_ppp
1. Description of the target groups (group of students and schools)

WHO?

Description of student profile: names, study programme, year, nationality

Description of schools (grade, major)

A total of six students took part in the project. Elisa Cordara and Luca Tripaldi, both Italian UNISG students of the first year of the Master program in Promotion and Management of Gastronomy and Tourism Heritage, gave lectures to two classes of the first year. The other four students attended the second year of the Bachelor's degree in Gastronomic Sciences (Degree Class in Food Science and Technology) at the University of Gastronomic Sciences of Pollenzo. Philip Linander, from Sweden, and Fabio Tuccillo, from Italy taught second year students while Mia Schembs, from Germany, and Matteo Tomas, from Italy, gave a lecture to those of the third year.

The target school was “Istituto Salesiano San Domenico Savio” (St Dominic Savio Salesian Institute), based in Bra (CN). It is a "Scuola secondaria di primo grado" (Middle school) and it lasts three years. Students are aged from 11 to 14 years. The following subjects are taught: Italian, Mathematics, English, Science, Technology, History, Geography, Religion, Music, Physical Education, Art, Reading, Computer Science and Civic Education. At the end of the three years students must pass an exam that allows them to access further study courses.

2. Undertaken tasks/topics

WHAT? HOW? WHEN?

Object and process

Before the lectures, brainstorming sessions were held between students alone and also with prof. Paola Migliorini of UNISG and prof. Francesca Chiarla of the target school. Once the topics of the lectures have been identified, the students developed their content and decided the modalities of how to carry out the lecture. Also, background literature was used. After the content was revised, lecture simulations were carried out between the students and the facilitator. In this occasion, feedbacks were collected, and improvements were made.
Lectures were held on the 12th and 19th March 2018 at “Istituto Salesiano San Domenico Savio”. Student couples had 45 minutes to carry on the lecture with the support of a PowerPoint presentation and other materials, such as textbooks, soil samples and food depending on the topic. The lectures, carried out entirely in Italian, included an initial presentation of the students, the development of the content and some interactive activities with the pupils. Space for pupils’ questions and opinions was always available during the lecture. At the end, the pupils answered the questionnaires and group pictures were taken.

3. Outcomes (most spectacular)
   - Lectures content

Of the 4 total lectures, 3 had different topics. According to the advice of the school teacher, the three topics were chosen based on the general level of preparation of the class and the topic most discussed in that current year. That is, fairy tales and myths for the first year, science for the second and globalization and nations for the third.

During the lecture called “Il cibo e il mito” (Food and myth), concepts regarding sustainability, food and the environment were addressed in the two classes of the first year through storytelling. In particular, the pupils read the myth of Persephone from which they drew elements such as seasonality, recycling and food waste. An important element dealt within this lesson is that of disgust and how it affects food choices.

The second lecture was entitled “Il suolo: un organismo vivente” (The soil: a living organism) and it was divided into three parts. The first being an overview of the composition and the main function of the soil, the second consisted in a sensory analysis of a soil sample and the third was an open discussion on behaviors and possible solutions to problems such as soil degradation and loss of fertility. The main objective of the lecture was to awake a feeling of care towards the soil and to shed light on its central role, its vulnerability and its capacity to sustain life.

Finally, the lesson given to the pupils of the third year was entitled ”Lo spreco alimentare, globalizzazione e stagionalità” (Food waste, globalization and seasonality) and it provided the tasting of some foods in season and out of season. Starting from the significance of seasonality and territoriality, the students interacted with the pupils by asking them what their favorite foods were. Taking the case of pizza, the students with the help of the pupils tried to understand where the ingredients could come from and whether it was correct to define pizza as an Italian product. In addition, they took the example of banana and chocolate to explain the phenomenon of
globalization. In the end, the students explained how to preserve fruits and vegetables to reduce food waste.

- **Impact on pupils**

Among the "Take Home Messages", the pupils of the two classes of the first year have expressed their own concerns for the planet, inciting to implement actions for the protection of the environment. According to the pupils, these actions include: eating seasonal food, recycling and not wasting food. Moreover, the pupils understood the power of storytelling to lose messages on current issues.

The main learning outcome of the second lecture consisted in a different consideration of the soil. They understood that the soil is connected to absolutely everything, not only with a holistic approach, but also with a systematic world view. The pupils, who were not used to get their hands dirty, broke down the cultural barrier of disgust towards the soil through the sensory experience that the students provided. The sensory analysis was for sure the most important and impressive part of the lecture because the pupils focused on something initially perceived as dirty and disgusting and that then was explained as vulnerable and full of human-like values. Pupils’ impact was also on the understanding on the value of the trophic system inside the soil and the notion that the more complicated this system is, the better it works. Some of the "Take Home Messages" of this lecture are the following: “The soil must be treated with care because it is like another world”, “The soil must be protected and preserved because it is essential for humanity”, “I’m now aware that the soil is like a living organism and we usually do not care about it”, “It is fun to interact with the soil as well as it is fun to discover nature”.

