

# **Evaluation of the GOODFOOD efficacy in changing Italian students' attitudes towards school learning and food**

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## Survey tools

In order to assess any influence of the GOODFOOD methodology on the students from the high school ISIS Ginori Conti in Florence involved in the GOODFOOD project, a survey tool was developed in the form of a questionnaire. The same questionnaire was administered before (PRE) and after (POST) the project piloting, in order to assess any differences in interests, attitudes and behaviours towards school issues and aspects related to food.

The pre-piloting questionnaire was administered on November 6 2023 and the post-piloting questionnaire on June 5 2024.

The questionnaire for the students included five sections:

- Students profile (gender, age) although the questionnaire was totally anonymous
- Perception regarding school subjects with the scope to understand if GOODFOOD changed the students' opinion on the subjects (liked/disliked/difficult/relevant for their future)
- Interest in food related topics
- Attitudes and skills connected to school, learning tools and methods, STEAM and approaches, communication, but also regarding food habits and behaviours
- Choices regarding future career
- Impacts of GOODFOOD project (in the post-piloting questionnaire)

### Links to the survey tools in English

Pre-survey: <https://forms.gle/5UTpUj7785xTbq2j7>

Post-survey: <https://forms.gle/C5wt5tqTbh3URTAc7>

### Links to the survey tools in Italian

Pre-survey: <https://forms.gle/2XP2gKgqk8fEC3ju6>

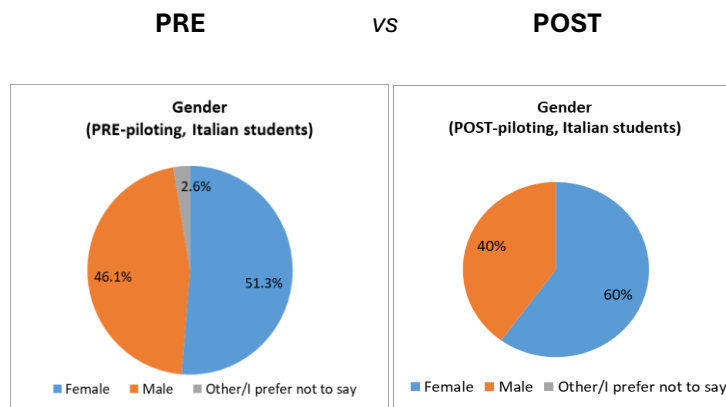
Post-survey: <https://forms.gle/nV8FWMa2Mh914egC8>

# Students' results

## Sample population characteristics

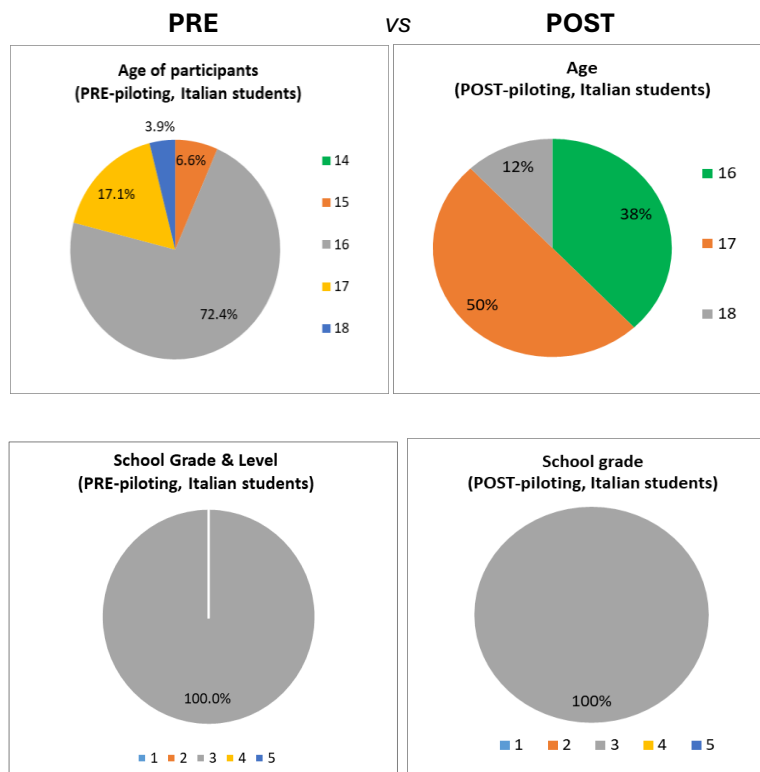
A total of 76 students from three classes of the third grade of the school ISIS Ginori Conti participated in the project although the final questionnaire was filled in by fewer students (50).

Female students were more numerous than males, although the initial percentage in Italy was lower (51% vs. 60%).



Students' age ranged between 14 and 18 years although only younger students (16-18 years old) filled in the POST-piloting questionnaire.

All students participating in the project were from the third school grade.



## “Relatively to your school subjects, indicate whether you like/dislike/find difficult/consider relevant for your future”

In this question we wanted to find out about the students’ opinions on school subjects before and after the GOODFOOD experience.

At the PRE-piloting, Italian students had the following perceptions regarding various school subjects in terms of difficulty, likability, and relevance for their future:

