

Evaluation of the GOODFOOD efficacy in changing Greek students' attitudes towards school learning and food

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Teachers' results	Errore. Il segnalibro non è definito.
Samples' characteristics	Errore. Il segnalibro non è definito.
"What is your level of agreement regarding the use of innovative teaching methods and tools?"	Errore. Il segnalibro non è definito.
"What is your level of agreement regarding these attitudes towards innovative teaching methods and tools?"	Errore. Il segnalibro non è definito.
"What is your level of agreement regarding the following constraints on the use of innovative teaching methods and tools?"	Errore. Il segnalibro non è definito.
"What is your level of agreement regarding yourself efficacy in front of new challenges?" ...	Errore. Il segnalibro non è definito.
"What is your level of agreement regarding teaching about food-related topics and the students' interest in your subject?"	Errore. Il segnalibro non è definito.
"What is your habit and behaviour regarding food?"	Errore. Il segnalibro non è definito.
"What is your opinion regarding curricula changes or new extra activities?"	Errore. Il segnalibro non è definito.
"What was the GOODFOOD impact on your teaching?"	Errore. Il segnalibro non è definito.

Survey tools

In order to assess any influence of the GOODFOOD methodology on the students' and teachers' attitudes towards the learning methodologies, a survey tool was developed in the form of a questionnaire. The same questionnaire was administered before and after the project piloting to the participants in the project of the First General Lyceum of Rafina in Greece.

Before the piloting experiences started, the questionnaire for the students was administered on October 19 2023 and after the piloting on May 13 2024.

The questionnaire for the students included five sections:

- 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
- Personal details (gender, age) although the questionnaire was totally anonymous

Links to the GOOGLE surveys:

Pre-piloting for students	Post-piloting for students
English https://forms.gle/rDJ5r7unFcFQSDNo7 Greek https://forms.gle/9Jf1XZuph2qpV18H6	English https://forms.gle/qD7AN4cF8ruRYnyK8 Greek https://forms.gle/Knmt8EYFT5p5Hr3Y6

Students' results

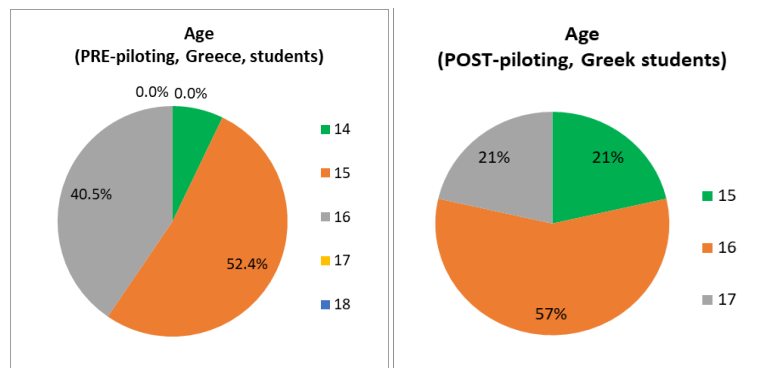
Samples' characteristics

Number of students

42 students from two classes participated in the project.

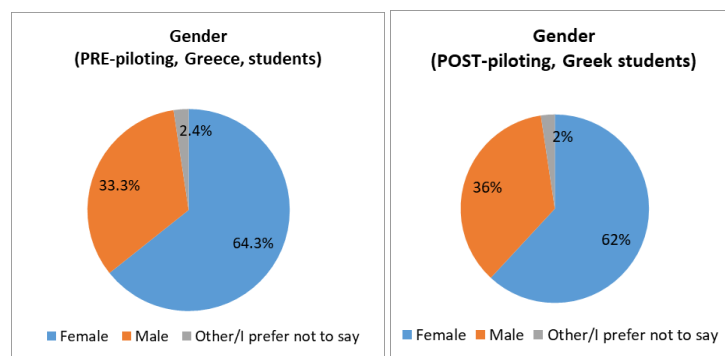
Age of the students

Students' age ranged between 14 and 18 years.



Students' gender

Greek female students were more numerous (more than 60%) than males.