From the third lesson the pupils have drawn autonomously conclusions about globalization and seasonality. They have established a dialogue with the students who have touched on points such as import and export of food, transport, pollution, seasonality and food preservation. Some pupils expressed their interest in the topics discussed and considered it better to eat seasonal, local and organic foods rather than ultra-processed ones.

- **Skills development for students**

Students have improved their ability to organize, work in groups, plan strategically as well as to communicate. They were able to make logical links and syntheses between parts of complex concepts such as globalization and sustainability. Therefore, they were easily able to explain such concepts to a younger audience. Students learned how to integrate practical elements into
a lecture in order to make everything more interactive and interesting for pupils. They have shown themselves to be creative and to have the ability to visualize abstract concepts with the use of metaphors and analogies. In addition, the students were able to listen to pupils’ questions and answer even the strangest ones in the most correct way possible, showing fast reasoning and problem-solving skills. Finally, the students were professional, flexible and full of enthusiasm and showed respect and empathy towards the pupils, the teachers and the topics discussed.

4. Feedback from the participants
   a. Pupils feedback
      Results of survey
      A total of 91 pupils took part in the project. The first two classes were composed of 19 and 17 students, the second year of 30 and the third of 25. The vast majority of students referred to the key words of the lecture as "Take Home Message" and showed interest in deepening the topics discussed in the 45 minutes available.
      The analysis of the frequencies showed that out of the total, 86 pupils say it is better to have the lessons taught by students instead of teachers, while only 5 pupils are unsure of which answer to give. No pupil says that it is not better to have a lecture from students. Among those who are unsure, 4 are from the same class of the first year and one from the second. The reasons why the lectures taught by students are considered to be better include: the novelty, the ease of communication and understanding, the fun, the peculiarity, the possibility of interacting while learning. Regarding the topics covered during the lecture, the pupils expressed a deep interest mainly because such arguments are never dealt within the regular course of studies. Therefore, they felt that such topics were new, important and useful for opening more general and complex discussions. Moreover, the pupils were aware of the fact that the students were deepening their knowledge while giving the lecture, showing curiosity and interest for the subjects that the students were dealing with at that moment.
      On a scale of 1 to 5, where one stands for "not at all" and 5 for "extremely", the mean value of the satisfaction level of all students is 4.54 (SD = .54). In detail, the mean values and the standard deviations for each class are as follows: I A (M = 4.53, SD = .51), I B (M = 4.47, SD = .72), II A (M = 4.57, SD = .50), III A (M = 4.56, SD = .51).

   b. Teachers feedback
      Results of survey
Four teachers took part in the questionnaire. They teach Mathematics and Science, Technology, English and Italian at “Istituto Salesiano San Domenico Savio”. On a scale of 1 to 5, where 1 = strongly disagree and 5 = strongly agree, they showed strong agreement with the statements proposed in the questionnaire. That is, “Pedagogical methods are relevant” (M = 4.5, SD = .58), “Students’ explanations are relevant” (M = 4.25, SD = .50), “The lecture is suitable to the lever of my class” (M = 4.25, SD = .50), “The pupils are more responsive because lecturers are students instead of teachers” (M = 4.5, SD = .58). The overall level of satisfaction with the lecture according to teachers’ opinion is 4.75 (SD = .50) on a maximum of 5. Moreover, some teachers suggested that the lesson should be conducted in English.

5. Analysis of strengths and weaknesses of this teaching activity
   Elaboration and reflection on feedback

Overall, the students had a lot of fun and enjoyed the feeling of having taught something, while being themselves the ones who were still learning. While taking the experience with seriousness and commitment, they gladly managed to stay in contact with the pupils, to work in groups and to talk about topics of interest to them. Being a direct part of making people more conscious about serious issues made the students more willing to take part in the project enthusiastically. Moreover, during the teaching activity, the same interest in the subject has increased. However, the students realized that some improvements were possible to be made.

Students suggested working more on the flow of keywords while giving a lecture. Keywords have to logically make sense to both the speaker and the audience. That is because some messages can be really powerful, but they lose their edges without a logical train of thought. General concern was about how to approach a pre-adolescent public in order to give simple and effective explanations of complicated concepts. In order to do this, analogies, visible examples and suitable metaphors have become important teaching tools. Moreover, some moments of chaos occurred during the teaching activity and sometimes it was difficult to get the order back. The principal reason for the chaos was the pupils’ strong interest in the topics discussed that gave rise to lively discussions.

The strength of this teaching activity was to reduce the generation gap between teachers and students. This allowed to create a less rigid dialogue and a more interactive participation by all the pupils. In addition, even the breaking of the routine allowed to increase the interest of the pupils through activities other than the daily order, with topics unrelated to the school
Strategic Partnerships for Higher Education

curriculum and with students-teachers never seen before. The novelty factor has therefore made the pupils more curious and interested and willing to ask a lot of questions.

On the other hand, the students strengthened their knowledge about the topic they spoke about during the lecture and appreciate the interactions with a younger but relatable audience.