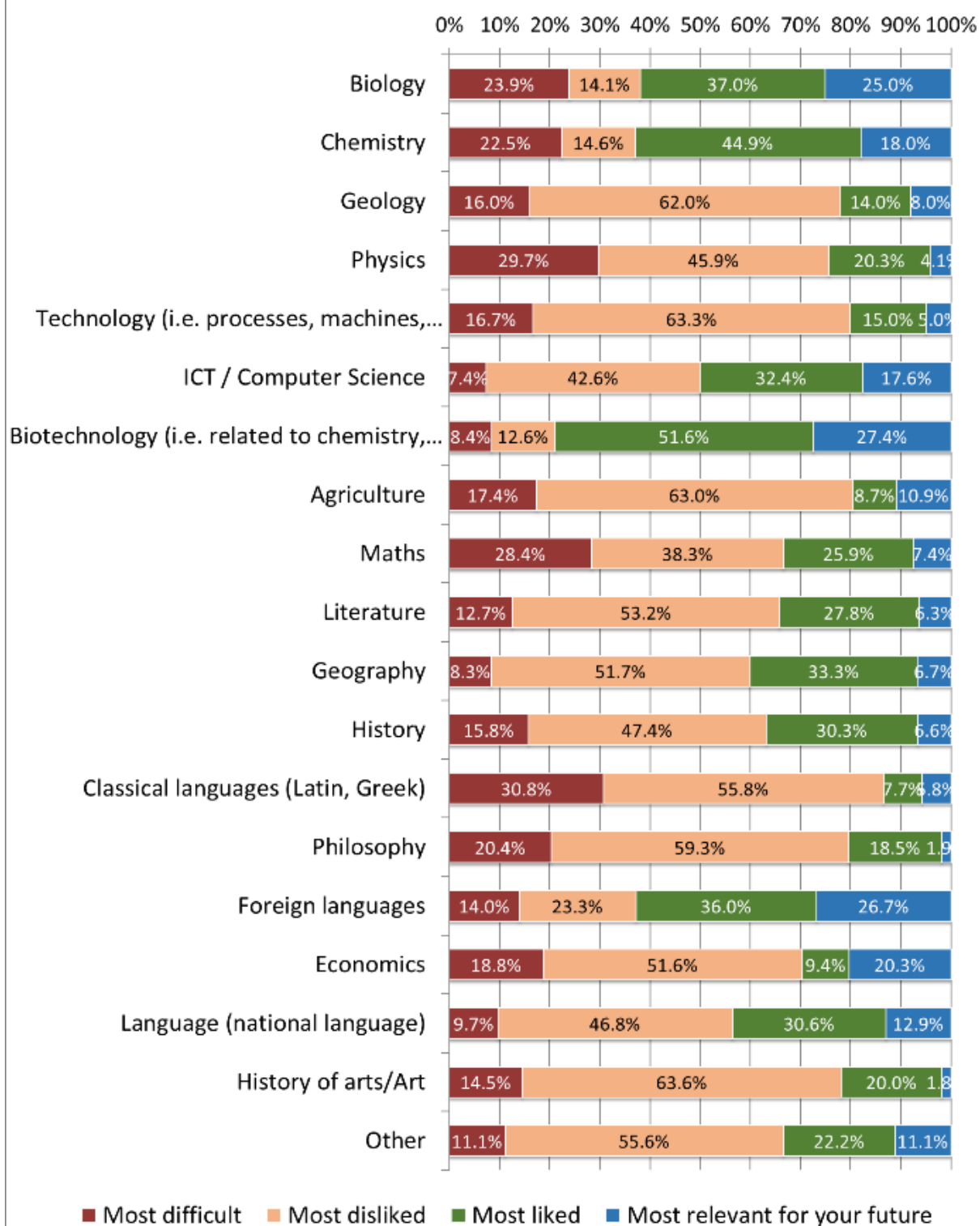
- Classical languages (Latin, Greek) were perceived as the most difficult subjects with 30.8% of students indicating this. Physics and Maths followed with 29.7% and 28.4% of students respectively.
- History of Arts/Art, Technology, Agriculture and Geology were the most disliked subjects by 64%, 63.3%, 63% and 62% of students respectively.
- The most liked subjects were Biotechnologies by 51.6% of students, followed by Chemistry (by 45% of students) and Biology (37%).
- Biotechnology, Foreign Languages and Biology were considered the most relevant subjects for future prospects, with more than 25% of students recognizing their importance.

Biology and Biotechnologies and Foreign Languages were widely regarded as liked and relevant for future prospects.

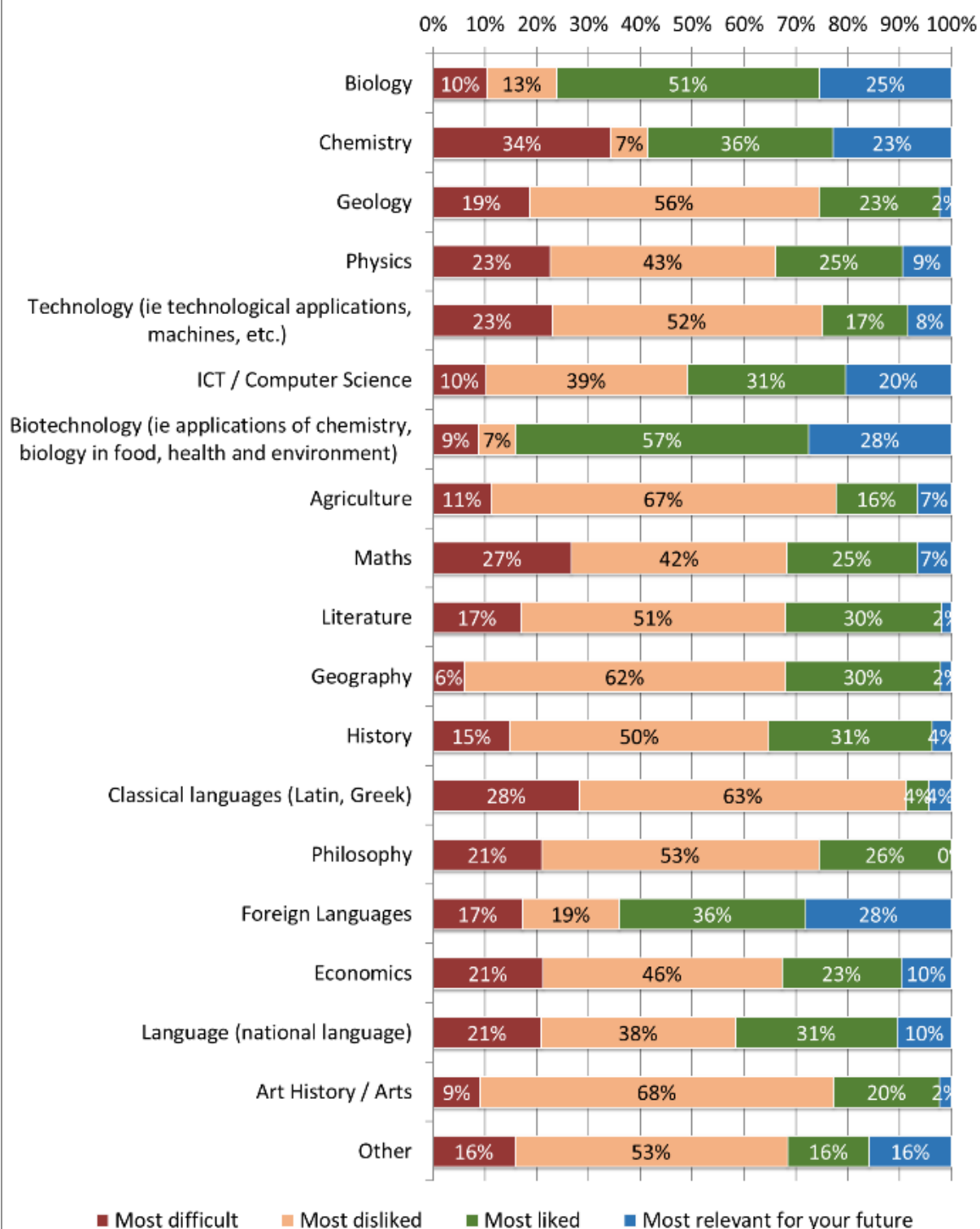
In the POST-piloting, the perceptions of the Italian students did change to some extent:

- Chemistry was perceived as the most difficult subject by 34% of students, followed by Maths and Classical languages (Latin, Greek).
- History of Arts/Art, Agriculture and Classical languages (Latin, Greek) were still the most disliked subjects, even by higher percentage of students, while Geology was disliked by lower percentage of students (56%).
- Biotechnology was the most liked subject by an increased percentage of students (57%), followed by Biology (by 51% of students) and Foreign Languages (by 36% of students).
- Without substantial changes from the pre-piloting, Biotechnology, Foreign Languages and Biology were considered the most relevant subjects for future prospects, with more than 25% of students recognizing their importance.

**Relatively to your school subjects, indicate how do you consider the following subjects  
(PRE-piloting, Italian students)**



**Relatively to the school subjects, how do you consider the following subjects  
(POST piloting, Italian students)**



## Bullet 1. Students at the ISIS Ginori Conti.

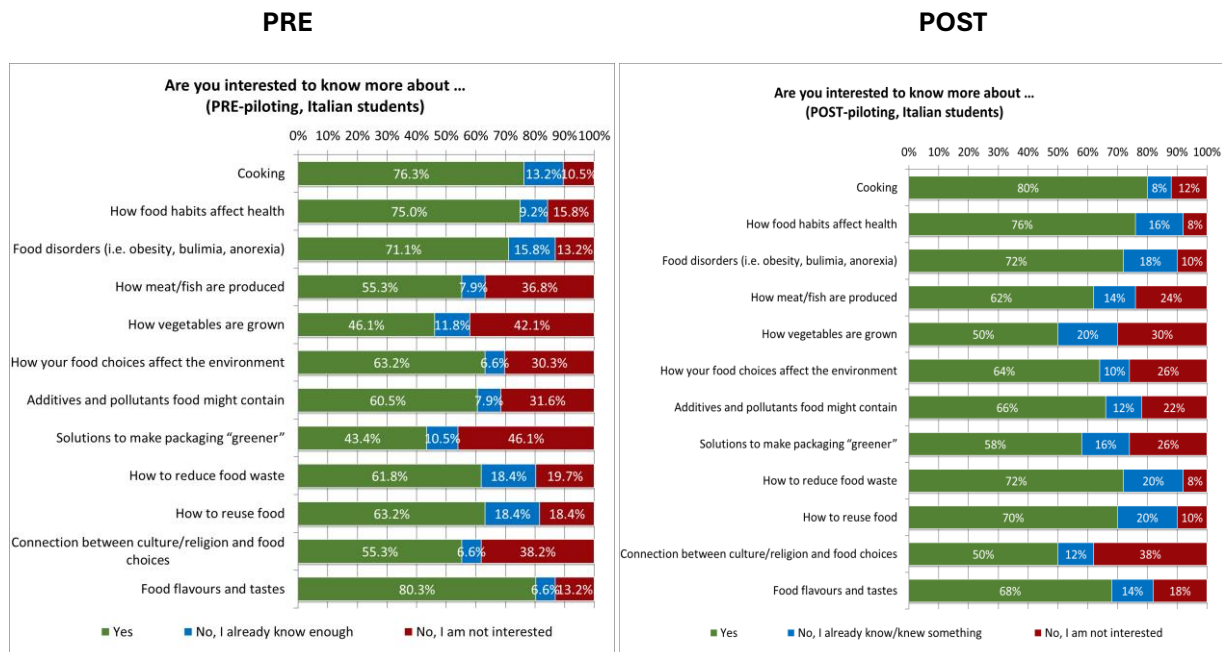
- The Italian students participating in the GOODFOOD surveys constitute a reasonable sample population of female and male students 16-17 years old from the 3<sup>rd</sup> school grade.
- The two groups (PRE- and POST-surveys respondents) were constituted by the same individuals without having any experience of the GODFOOD project (PRE-) and who have experienced working with the methodology, learning units, protocols and activities proposed within the project (POST-) during a full school year.
- Overall, regarding the opinion on school subjects, these students consider Biology and Biotechnologies and Foreign Languages as most liked and relevant for their future.



## “Are you interested in the following food-related topics?”

In this question, we asked the students about their interest in a number of issues regarding food sustainability and health.

At the pre-piloting, most students were mostly interested in knowing about “food flavours and tastes” and “cooking” and less interested in “agriculture” and “green packaging”. At post-piloting, students showed a slight increase of interest as compared to the pre-piloting results regarding all topics except for “food flavours and tastes” (12% less). The most relevant increase concerned “how to reduce food waste” (10% more than pre-piloting), “how meat/fish are produced” (7% more) and “how to reuse food” (7% more).