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

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

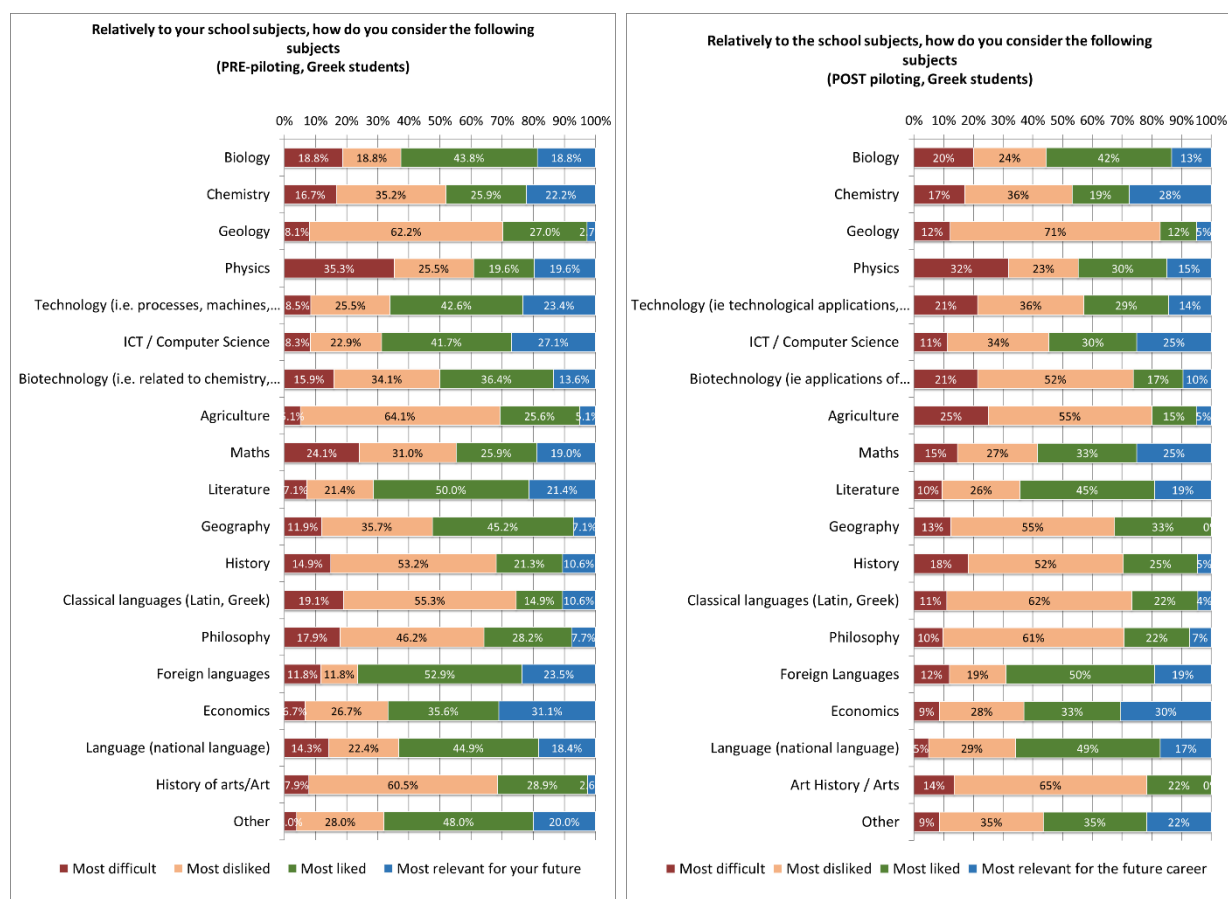
- Physics was perceived as the most difficult subject with 35.3% of students indicating this. Maths followed with 24.1% and Classical languages (Latin, Greek) with 19% of students.
- Agriculture was the most disliked by 64% of students followed by Geology with 62.2% of students expressing this sentiment and by History of Arts/Art (60.5%).

- The most liked subjects were Foreign languages by 53% of students, followed by Literature (by 50% of students) and Geography and Language (national language) by 45% of students and then Biology (43.8%).
- Economics was considered the most relevant for future prospects, with 31.1% of students recognizing its importance, followed by ICT/Computer science with 27% of students and Technology and Foreign Languages with 23.5% of students.

Technology, ICT/Computer science and Foreign Languages were widely regarded as liked and relevant for future prospects.

In the POST-piloting, the perceptions of the Greek students did not change so much:

- Physics was still perceived as the most difficult subject with 32% of students indicating this, while Maths and Classical languages (Latin, Greek) decreased, and Agriculture increased.
- Agriculture was still among the most disliked subjects, although by lower percentage of students (55%), while other subjects were disliked to greater extent such as History of Arts/Art (65%), Classical languages (Latin, Greek) (62%) and Philosophy (61%).
- Foreign languages still was the most liked subject by 50% of students, followed by Language (national language) (by 49% of students) and Literature (by 45% of students) and then Biology (42%).
- Economics was still considered the most relevant for future prospects, with 30% of students recognizing its importance, followed by Chemistry (by 28% of students), ICT/Computer science and Maths with 25% of students.