6. Set of recommendations: How to organize similar initiatives

The students suggested to introduce optional courses or extra hours of the school curriculum to deepen the topics covered during the lecture, since 45 minutes did not seem sufficient to talk about such large and important topics. It was also proposed to carry out these lectures outside the classroom, such as in the garden or in the canteen in order to bring pupils closer to the topics covered. It would also be useful to perform some lectures in the university where the students are learning the topics explained during the lecture.

Furthermore, it was proposed to meet the pupils the day before the lecture in order to prepare them and further increase their curiosity.

Another idea would be to create partnerships between students and pupils who are willing to it, in order to keep the kids updated on such issues.
## Workshops for Students

**Developed within the Strategic Partnership project - 1**

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<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Il cibo e il mito- Food and myth</td>
</tr>
<tr>
<td>Student Lecturer (University)</td>
<td>Elisa Cordara, Luca Tripaldi</td>
</tr>
<tr>
<td>The aim of the Lecture</td>
<td>We want to teach some concept about food sustainability with the lecture about a myth, we will connect the precept presents in the text with some practical advice to apply in the everyday life.</td>
</tr>
<tr>
<td>Description (schedule)</td>
<td>We use a contemporary reference that explains a very simple concept. Than we try to let them talk about movies, comics, etc. that can be related with this idea. Then we will introduce the myth as a reference. Ancient people used to explain difficult concepts with this form of narration. We will explain the concept of meaning. We will make the students read the myth/narration. For this part we could have used multiple tools, such as another video, but we chose the myth because it's more connected with their school curriculum. In the last part we will let them talk about what they have learned from the narration, we will try to teach them some practical advice about food sustainability and we will propose them an activity to verify what they have understood in a playful way.</td>
</tr>
<tr>
<td>Time needed to carry out the Lecture</td>
<td>45 minutes</td>
</tr>
<tr>
<td>Materials &amp; tools necessary to carry out the Lecture</td>
<td>PowerPoint presentation, textbook of reference about the myth, the final quiz.</td>
</tr>
<tr>
<td>Target group (background, study level)</td>
<td>Students of the first year of “Scuola secondaria di primo grado” (Middle school), age 11-12.</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>Basic knowledge of myth and fairy tale.</td>
</tr>
<tr>
<td>Suggested size of scholar’s working groups if applicable</td>
<td>For the first part we don’t need to separate the students in groups. In the final quiz the students need to be separate in groups of four/five.</td>
</tr>
<tr>
<td>Effects / learning outcomes (knowledge, skills and social competences)</td>
<td>We will elaborate on their knowledge about myth and fairy tail, with the example of “Proserpina’s myth”, from that they will learn some concept in regards to sustainability, food and environment.</td>
</tr>
</tbody>
</table>
| If applicable, background literature | • Premio letterario Una fiaba per la montagna, 2008, Santhìa, Grafica Santhiatese Editrice  
• Montanari, M., 1995, Il pentolino magico, Roma-Bari, Gius. Laterza e Figli  
• Scotti, M., Valentinis, P., 2006, Un chicco di melograno: come...
<table>
<thead>
<tr>
<th><strong>Additional comments</strong></th>
<th>We attach to the presentation a text, in English and Italian, to better explain the logical lecture’s steps to eventually recreate the project.</th>
</tr>
</thead>
</table>
• Zilocchi, L., 2007, *Fiabe e ricette dalle rive del Po*, Reggio Emilia, Edizioni Diabasis |
**SYLLABUS: WORKSHOPS FOR STUDENTS**

**Developed within the Strategic Partnership project - 2**

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
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<tbody>
<tr>
<td><strong>Title/name of the project</strong></td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td><strong>Title of the Lecture (original and translated into EN)</strong></td>
<td>Il suolo: un organismo vivente – The soil: a living organism</td>
</tr>
<tr>
<td><strong>Student Lecturer (University)</strong></td>
<td>Philip Linander, Fabio Tuccillo</td>
</tr>
<tr>
<td><strong>The aim of the Lecture</strong></td>
<td>Awaken a feeling of care towards the soil, an ecosystem that is difficult for many people to be seen as such. Therefore, the aim is to shed light on the central role of the soil, its vulnerability and its capacity to sustain life.</td>
</tr>
<tr>
<td><strong>Description (schedule)</strong></td>
<td>The lesson is divided into three parts. The first being an overview of the composition and the main functions of the soil. Moving on, we show to the students a soil sample to concretize the before mentioned aspects in order to “humanize” them. By talking about the soil as a living organism, the students will understand the problems behind degradation and loss of fertility. In the end, we figure out with the sample in front of us what kind of behavior brings possible solutions to the before mentioned problems.</td>
</tr>
<tr>
<td><strong>Time needed to carry out the Lecture</strong></td>
<td>45 minutes</td>
</tr>
<tr>
<td><strong>Materials &amp; tools necessary to carry out the lecture</strong></td>
<td>PowerPoint presentation, soil samples, pictures, two pieces of paper for two distinct purposes. One for free note taking during a specified time and the other for answering specific questions that will be written on the board.</td>
</tr>
<tr>
<td><strong>Target group (background, study level)</strong></td>
<td>Students of the second year of “Scuola secondaria di primo grado” (Middle school), age 12-13, basic knowledge of science and chemical elements.</td>
</tr>
<tr>
<td><strong>Prerequisites</strong></td>
<td>Basic knowledge of science and chemical elements.</td>
</tr>
<tr>
<td><strong>Suggested size of scholar’s working groups if applicable</strong></td>
<td>Pairs</td>
</tr>
<tr>
<td><strong>Effects / learning outcomes (knowledge, skills and social competences)</strong></td>
<td>New ways of looking at your surroundings as something living, as part of an organization that depends on our respectful behavior. The understanding of the functions that soil has (supporting, provisioning, regulating and cultural services). Understanding the value of the trophic system inside the soil and the notion that the more complicated this system is, the better it works.</td>
</tr>
<tr>
<td><strong>Additional comments</strong></td>
<td>The lesson will be held entirely in Italian. However, for educational purposes we have decided to give the students a PowerPoint presentation with key words in English.</td>
</tr>
</tbody>
</table>
Technical University of Madrid