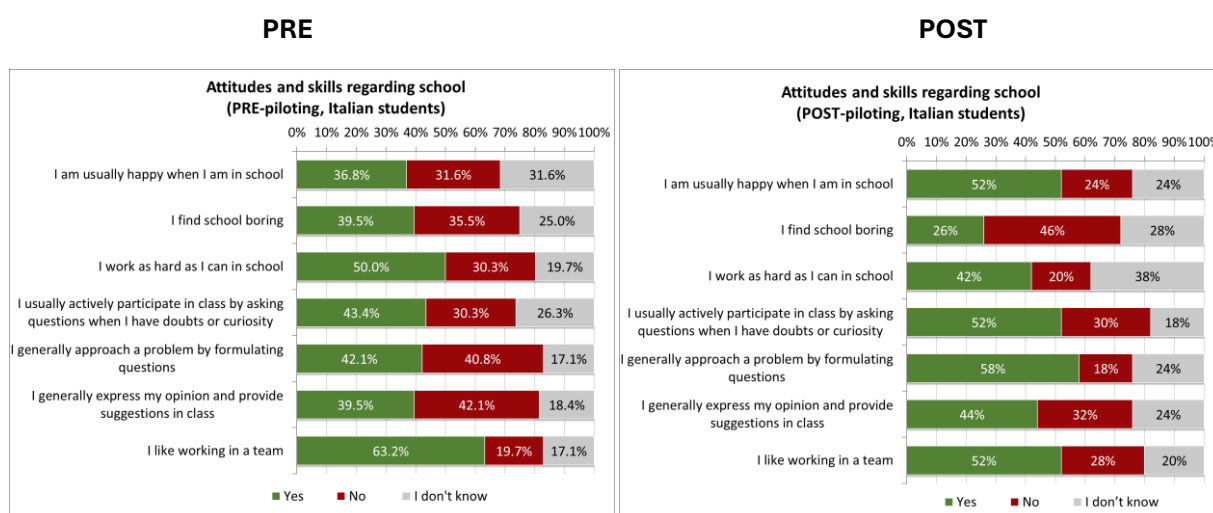
### Bullet 2. Interest in food-related topics.

- Overall, the Italian students participating in the GOODFOOD experience declared a much lower interest in the topics related with the production of food (e.g. how vegetable grow) and on solutions to make packaging greener although the interest increased after the GOODFOOD experience. In contrast, students were very interested in cooking, health issues connected to food which further increased after the project.
- It seems that GOODFOOD project stimulated students’ interest in many diverse topics connected to food, such as cooking, disorders, agriculture, and also regarding practical aspects such as the use of leftover.
- Less interest was shown in flavours and tastes at the end of the project as compared to the beginning.

## “Please, indicate your opinion on the following sentences regarding the following attitudes towards school”

With this question, we aimed to assess any influence of GOODFOOD in students’ attitudes at school in terms of participation and school satisfaction.

Students generally had a positive attitude towards school, and after GOODFOOD experience more students declared “happiness going to school” (15% more) and disagreed on the opinion of a “boring school” (11% more), “participation in class” (9% more), “formulation of questions in approaching a problem” (16% more), “expressing the opinion and providing suggestions in class” (4% more). There was a decrease in “I like working in a team” (11% less) and “I feel scared facing new challenges” (18% less).



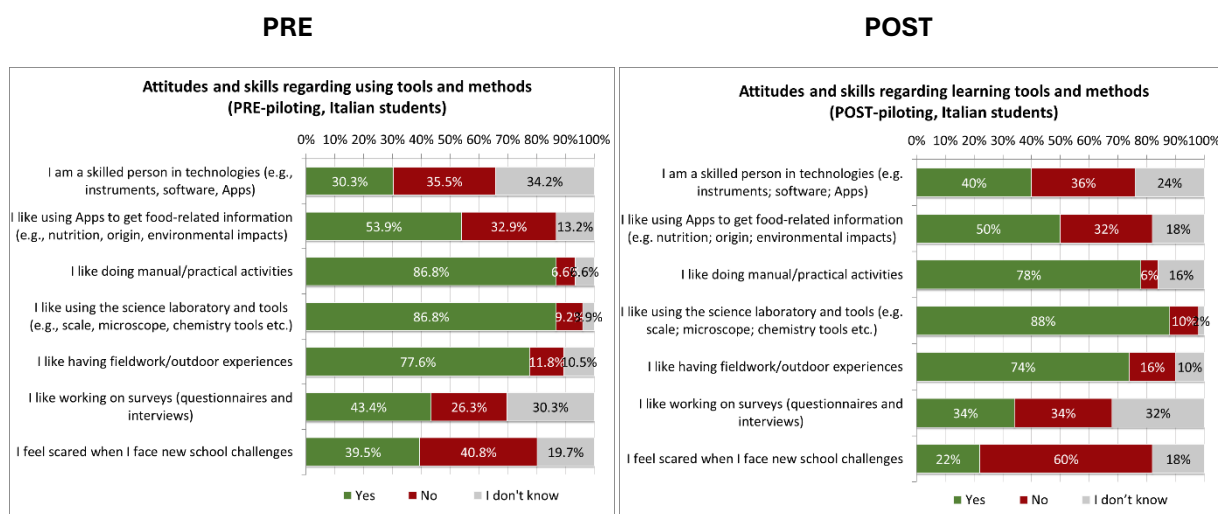
### Bullet 3. Attitudes towards school.

- Overall, the Italian students declared a much higher interest and enjoyment for going to school after participating in the GOODFOOD experience.
- They also declared greater participatory attitude by asking questions to clarify doubts and investigate a problem but also expressing own opinion.
- Students declared less enthusiasm in working in a team after the GOODFOOD experience.

## “Please, indicate your opinion on the following sentences regarding attitudes towards learning tools and methods”

With this question, we aimed to assess any influence of GOODFOOD in the attitudes towards technologies for didactic purposes, hands-on and other types of investigation methods, but also the feeling towards new challenges.

We found that students felt more skilled in **“technologies (e.g. instruments, software)”** (10% more than pre-piloting) while less students enjoyed **“Apps on food-related information”** (4% less), **“manual/practical activities”** (9% less), **“fieldwork/outdoor activities”** (4% less) and **“surveys”** (9% less).