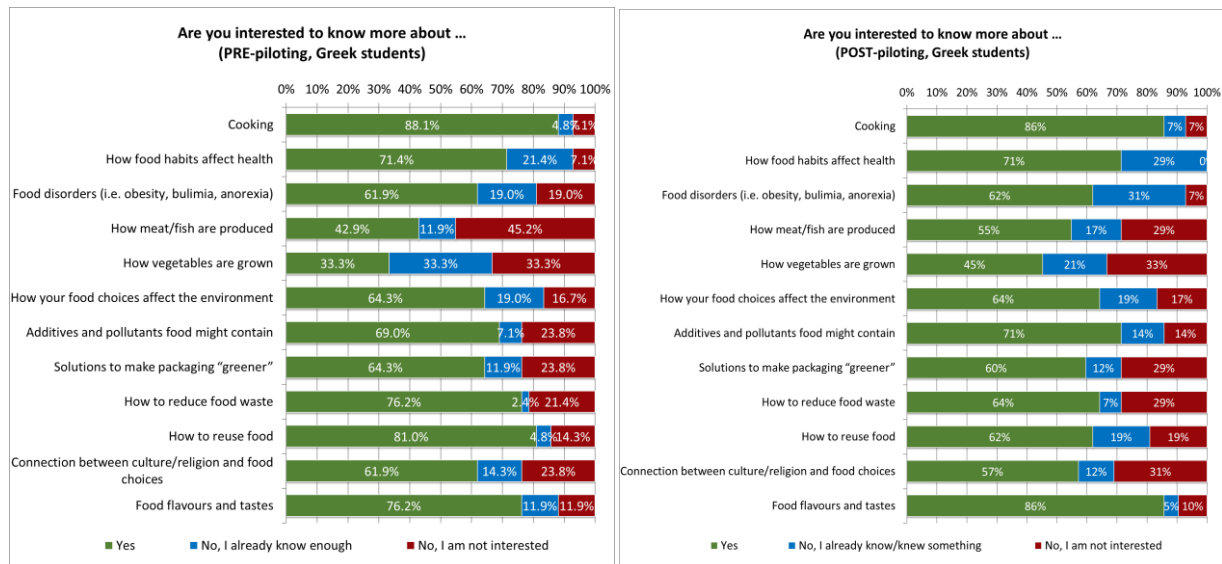


Bullet 1. Students at the 1st General Lyceum of Rafina.

- The Geek students participating in the GOODFOOD surveys constitute a reasonable sample population of female and male students 15-16 years old from the 3rd 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 Foreign languages and National language as most liked while Economics was considered the most relevant for their future.

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

The most relevant change between PRE and POST piloting, concerned the **increased interest towards** three topics: **“how meat/fish are produced”**, **“how vegetables are grown”** (both with 12% increase) and **“food flavours and tastes”** (10% more), while their interest decreased regarding “how to reduce food waste” (12% less) and “how to reuse food” (19% less). except “food flavours and tastes” (12% less).

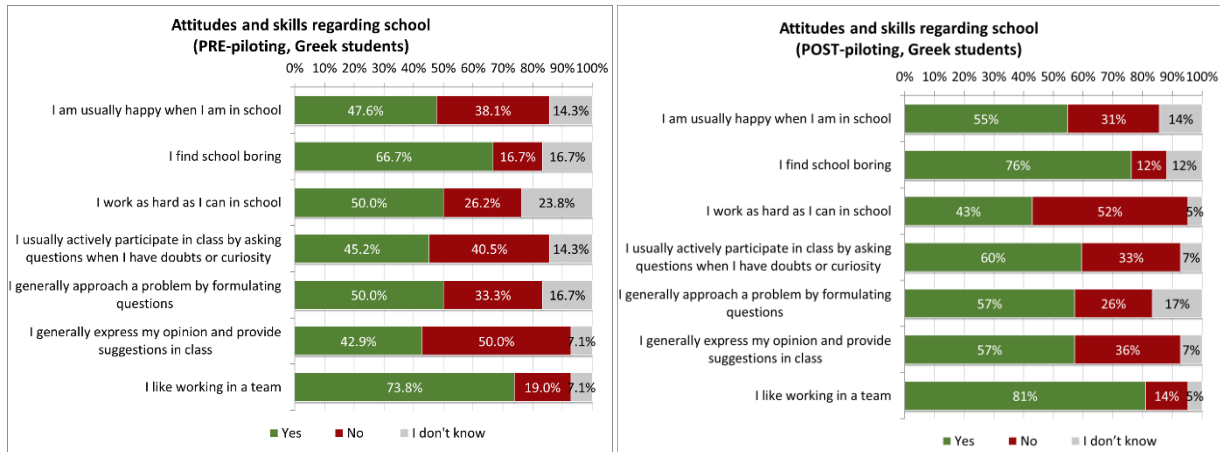


Bullet 2. Interest in food-related topics.

- In general, the Greek students increased their interest towards some aspects related to food, especially food production topics such as “how meat/fish are produced”, “how vegetables are grown” but also on “food flavours and tastes”
- Students’ interest regarding the management of food (e.g. how to reduce food waste and to reuse leftover) decreased.