Here is the reporting of the activity SUSPLUS Lectures in Schools (O8) conducted in Spain, Universidad Politécnica de Madrid.

1. Description of the target groups (group of students and schools)

A total number of 12 students from Universidad Politécnica de Madrid (UPM) were involved in this activity. Four of those students had attended the SUSPLUS e-learning programme and the summer school in Poland in 2017. Eight were newly recruited students who were trained for this specific activity. Some of these students were Master level students and others were Bachelor level students, all in topics related with agriculture.

They worked in pairs and each pair of students gave two lectures in a Secondary School in Madrid.

The school is called “Jesús – María” (http://jesus-maria.net/juanbravo/) and is located in the center of Madrid (C/ Juan Bravo, 13, 28006 Madrid).

The school has around 550 students who attend grades 7th – 12th, aged 12-18 years old.

Lectures were given to three classes of 7th grade, three classes of 8th grade, three classes of 9th grade, 2 classes of 10th grade and 1 class of 12th grade.

There were 12 lectures in total (6 groups of UPM students) and the total number of pupils who attended the lecture was around 250 – 300 pupils.

The lectures took place on Thursday, April 5th, from 15 – 16 h the first lecture and 16 – 17 h the second lecture.

2. Undertaken tasks/topics

The broad topic of the lecture was “Sustainability of Food Systems”. It was not going to be a “formal” lecture, but an interactive class where students would encourage pupils to participate and learn about sustainable food systems.

Each group of students selected a specific topic in the framework of sustainability. The topics dealt with the following issues: food safety and sustainability, sustainable logistics, scarce resources and sustainability.
Each class lasted 1 hour approximately. Students had prepared different activities. One of the groups started with a game that compared scarce resources (for example, water) with sweets, so students had to decide if they wanted more sweets, knowing there were going to finish them; another one posed questions to pupils in groups, another one had a brainstorming activity which started with “sustainable”, etc.

3. Outcomes (most spectacular)

University students were thrilled about this activity. They had been preparing the topics which they found interesting and learnt a lot about them and how everything relates to sustainability. They had prepared different activities, not just a formal lecture, in order to encourage pupils to take part in the class. Also, they had a chance to talk to a different audience and they found it was challenging. They were surprised on how the pupils were into the subject, and at the end of the lecture how concerned about sustainability (which they have never heard of before) and how they were asking all type of questions.

4. Feedback from the participants: pupils and their teachers

67 questionnaires were completed by pupils (not all questions answered) and 6 by teachers from different school subjects (math, physics, language, French and English teachers).

Students were mostly satisfied or very satisfied by the lectures given and teachers were extremely satisfied with the activity.

Almost all of them were satisfied or very satisfied by the lecture and liked to have students giving lectures instead of teachers. Among the reasons pupils gave to why they enjoyed having students they gave were that they ”understand our language”, ”we feel closer in age”, ”they were very funny”, ”I enjoyed not having the regular classes”.

The answers to question 1 really depended on the specific lecture they had. Some pupils mentioned “recycling”, or “water footprint”, or “sustainable energy”, etc.

Answers to question 2 “On what subject would like to hear more?” there were not many answers. They mentioned: “sustainable development goals”, “fair trade”, “better logistics”, “hydroponics”, “clean energy”, etc.
The teachers which supervised the activity were very satisfied by our students lectures, however, there were different answers regarding the question of pupils responsiveness. Some mentioned they were surprised to see how motivated were some students that are not usually paying attention in class, other mentioned it was fantastic to see how interested they were provided it was the last hour of the school timetable, but another one wrote down he was not very sure pupils had been more responsive than when they are the ones giving the lectures.

4. Analysis of strengths and weaknesses of this teaching activity

We have had a meeting once the activity was carried out in order to have the students’ questionnaires completed and to have some feedback of the lectures.