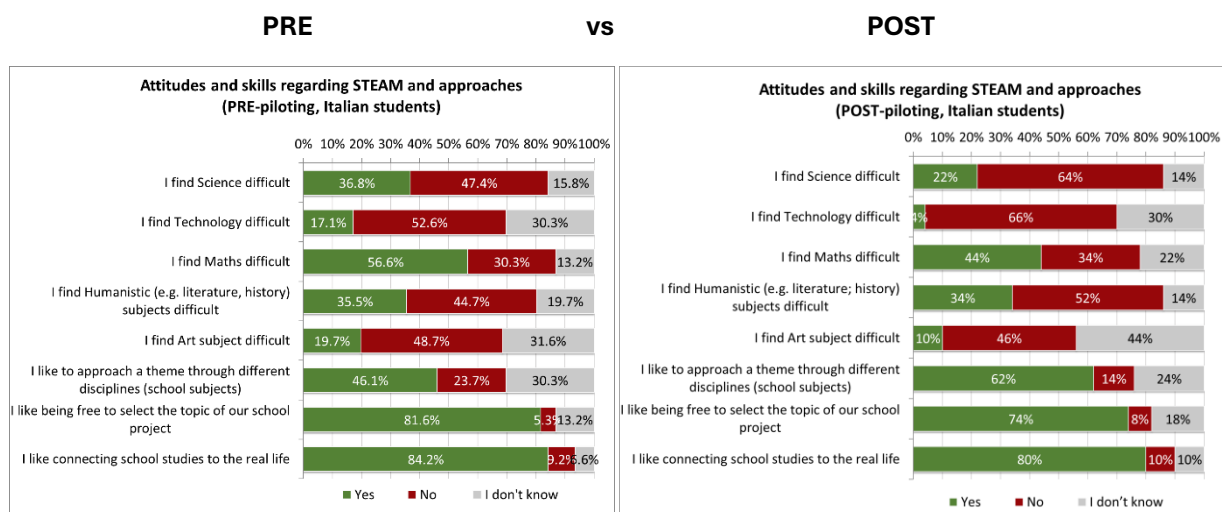
### Bullet 4. Attitudes towards learning tools and methods.

- Overall, the Italian students declared greater competence in the use of technologies (e.g. instruments, software, App.) but less students liked using Apps to get food-related information.
- After GOODFOOD, less students declared they liked manual/practical activities, surveys (questionnaires and interviews) and slightly on fieldwork.
- Overall, after GOODFOOD much less students consistently felt scared in front of new challenges.

## “Please, indicate your opinion on the following sentences regarding attitudes towards STEAM and approaches”

With this question, we aimed to assess any influence of GOODFOOD in the attitudes towards STEAM and methodological approaches.

After the piloting less Italian students thought Science, Technology, Maths, Humanistic subjects and Art difficult, with a special difference regarding Science and Maths (15% and 13% less, respectively). Also, there was 16% increase of students who liked “to approach a theme through different school subjects”. However, the positive attitude regarding “the freedom to select the topic of own project” – which is expressed by most of the students before piloting (82%) decreased by 8%. The same occurred regarding “connecting subjects to the real life” (4% less but still highly supported).



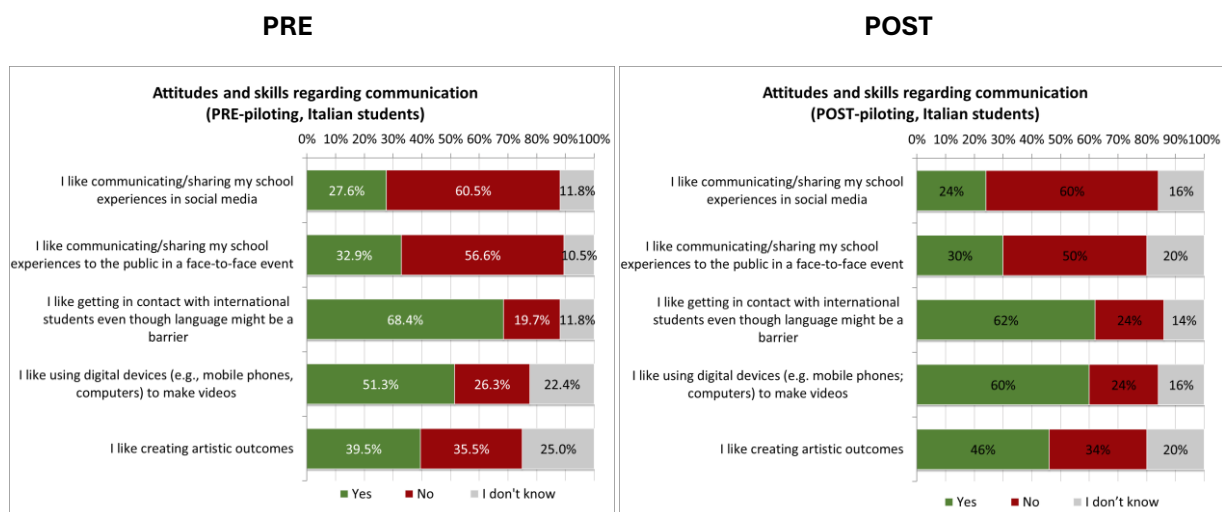
### Bullet 5. Attitudes towards STEAM and learning approaches.

- Overall, the Italian students thought Maths difficult and slightly also the humanistic subjects.
- After the GOODFOOD experience the number of students who liked approaching a theme through different school subjects increased.
- Overall, students appreciate being free to select the topic of school project and connecting subjects to the real life.

## “Please, indicate your opinion on the following sentences regarding attitudes towards communication”

With this question, we aimed to assess any influence of GOODFOOD in the attitudes towards communication.

Before piloting, about one third of the students liked “sharing school experiences in social media” or “to the public in face-to-face event”, while after the piloting these percentages slightly decreased (4%, 3% less respectively). Most students liked “getting in contact with international students” but the percentage also slightly decreased after the piloting (6% less). Regarding some communication tools, there was 9% increase of students who liked “using digital devices to make videos” and 4% increase of those who liked “creating artistic outcomes”.



### Bullet 6. Attitudes towards communication.

- Overall, more Italian students liked using digital devices (e.g. mobile phones, computers) to make videos and creating artistic outcomes.
- GOODFOOD did not change so much the students’ interest in communicating school experiences in social media or in face-to-face events although fewer students did not like it at all.
- Overall, after GOODFOOD less students declared they like getting in contact with international students, likely because the project did not emphasized the international connection between students.