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

Greek students generally increased the positive attitude towards school as compared to pre-piloting results, especially regarding **“happiness going to school”** (7% more), **“participation in class”** (15% more), **“formulation of questions in approaching a problem”** (7% more), **“expressing the opinion and providing suggestions in class”** (14% more) and **“working in a team”** (7% more). There was a decrease regarding **“feeling scared facing new challenges”** (4% less). However, there was also an increase of 9% students **“finding school boring”**.

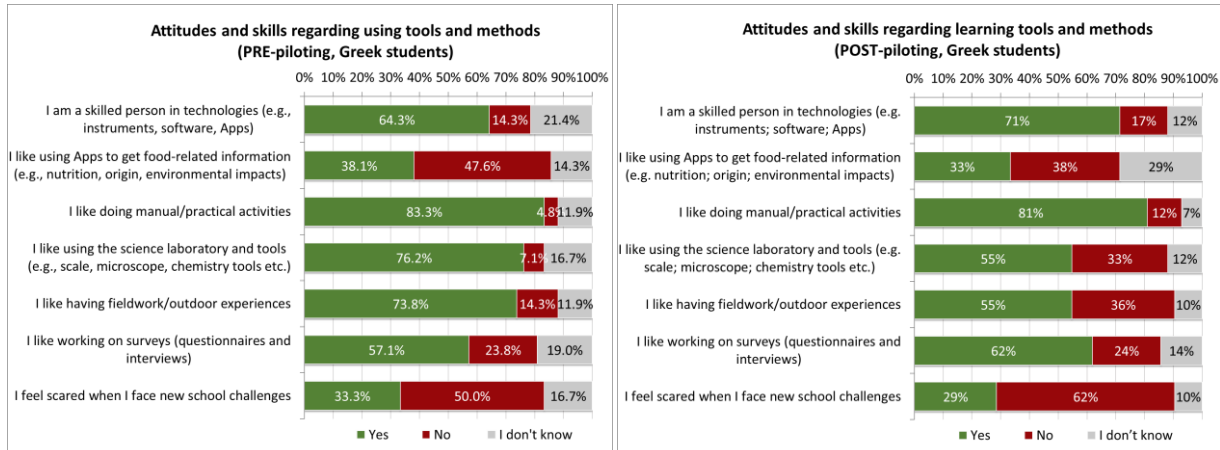


Bullet 3. Attitudes towards school.

- Greek students generally increased the positive attitude towards school especially regarding happiness and participation in class including the learning approach of formulating questions and expressing own opinions.
- Greek students highly appreciated working in groups.

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

Greek students **felt more skilled in “technologies (e.g. instruments, software)”** (6% more) and **liked “working on surveys”** (5% more) but they decreased the interest in using “Apps on food-related information” (5% less), “science laboratory tools” (21% less) and having “fieldwork/outdoor activities” (19% less).

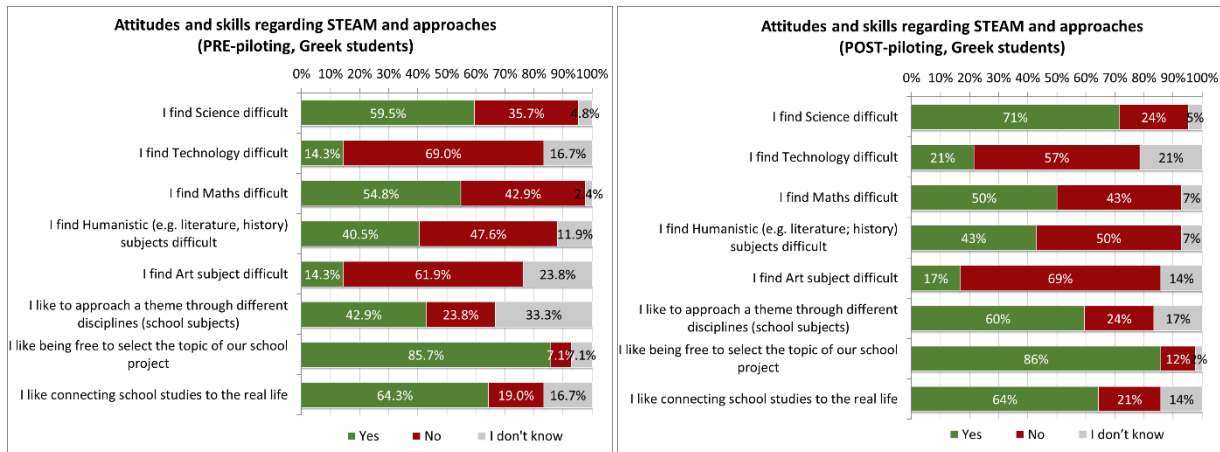


Bullet 4. Attitudes towards learning tools and methods.