They were all very happy on how it went, it was a new experience and they enjoyed it: “It was something that I have never done before, so it was quite an exciting experience, being in the in the ‘’teacher’’ role was indeed the thing that scared me the most. Teaching these boys and girls something that I know, was very rewarding.” Or “I liked it so much that I would repeat the experience. I enjoyed transmitting respect for the environment to teenagers”

“The slides displayed perfectly and the images helped to understand the concepts. The students seemed to understand everything very easily, so the lecture appears to be well prepared and presented”

5. Set of recomendations: How to organize similar initiatives

- Start the lecture with a brainstorming or a funny game, to introduce the topic to a younger audience.
- You need to be prepared to answer any question, so keep calm.
- Speak slowly and do not give for granted that pupils know about the subject. Sometimes the most basic idea is the most interesting one for them.
- If you divide the class into groups, make sure all students take part in the activity.
- Try different activities while doing the lecture, let pupils talk and express themselves.
Pictures of the activity

Preparing the lectures

Students and teachers ready for the “Lectures in Schools”
Strategic Partnerships
for Higher Education
**SYLLABUS: WORKSHOPS FOR STUDENTS**

Developed within the Strategic Partnership project

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<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>The title of the lectures were: “Sostenibilidad de la Seguridad Alimentaria” (Sustainability of Food Safety), “Sostenibilidad y Logistica Alimentaria” (Sustainability and Food Logistics) and “Sostenibilidad” (Sustainability)</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>Universidad Politécnica de Madrid</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>The main purpose of this lecture was to give the pupils an idea of what sustainability is, and how it affects the current state of the planet and the future of it. It was directly related with food and crops, and water resources.</td>
</tr>
<tr>
<td>Description (schedule)</td>
<td>There were different lectures and they followed different structures. One of them (targeting the oldest pupils) started with a general question about sustainability, then, they discussed about food safety and food waste. Another lecture, for the youngest pupils, started with a game. Students had to choose the number of sweets they wanted, considering it was a scarce source. This led to a discussion about natural resources and sustainability. Another one dealt with water and the logistics of cultivation. It encouraged students to propose ideas to protect the current state of the world and talked about hydroponics and other ways of cultivation.</td>
</tr>
<tr>
<td>Time needed to carry out the lecture</td>
<td>The lectures, games and discussion lasted 60 minutes. There were carried out several times for different groups.</td>
</tr>
<tr>
<td>Materials &amp; tools necessary to carry out the lecture</td>
<td>Computer for Powerpoint presentation, internet connection, blackboard, paper plates and candy for a game, papers and pens.</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>None. Pupil’s age varied from 12 to 18 years old and the lectures were adapted to the class.</td>
</tr>
<tr>
<td>Effects / learning outcomes (knowledge, skills and social competences)</td>
<td>Our UPM students learnt it is important to let pupils express themselves, since some of their questions reveal they already know about the subject and are interested in learning about it. It was a good idea to prepare different activities to engage pupils, not just a plain lecture. Pupils are willing to collaborate in the learning process.</td>
</tr>
<tr>
<td>If applicable, background literature</td>
<td>None</td>
</tr>
<tr>
<td>Additional comments</td>
<td>Students were very happy with the activity, and pupils enjoyed the special class.</td>
</tr>
</tbody>
</table>
Warsaw University of Life Sciences

1. Description of the target groups (group of students and schools)

WHO?

A total number of 8 students from Warsaw University of Life Sciences (WULS) were involved in this activity. All of these students were Bachelor level students from Faculty of Human Nutrition and Consumer Sciences. Their names are the following:

1. Karolina Drużna – Bachelor level, 3rd year, Polish
2. Ewa Grzesiuk – Bachelor level, 3rd year, Polish
3. Mateusz Gardynik – Bachelor level, 3rd year, Polish
4. Aleksandra Gruszczyńska – Bachelor level, 3rd year, Polish
5. Katarzyna Kowalczyk – Bachelor level, 3rd year, Polish
6. Małgorzata Odrzygóźdź – Bachelor level, 3rd year, Polish
7. Alicja Jagodzińska – Bachelor level, 3rd year, Polish
8. Katarzyna Wierzchowska – Bachelor level, 3rd year, Polish

University students worked in four pairs and each pair gave one lecture on a topic related to sustainable food systems in a selected secondary school - „Zespół Szkół Gastronomicznych im. prof. Eugeniusza Pijanowskiego” located in the center of Warsaw, Poland (Poznańska 6/8, 00-680 Warszawa) [https://admzsg.edu.pl/](https://admzsg.edu.pl/).

The school has above 1000 students aged 14-19 years old.

Lectures were given in the 1st – 3rd class of secondary school. There were 4 lectures in total (4 pairs of WULS students) and the total number of pupils who attended the lecture was around 100.

The lectures took place on Friday, March 23rd, at 8.50-11.30 h and 11.40-13.20 h, and Friday, April 6th at 8.55-10.35 h and 10.45-12.25 h.