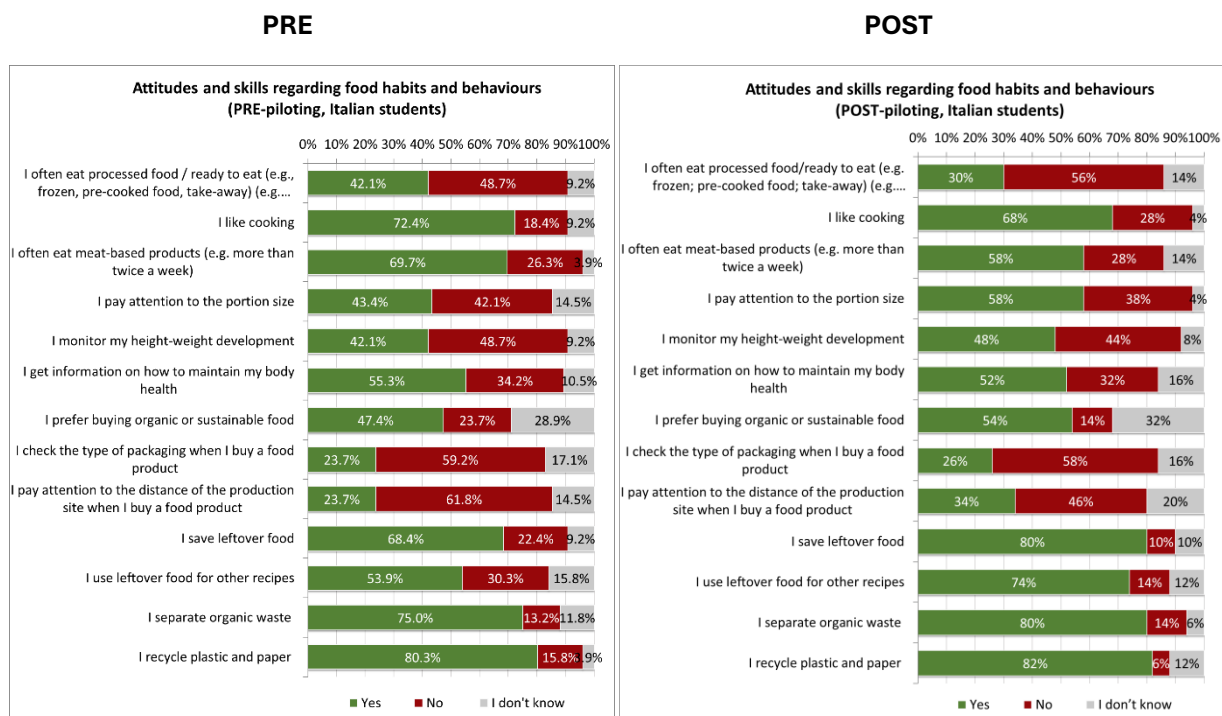
## “Please, indicate your opinion on the following sentences regarding attitudes towards food habits and behaviours”

With this question, we aimed to assess any influence of GOODFOOD in food habits and behaviours before, during and after food use.

We observed a slight improvement of food-related behaviours and habits. Many students (around 70%) like “**cooking**” despite a slight decrease after piloting (4% less). Regarding eating habits, students who “**often eat processed food**” were around 42% before piloting and **decreased** by 12% after piloting. In the same way, students who “**often consumed meat-based products**” (70%) decreased to 58%. In addition, there was also an increase of students who “**pay attention to the portion size**” (15% more), “**monitor the height-weight development**” (6% more).

Regarding the habits of buying food, students who “**prefer buying organic or sustainable food**” (around 50%) increased by 7% and those paying attention to the “**distance of the production site**” were less than one third before piloting and increased by 10%.

Regarding the use of food leftover, students who “**save leftover food**” and who “**use leftover food for other recipes**” increased by 12 and 10%, respectively. Finally, students who “**separate organic waste**” and “**recycle plastic and paper**” were around 75% and slightly increased after piloting.



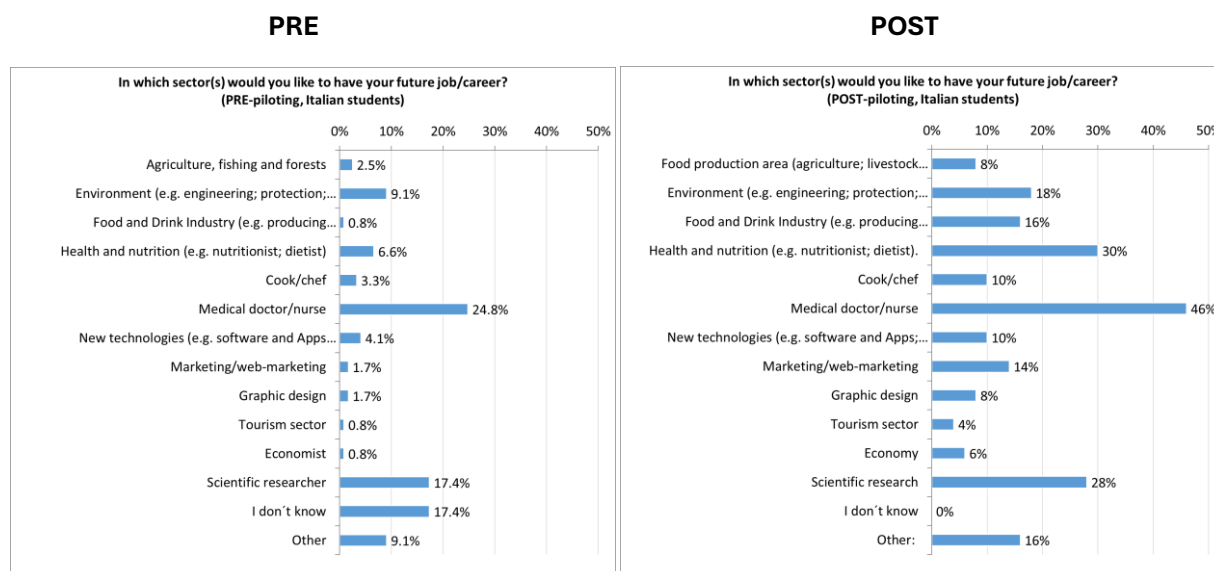
### Bullet 7. Attitudes towards food habits and behaviours.