- Most Greek students liked doing practical activities, but the GOODFOOD experience increased their skills in the use of technologies (e.g. instruments, software) although a decreased interest in using Apps on food-related information.
- Laboratory tools and fieldwork/outdoor activities were less appreciated, while more students liked working on surveys

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

After piloting **more students thought Science (11% more) and Technology (7% more) more difficult**, while 5% less students thought Maths difficult. **There was also an increase by 17% students who liked “to approach a theme from different school subjects”**. In addition, there was no change regarding “the freedom to select the topic of own project” that was supported by 86% students and regarding “connecting school studies to the real life” (supported by 64%).

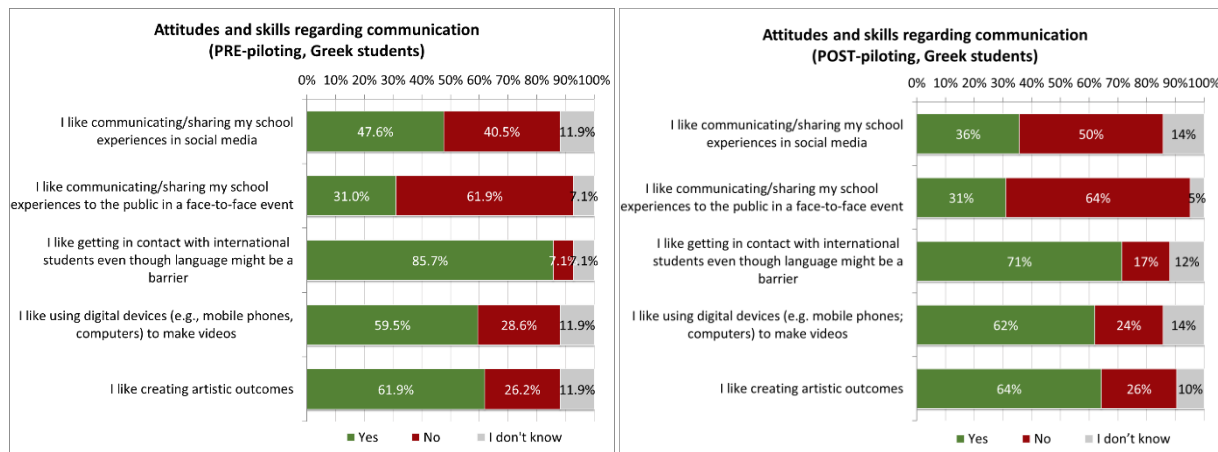


Bullet 5. Attitudes towards STEAM and learning approaches.

- Greek students liked the freedom to select the topic of own project and after the GOODFOOD experience more students liked approaching a theme from different school subjects.
- Regarding STEAM, after GOODFOOD more students found Science and Technology difficult.

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

A large majority (86%) liked **“getting in contact with international students”** but the percentage decreased after the piloting (15% less). About half of the students liked **“sharing school experiences in social media”** before the piloting and 36% after the piloting, then one third liked **“sharing school experiences to the public in face-to-face event”**. There was a little increase (2% more) of students who liked **“using digital devices to make videos”** and **“creating artistic outcomes”**.



Bullet 6. Attitudes towards communication.

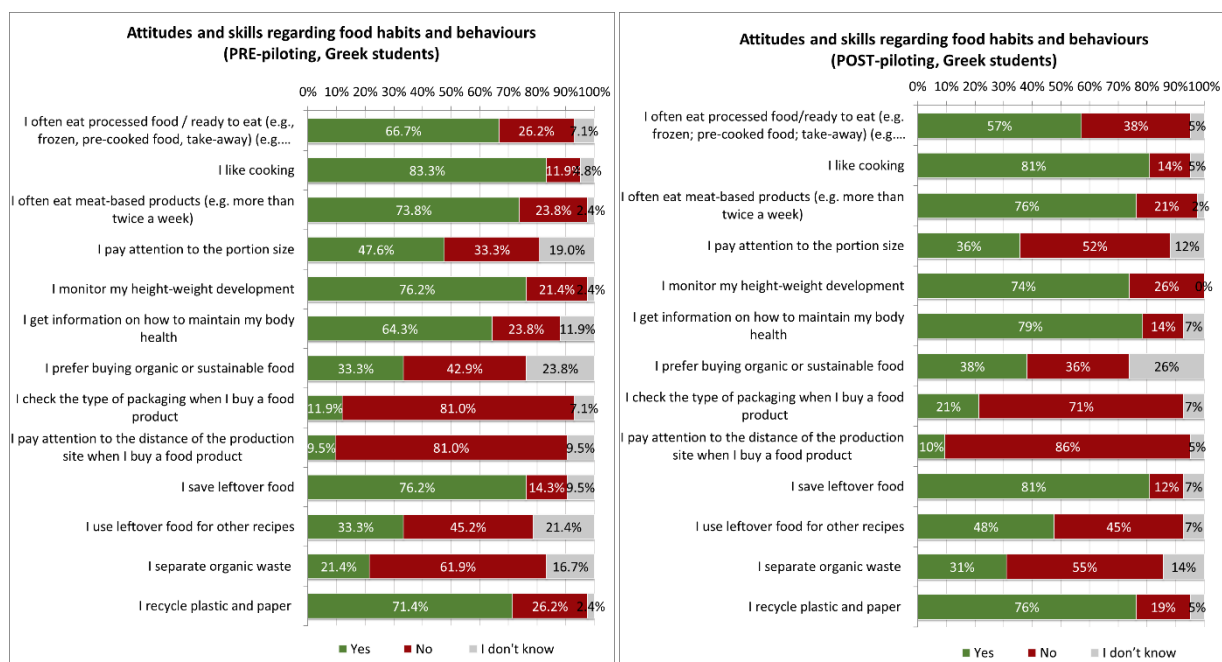
- GOODFOOD did not change the attitude of Greek students in communicating their school experiences, as less than half students liked sharing school experiences in social media or in public events.
- In contrast, Greek students would have liked international exchange, but GOODFOOD possibly decreased their expectations as it did not provide many occasions of getting in contact with international students.
- No consistent change was observed for the use of digital devices to make videos and for creating artistic outcomes.