2. Undertaken tasks/topics

Each group of students selected a topic in the area of the sustainability of the food systems. The topics were as follows:

(1) Slow food,
(2) Local superfoods,

(3) Organic food production,

(4) Fighting food waste

WHAT? HOW? WHEN?

Each class lasted approximately 2 hours (90 minutes) and consisted of two parts (45 min each), in that: a main lecture conducted by students on their topic and a workshop or another activity engaging and activating the pupils (quiz, Oxford debate).

Each group of students prepared materials to be used within the planned activities. They were as follows:

- Scenario of the Oxford Debate (in the Slow food topic)

- Quiz questions and tables showing nutritional value of selected products from local and exotic superfoods (in case of Local superfoods topic).

- Tables with prices of selected organic products and their non-organic counterparts, to be used in the discussion and to count prices of an example of organic and non-organic dinner (in case of Organic food production topic).

- Examples of ‘food waste’ that could be used to prepare meals, as an inspiration for the pupils, who had a task to prepare their own proposals of meals (in case of Fighting food waste topic).

3. Outcomes (most spectacular)

University students deepened their knowledge about different sustainability aspects. They also discovered what a challenge it is to teach younger people. For some of them it was inspiration for further actions into this direction. It was an important training, enhancing skills such as i.e.: organizing a class from the beginning to the end, keeping young people’s attention, working in teachers’ group (pair), leading discussion, debates etc..

4. Feedback from the participants

4.1. Pupils’ feedback

Results of the evaluation survey
Altogether 93 evaluation questionnaires were completed by pupils. 65% of them were satisfied or very satisfied by the lecture (see question 4) and about 52% confirmed that in their opinion it is better to have lectures given by students instead of teachers (see question 3).

<table>
<thead>
<tr>
<th>Answers to question 3</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you say that it’s better to have lectures given by students instead of teachers?</td>
<td>46</td>
<td>6</td>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Answers to question 4</th>
<th>not at all</th>
<th>not quite</th>
<th>a little</th>
<th>very</th>
<th>extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altogether are you satisfied with the lecture?</td>
<td>2</td>
<td>9</td>
<td>21</td>
<td>45</td>
<td>12</td>
</tr>
</tbody>
</table>

**Answers to question 1** about the „take home message”: pupils mentioned mainly the following key words: organic food, biodiversity, the impact of organic food on health, it’s good to eat healthy, superfoods, local food, slow food, sustainable food, food waste.

**Answers to question 2** „On what subject would you like to hear more?”: pupils replied mainly as follows: organic agriculture, organic food, Polish vs. foreign superfoods, GMO, pesticides, local food, impact of conventional agricultural production on environment, zero waste, food waste processing.

4.2. Teachers feedback

**Results of the evaluation survey**

**Evaluation by 5 teachers**: Most of the teachers participating in the activity agreed that they were very satisfied with the lecture. Most of the teachers agreed with the following statements: Pedagogical methods are relevant; Students’ explanations are relevant; The lecture is suitable to the level of my class. Two teachers were unsure whether the pupils were more responsive because the students instead of teachers were playing role of ‘lecturers’.

5. **Analysis of strengths and weaknesses of this teaching activity**
University students were very happy about the new experience. All of them admitted that it was very challenging, but interesting and enriching to teach secondary school pupils. They had the impression that the pupils were listening with interest to presented contents and understood it very well. They learned a lot from this teaching/learning experience, and would like to repeat similar activity in the future, to use the gained experience and improve the classes.

6. Set of recommendations: How to organize similar initiatives

On the basis of supervisors’ and students’ observations we could give some recommendations for similar activities to be organised in the future:

- It is a good idea to suggest the students to start the lecture with a quiz or some game as an introduction to the topic of the class, to pre-assess pupils’ level of knowledge on a given topic and adjust further explanations.
- It is good to present some innovative teaching methods to the students, so that they could implement them in the lessons/workshops.
- It is very important to make sure students are very well prepared to the topic of the lesson - secondary school pupils ask many questions related to the studied topic.
- It is very important to organise a meeting with students once they finish their preparations for the class, so that they could present their idea of the class and their lesson/lecture to other students’ groups and to the supervisors, and to get substantial feedback (and improve, if necessary) before they go to the school.