- Overall, Italian students changed their habits into more sustainable after GOODFOOD.
- Fewer students declared eating processed food and meat-based food.
- More students declared paying more attention to the portion size and to the height-weight development.
- Regarding food choices: more students would buy organic food and pay attention to the distance of the produces.
- More students declared using leftover food and separating organic waste.

## “Please, indicate what future job or career you would like”

With this question we wanted to assess students’ choices for own future and interest in careers connected to food sectors.

Most students would like to become a **medical doctor/nurse** (24.5%) and percentages of these students further increased after the piloting experiences (46%). The second most selected job/career after piloting, was related to the **health and nutrition sector** (30% selections vs. 6.6% initially), followed by **scientific research** which was selected by about 10% students more (post piloting: 28%).



### Bullet 8. Future job or career.

- Overall, Italian students would like to work as medical doctor or nurse and after GOODFOOD this option was selected by more students.
- After GOODFOOD, health and nutrition sector recorded an increase of selections, as well as food and drink industry sector.
- More students also declared the interest in scientific research after the GOODFOOD experience and school year.
- It might be possible that the school subjects influenced students’ selections rather than the GOODFOOD activities, but in any case students had surely better idea about own future as none of them at post-piloting declared “I don’t know”.

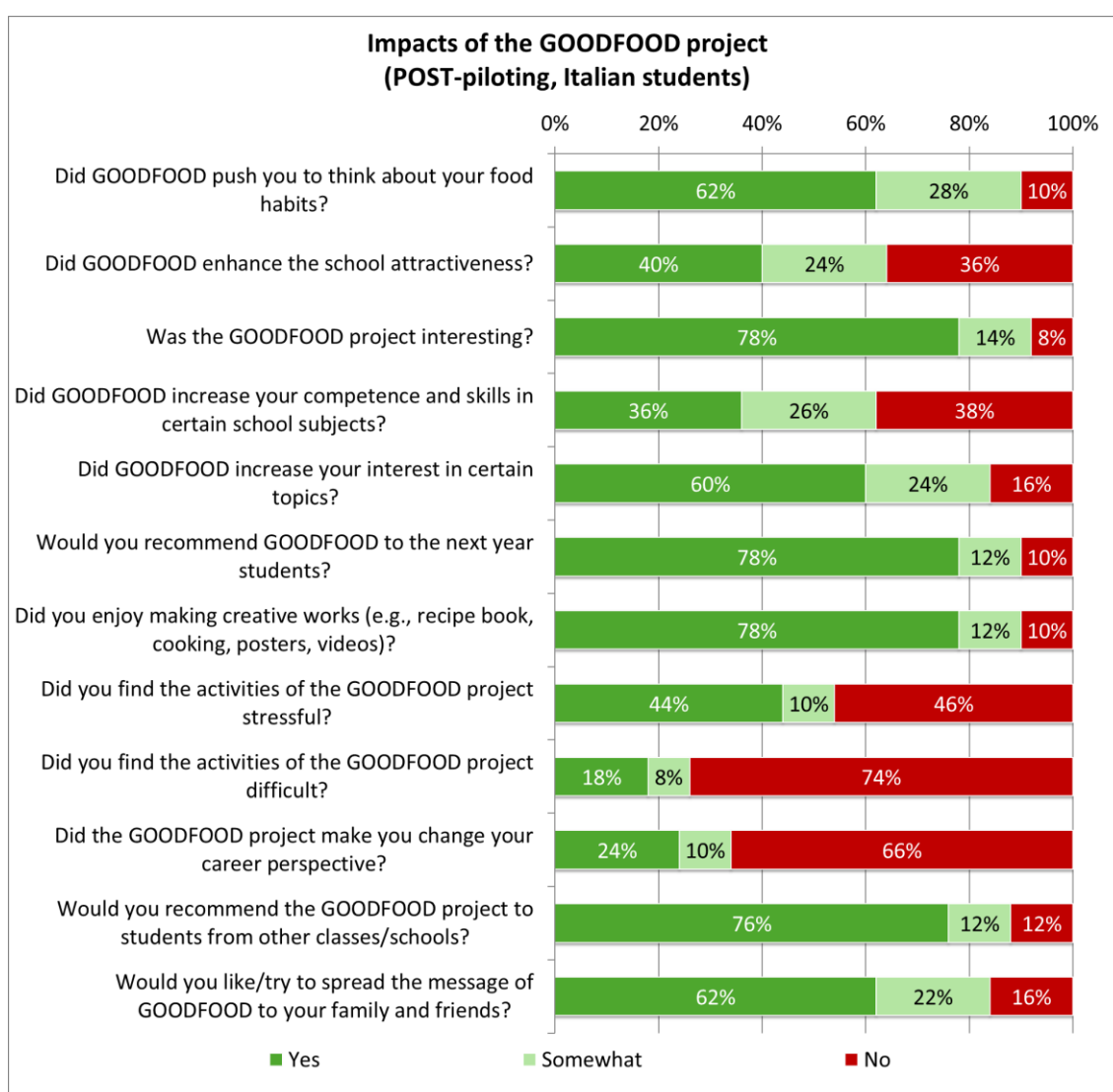


## “Please, answer the following questions regarding the GOODFOOD project impacts”

With this question we wanted to assess whether the GOODFOOD had positive impacts on Italian students regarding food habits, school attraction and competences.

Most of Italian students (62%, plus 22% to some extent) agreed that GOODFOOD pushed them to think about food habits and 78% (plus 14% to some extent) considered the project interesting. However, only 36%, plus 26% to some extent, agreed that GOODFOOD increased their competences and skills in certain school subjects while 60% (plus 24% to some extent) agreed that GOODFOOD increased their interest in certain topics. A large majority (78%) enjoyed making creative works (e.g. recipe book, cooking, posters and videos) and 44% considered project activities stressful, but only 18% considered them difficult.

40% students (plus 28% somewhat) agreed that GOODFOOD enhance the school attractiveness and 76% would recommend the project to students from other classes or schools and 78% to next year students. Finally, most of them (62%, plus 22% to some extent) would like to spread the GOODFOOD message to family and friends.