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

Greek students showed a slight improvement of food-related behaviours and habits. Regarding eating habits, the students who **“often eat processed food”** decreased by 10% (from 67% before piloting). Most students like **“cooking”** (more than 80%) and around 75% **“often consume meat-based products”** (2% more after piloting). After piloting, there was a decrease of students who **“pay attention to the portion size”** (12% less), which was a habit for 48% students before piloting, and almost no change for those who **“monitor the height-weight development”** (around 75% students), while there was a strong increase of students who **“get information on how to maintain body health”** (13% more).

Regarding the habits of buying food, students who **“prefer buying organic or sustainable food”** were about one third before piloting and increased by 5%, while only 12% **“checking the type of packaging”** before piloting increased by 9%.

Regarding the use of leftover food, students **“saving leftover food”** raised from 76% to 81% and those **“using leftover food for other recipes”** from 33 to 38%. Finally, also students who **“separate organic waste”** (21% before piloting) and **“recycle plastic and paper”** (around 71% before piloting) increased by 10% and 5%, respectively.

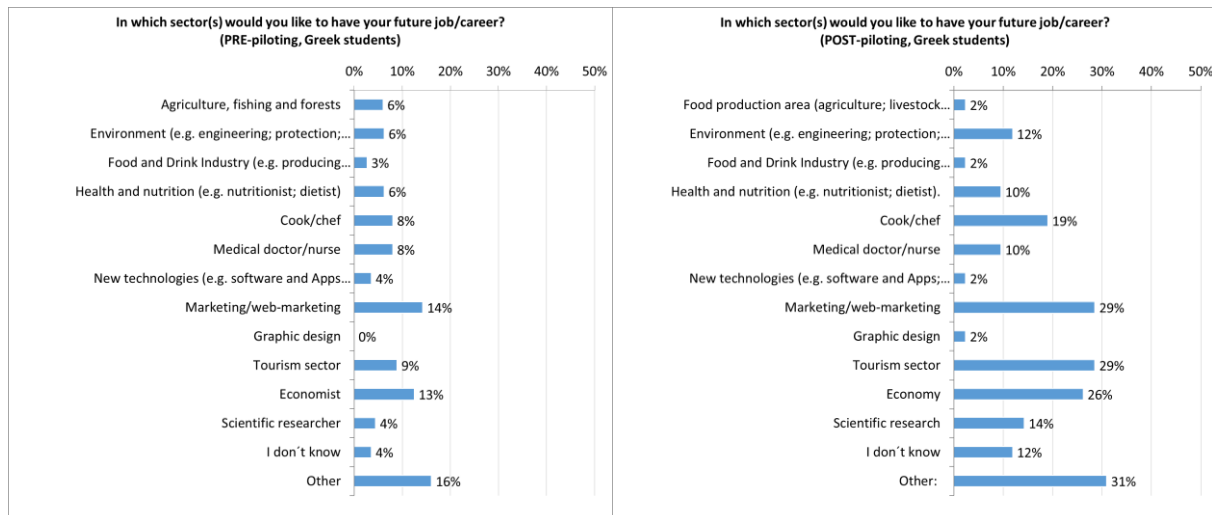


Bullet 7. Attitudes towards food habits and behaviours.

- Greek students showed a slight improvement of food-related behaviours and habits, especially regarding the use of processed food and cooking, but also regarding getting information on how to maintain body health”.
- There was an increase of awareness regarding sustainable choices although only a few students choose organic food or pay attention to packaging.
- Greek students showed a good habit in saving leftover food and recycling and GOODFOOD increased some sustainable aspects.