7. Annex I (documentation and photos)
Strategic Partnerships
for Higher Education
**Syllabus: Workshops for Students**

Developed within the Strategic Partnership project

<table>
<thead>
<tr>
<th>Number of the project</th>
<th>2016-1-PL01-KA203-026652</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Przeciwdziałanie marnotrawstwu żywności (Fighting food waste)</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>Dr. Dominika Średnicka-Tober</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>To explain how important is the problem of food waste both on the local and global level; To present the possibilities of better use the food that is produced; To show an idea of using food waste as raw materials.</td>
</tr>
</tbody>
</table>
| Description (schedule) | I. Meeting with students and introduction to the project & potential range of topics to select,  
II. Meeting with students and discussions on their proposals of topic and the scope of lectures,  
III. Development of a joint presentation on the sustainability topic,  
IV. Elaboration of the lecture & workshop,  
V. Lesson in school,  
VI. Final meeting, students presentation, certificates |
| Time needed to carry out the lecture | The lecture lasted 90 minutes and consisted of two parts (45 min each):  
- a main lecture conducted by students on their topic  
- a workshop with a task of preparing proposals of dishes from food wastes, which could be e.g. a dinner dish, snack or bread paste - engaging and activating secondary school students. |
| Materials & tools necessary to carry out the lecture | Materials to the workshop:  
- Examples of food wastes that could be used to prepare meals, as an inspiration for the pupils, who had a task to prepare their own proposals of meals |
| Target group (background, study level) | Two students from Warsaw University of Life Sciences (WULS) were involved in this activity. Students were recruited and trained for this specific activity. These were Bachelor level students, in topics related with food and nutrition.  
They worked together and gave one lecture on the selected topic connected to sustainable food systems in a Secondary School in Warsaw. The school is called „Zespół Szkół Gastronomicznych im. prof. Eugeniusza Pijanowskiego” and is located in the center of Warsaw, Poland (Poznańska 6/8, 00-680 Warszawa).  
The school has above 1000 students aged 14-19 years old. |
<p>| Prerequisites | Master or Bachelor level students from WULS, all in topics related with agriculture, nutrition and food. |</p>
<table>
<thead>
<tr>
<th>Effects / learning outcomes (knowledge, skills and social competences)</th>
<th>University students had been preparing the lecture about one of the sustainability aspects, which they found interesting and they have deepened their knowledge about the selected topic. They also discovered what a challenge it is to teach younger people. This experience was enriching for them.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If applicable, background literature</td>
<td>-</td>
</tr>
<tr>
<td>Additional comments</td>
<td>After finishing lecture 19 questionnaires were completed by pupils and 1 by teacher (open questions not answered). Students were mostly satisfied or very satisfied by the lectures given, and teacher was very satisfied with the activity.</td>
</tr>
</tbody>
</table>
### SYLLABUS: WORKSHOPS FOR STUDENTS

Developed within the Strategic Partnership project

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Lokalne superfoods (Local superfoods)</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>Doc. Renata Kazimierczak</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>To show alternatives to widely promoted tropical superfoods (cutting food miles); To show that there are equally valuable products on the local market; To show examples of Polish products, so-called local superfoods &amp; examples of recipes.</td>
</tr>
</tbody>
</table>
| Description (schedule)        | I. Meeting with students and introduction to the project & potential range of topics to select,  
I. Meeting with students and discussions on their proposals of topic and the scope of lectures,  
III. Development of a joint presentation on the sustainability topic,  
IV. Elaboration of the lecture & workshop,  
V. Lesson in school,  
VI. Final meeting, students presentation, certificates |
| Time needed to carry out the lecture | The lecture lasted 90 minutes and consisted of two parts (45 min each):  
- a main lecture conducted by students on their topic  
- a workshop consisted of quiz for pupils and a task of preparing by them a menu proposal - engaging and activating high school students. |
| Materials & tools necessary to carry out the lecture | Materials to the workshop:  
- Quiz questions and tables contained nutritional value of selected products from local and exotic superfoods. Pupils were asked to prepare a menu for people with various deficiencies in the diet. Their task was to use food belonging to the group of superfoods from both Poland and the exotic countries. |
| Target group (background, study level) | Two students from Warsaw University of Life Sciences (WULS) were involved in this activity. Students were recruited and trained for this specific activity. Students were Bachelor level students, in topics related with food and nutrition.  
They worked together and gave one lecture on the selected topic connected to sustainable food systems in a Secondary School in Warsaw. The school is called „Zespół Szkół Gastronomicznych im. prof. Eugeniusza Pijanowskiego“ and is located in the center of Warsaw, Poland (Poznańska 6/8, 00-680 Warszawa).  
The school has above 1000 students aged 14-19 years old. |
<table>
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<tr>
<th>Prerequisites</th>
<th>Master or Bachelor level students from WULS, all in topics related with agriculture, nutrition and food.</th>
</tr>
</thead>
</table>
| Effects / learning outcomes (knowledge, skills and social competences) | University students had been preparing the lecture about one of the sustainability aspects, which they found interesting and they have deepened their knowledge about the selected topic.  
They also discovered what a challenge it is to teach younger people. This experience was surprising and enriching for them. |
| If applicable, background literature | - |
| Additional comments | After finishing lecture 23 questionnaires were completed by pupils and 2 by teachers (open questions not answered).  
Students were mostly satisfied or very satisfied by the lectures given, and teachers were very satisfied with the activity. |
# Syllabus: Workshops for Students