## Bullet 9. GOODFOOD impacts.

- GOODFOOD pushed Italian students to think about food habits.
- A large majority of students considered GOODFOOD interesting and would recommend the project to students from other classes or schools.
- They enjoyed making creative works and about two thirds declared that in a way GOODFOOD increased their competences and skills in certain school subjects and their interest in certain topics.
- Italian students declared that GOODFOOD enhances the school attractiveness and they would like to spread the GOODFOOD message to family and friends.

## Additional comments

### What did you like most in GOODFOOD?

*Being with friends and learning new things (iiii)*

*Teamwork (iiiiiii)*

*the projects variable*

*Nothing in particular*

*it made me reflect on some topics that I didn't pay too much attention to, it was interesting to*

*Looking for a healthy recipe to share.*

*Cooking a healthy recipe*

*Sharing opinions*

*Cooking together (iii)*

*Discover the various characteristics of everyday foods*

*Learn to use more parts of a food that we could throw away every day*

*I learned to recycle food better*

*I enjoyed interacting with my classmates' ideas*

*I really liked the topic taken into consideration by GoodFood, that is, sustainable nutrition. It made me think a lot and made me more passionate about cooking. I also enjoyed working with my classmates.*

*The education that this project gives in relativity to everyday life*

*Making a creative video together with my classmates, it's very interesting and fun at the same time, and we also learned new culinary concepts.*

*Creativity*

*The processing*

*Being able to work on something different from the usual school work for once*

*I liked the fact that I invented the dish with an already chosen ingredient*

*The theme*

*I liked the topic covered and the practical group work.*

*Working in a group is something new and different from usual*

*Discover the importance of nutrition*

*Get involved by cooking*

*Who told me news I didn't know*

*The approach of the teachers and the topics covered.*

*how was the approach between students and professors*

*the fact that it was very interesting*

*Interactivity*  
*Everything especially tasting the things we cooked*  
*The message of cooking in the most sustainable way possible*  
*Understanding the world of food*

**What ideas/activities would you like to suggest to us to help us improve the GOODFOOD project?**

*Be more interactive and more practical for some topics such as how to reuse leftovers*  
*Less stress*  
*More projects activities in which you don't have to say personal information (what I eat, how many calories I consume...), but which teach and inform about the topics that the project addresses by reasoning together*  
*Trips*  
*Bring the kids to a company/industry where they can see how specific foods are treated (for example vegetables, fruit, meat, etc.).*  
*Produce dishes with the whole class*  
*Work with the whole class group*  
*In my opinion this project should last for the entire school year, and therefore propose more activities to do at home in groups. But also have more meetings with experts at school.*  
*Perhaps group activities, also with professors, directly in the field, for example outdoors, to see first-hand the impact that certain actions can have on the environment.*  
*Involve students in extra-curricular activities related to nutrition, hold meetings with experts in this area (nutritionist, dietician, dietician)*  
*Give practical examples*  
*More hands-on activities*  
*Tasting other people's dishes*  
*International exchanges*  
*More focused on one topic*  
*A live competition*

**Did GOODFOOD fail to meet your expectations in any way? Please elaborate.**

*Fully satisfied*  
*Too much pressure from the teachers*  
*It seemed to me that some activities were too specifically about individuals and things that could be considered personal (like having to write down everything you eat in a day for a snack)*  
*Let's say, I expected more meetings.*  
*I would have liked the project to have started in previous years too.*  
*Initially I didn't know what to expect but I was pleasantly surprised and impressed, which is why I recommend it, because in my opinion it could also educate kids.*  
*It met my expectations but I was hoping for more educational trips*  
*Honestly, from what they explained to me before starting the project it seemed like a more interesting project than it actually was*  
*This project did not completely meet my expectations because more activities, work and meetings could be carried out on the topic of nutrition.*  
*It is very important to cover and illustrate topics such as those brought by goodfood.*  
*It was nice because it changed the daily routine of school*

**Have you already changed or are planning to change some food habits that you now know may not be good for your health and/or for the planet? If so, can you indicate which changes you are incorporating to your dietary habits?**

*No because I already had adequate behavior*  
*Yes, I exercise more, pay attention to the calories ingested and burned during the day*  
*I have no intention of changing my habits*  
*I'm trying to reduce my meat consumption, especially red meat*  
*The changes are mainly about eating well, sustainable food*  
*I'm trying to eliminate sweets as much as possible or at least eat them with caution*  
*Yes but I don't know which ones at this moment*  
*Yes, I try to eat more healthy foods produced in Italy.*  
*I don't think I'll change my habits*  
*I follow the food pyramid more*  
*Yes I want to change eating habits*  
*Not much has changed as I have always had sustainable eating habits*  
*I have always been careful, but it has brought me more awareness in recycling*  
*I still haven't changed my habits*  
*I'm using fewer plastic bags and using more foods that are very ripe for other alternative recipes, such as cakes and smoothies.*  
*I reduce the red meat per week*  
*I haven't changed some of my eating habits yet, but I plan to do so with certain things, for example, choosing more organic and sustainable products.*  
*I would like to reduce the weekly consumption of meat products and waste*  
*Eat less meat and avoid the vices of less healthy food*  
*I've changed a bit to better respect the environment*  
*I intend to change some habits*  
*My eating habits have always been very good and little has changed since I did this project*  
*Reduce plastic*  
*Yes, I will change something*  
*I've already changed some time ago*  
*No, before this project I already had good eating habits which I still have, it hasn't changed me that much*  
*I intend to change my eating habits, such as eating more often, varied and healthy*  
*I already had quite good habits but I will pay attention to other aspects*  
*I am more attentive to the products I buy, their origin and how they were "made"*  
*Not for now*  
*yes, but I still don't know specifically*  
*Eat more foods that contain antioxidants*  
*Of course and I hope to succeed*  
*My family and I have always been used to having eating habits that are good for our health and the planet*  
*Yes, I eat healthier now*

## Bullet 10. Additional comments on GOODFOOD impacts.

- GOODFOOD was generally appreciated by the Italian students as it brought a different school routine and topics of their interest.
- GOODFOOD also induced most students to change their food choices and habits or to think about them.