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

Before the piloting experiences Greek students selected several options without evidencing string preferences. “Marketing” (19%) and “Economist” (13%) were selected slightly more than others. After piloting, there was a marked increase of “marketing” (29%) and “tourism” (29%), but also “economy” (26%) and working as “cook/chef” (19%). Among the “other” options which got 31%, students indicated psychology, sport, chemistry, social web (e.g. influencers, YouTuber) related jobs.

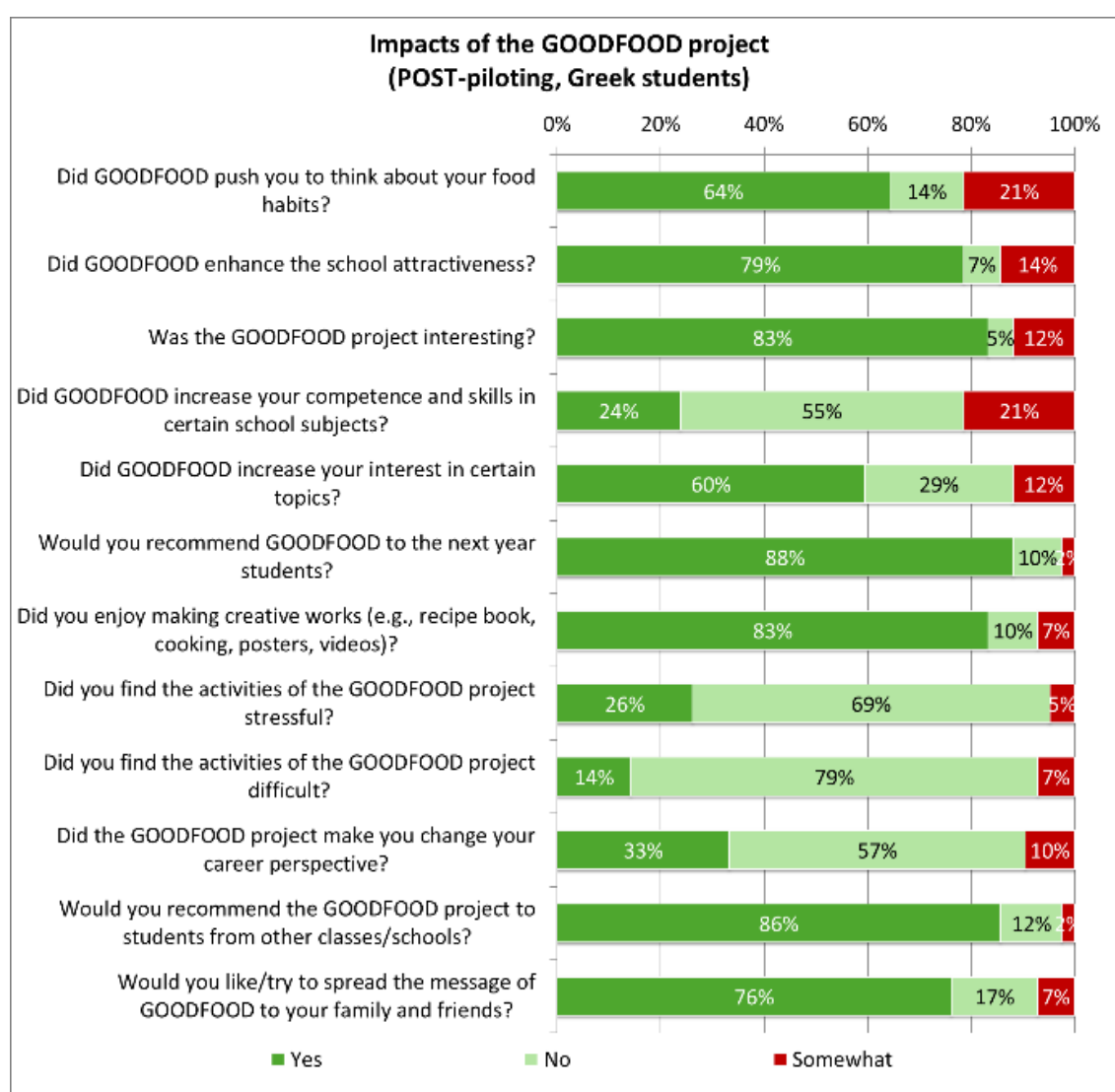


Bullet 8. Future job or career.

- Greek students declared interest in different jobs and careers without evidencing strong preferences.
- Marketing and Economics were selected slightly more than others with an increase after GOODFOOD and after piloting, other jobs in the tourism sector or as cook/chef appeared.