Developed within the Strategic Partnership project

<table>
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<tr>
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<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Produkcja żywności ekologicznej (Organic food production)</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>Doc. Renata Kazimierczak</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>To explain what is the organic food production: what are the basic goals and principles of organic agriculture, whether organic products differ from conventional ones, how to recognize organic food (labeling and certificates); Why organic production is part of the sustainable food system.</td>
</tr>
</tbody>
</table>
| Description (schedule) | I. Meeting with students and introduction to the project & potential range of topics to select,  
II. Meeting with students and discussions on their proposals of topic and the scope of lectures,  
III. Development of a joint presentation on the sustainability topic,  
IV. Elaboration of the lecture & workshop,  
V. Lesson in school,  
VI. Final meeting, students presentation, certificates |
| Time needed to carry out the lecture | The lecture lasted 90 minutes and consisted of two parts (45 min each):  
- a main lecture conducted by students on their topic  
- a workshop with a task of preparing two economic options of the full diner from organic and conventional products - engaging and activating high school students. |
| Materials & tools necessary to carry out the lecture | Materials to the workshop:  
- Tables containing prices of selected organic products and their non organic counterparts, to be used in the discussion and to prepare two options of the full diner from these products. |
| Target group (background, study level) | Two students from Warsaw University of Life Sciences (WULS) were involved in this activity. Students were recruited and trained for this specific activity. Students were Bachelor level students, in topics related with food and nutrition.  
They worked together and gave one lecture on the selected topic connected to sustainable food systems in a Secondary School in Warsaw. The school is called „Zespół Szkół Gastronomicznych im. prof. Eugeniusza Pijanowskiego” and is located in the center of Warsaw, Poland (Poznańska 6/8, 00-680 Warszawa).  
The school has above 1000 students aged 14-19 years old |
<table>
<thead>
<tr>
<th><strong>Prerequisites</strong></th>
<th>Master or Bachelor level students from WULS, all in topics related with agriculture, nutrition and food.</th>
</tr>
</thead>
</table>
| **Effects / learning outcomes (knowledge, skills and social competences)** | University students had been preparing the lecture about one of the sustainability aspects, which they found interesting and they have deepened their knowledge about the selected topic.  
They also discovered what a challenge it is to teach younger people. This experience was surprising and enriching for them. |
| **If applicable, background literature** | - |
| **Additional comments** | After finishing lecture 26 questionnaires were completed by pupils and 1 by teacher (open questions not answered).  
Students were mostly satisfied or very satisfied by the lectures given, and teacher was very satisfied with the activity. |
# Syllabus: Workshops for Students

Developed within the Strategic Partnership project

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<tbody>
<tr>
<td>Title/name of the project</td>
<td>Innovative Education towards Sustainable Food Systems</td>
</tr>
<tr>
<td>Title of the Lecture (original and translated into EN)</td>
<td>Slow food</td>
</tr>
<tr>
<td>Students Lecturer (University)</td>
<td>Dr. Dominika Średnicka-Tober</td>
</tr>
<tr>
<td>The aim of the lecture</td>
<td>To explain what is the slow food movement, what it means and what is the mission/the aims; Why slow food is part of the sustainable food system; To provide examples of slow life style.</td>
</tr>
</tbody>
</table>
| Description (schedule)        | I. Meeting with students and introduction to the project & potential range of topics to select,  
                                II. Meeting with students and discussions on their proposals of topic and the scope of lectures,  
                                III. Development of a joint presentation on the sustainability topic,  
                                IV. Elaboration of the lecture & workshop,  
                                V. Lesson in school,  
                                VI. Final meeting, students presentation, certificates |
| Time needed to carry out the lecture | The lecture lasted 90 minutes and consisted of two parts (45 min each):  
                                        - a main lecture conducted by students on their topic  
                                        - a workshop in an Oxford Debate form - engaging and activating high school students. |
| Materials & tools necessary to carry out the lecture | Material to the workshop:  
                                        - Scenario of the Oxford Debate. The thesis of the debate: Local / organic / sustainable food products are a better choice than conventional products. |
| Target group (background, study level) | Two students from Warsaw University of Life Sciences (WULS) were involved in this activity. Students were recruited and trained for this specific activity. Students were Bachelor level students, in topics related with food and nutrition. They worked together and gave one lecture on the selected topic connected to sustainable food systems in a Secondary School in Warsaw. The school is called „Zespół Szkół Gastronomicznych im. prof. Eugeniusza Pijanowskiego” and is located in the center of Warsaw, Poland (Poznańska 6/8, 00-680 Warszawa). The school has above 1000 students aged 14-19 years old. |
| Prerequisites                 | Master or Bachelor level students from WULS, all in topics related with agriculture, nutrition and food. |
### Effects / learning outcomes (knowledge, skills and social competences)

University students had been preparing the lecture about one of the sustainability aspects, which they found interesting and they have deepened their knowledge about the selected topic.

They also discovered what a challenge it is to teach younger people. This experience was surprising and enriching for them.

### If applicable, background literature

- 

### Additional comments

After finishing lecture 26 questionnaires were completed by pupils and 1 by teacher (open questions not answered).

Students were mostly satisfied or very satisfied by the lectures given, and teacher was very satisfied with the activity.