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

GOODFOOD had positive impacts on Greek students. 64% students, plus 21% to certain extent, agreed that GOODFOOD pushed them to think about food habits and a large majority of students (83%) considered the project interesting. Despite only 24%, plus 21% somewhat, agreed that GOODFOOD increased their competences and skills in certain school subjects, 60% agreed that GOODFOOD increased their interest in certain topics and a large majority (83%) enjoyed making creative works (e.g. recipe book, cooking, posters and videos). Project activities were considered stressful and difficult only by 26% and 14%, respectively. In addition, 79% students (plus 14% somewhat) agreed that GOODFOOD enhanced the school attractiveness, and more than 85% would recommend the project to next year students and to students from other classes or schools. Finally, most of them (76%) would like to spread the GOODFOOD message to family and friends.



Bullet 9. GOODFOOD impacts.

- GOODFOOD had positive impacts on Greek students, in raising their awareness about food habits and in the appreciation of the educational activities, especially the production of creative works.
- Many students agreed that GOODFOOD enhanced the school attractiveness, and they would recommend the project to other students and schools as they think important to spread the GOODFOOD message to family and friends.

Additional comments

What did you like most in GOODFOOD?

The combination of learning and fun

the knowledge (ii)

the cooperation

the activities (iiii)

the excursions (iii)

That we learned things about nutrition and sustainable fishing that we had not thought about or thought about in our lives

The projects we did

the food

that we are missing a lesson

That it taught us a lot about eating habits and disorders

I LIKED IT SO MUCH THAT I LEARNED NEW THINGS AND THAT WE DID SOMETHING MORE RELAXED AND ENJOYABLE INSTEAD OF A LESSON

that we were working together and took a break from the lessons

teamwork (iii)

cooking (ii)

to tell the truth, I was indifferent

The knowledge I gained about nutrition

the octopus we cooked

the fact that I learned new things and together with my friends we spent our time productively

group activities, interviews with others, group cooking, presentations by experts, etc

The extracurricular activities that took place but also the fact that I learned more about how to keep my body healthy

the activities we all did together

the tours and the interviews

The tours, especially the one in Eleusis which combined the history of Asia Minor and the food, the events held on nutrition and eating disorders

the foods

I liked the activities I did with my classmates and the educational trips as well as the visits from experts who informed us in an interactive way about how food choices affect our lives

The fact that experts were coming to talk to us, such as nutritionists etc.

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

Trips (iii)

Yes, if it happened more often and with more extracurricular activities (ii)

To have more hours to devote to GOODFOOD (iiii)

Trips abroad

MORE ACTIVITIES

To have the possibility to do projects during school hours

More dramatic events

Excursions to other places (ii)

More environmentally related activities

to allow the school to take all the expected actions, without being influenced by other teachers' complaints.

Also, to do more activities outside of school

MORE RECIPES

To get in touch with children from other schools, but also from other countries

the students of our school to communicate with the students of the other schools of the program so that we

can exchange opinions and share our experiences

Don't suggest that students count calories (not that it's done, just don't do it)

Possibly some educational field trip to a food factory to make it even more interesting for the students

to spend more time on it

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

I would like to be able to do external things outside of school more than this year

Yes, I think there wasn't that much organization in terms of the times we would do some activity

I expected us to do more activities outside and inside school

I didn't like the professional behavior of some nutritionists

Overall, I was impressed with everything we did but I was expecting more action

I EXPECT MORE ACTION

NO on the contrary everything was more perfect and fun than I would have expected from a simple school project

No, everything was as it should be

No, it didn't fail, I just wish it was a little more interactive with the students so that we as students can make

Good use of the goods that the school offers us

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?

I don't intend to

No, my diet is perfect for me

Yes, I have started eating healthier

To eat more healthily

No, but I would like to try it in the future

Yes I choose more sustainable and healthy food.

Yes, I pay more attention to my diet.

I HAVE CHANGED SPECIFICALLY I NEVER EAT BREAKFAST

I WOULD CHANGE MY JUNK FOOD HABIT

yes, junk food

To eat healthier foods

*I quit smoking
Not yet but I'm thinking about it
yes i eat healthier
MAYBE I SHOULD BE MORE CAREFUL ABOUT WHAT I EAT FROM OUTSIDE
My eating habits have changed drastically, I eat healthier, I take care and listen to my body, and most
importantly I try to have the products I buy come from Greek farms, and crops
yes to add more fruits and vegetables to my diet
yes I try to take with my parents food more healthy and we started eating more fish
As much as I can AVOID outside and processed food
Yes!! I have integrated more fruits and vegetables into my diet and I have reduced the amount of snacks I
eat.
I don't know, but I could eat healthier and pay more attention to food packaging.*

Bullet 10. Additional comments on GOODFOOD impacts.

- GOODFOOD was generally appreciated by the Greek students as it brought new knowledge on different topics.
- They would have appreciated more field trips and school hours devoted to the project.
- It also induced most students to change their food choices and habits or to think about them