

# **Evaluation of the impact of the GOODFOOD project on the Greek teachers' interest, attitudes and opinions about the project and its main aims**

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## 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 teachers was administered between October 23 and 30, 2023, and between May 7 and 20, 2024, as post-survey.

The questionnaire for the teachers included six sections:

- Attitude and familiarity towards innovative learning methods
- Constraints on the use of innovative learning methods
- Self-efficacy in terms of self-esteem in front of new challenges
- Students' attraction towards teacher's subject by teaching food-related themes.
- Attitudes regarding food habits and behaviours
- Attitudes regarding changing curriculum or including extra-activities

### Links to the GOOGLE surveys:

#### Pre-piloting for teachers

English <https://forms.gle/aBLZyhWDhrfPkRAC8>

Greek <https://forms.gle/mcLB1VTGyR2qGHwS8>

#### Post-piloting for teachers

English <https://forms.gle/CY2YKMC3VQtzysLz6>

Greek <https://forms.gle/Wdcp7yT6pZCwoCQd6>

# Teachers' results

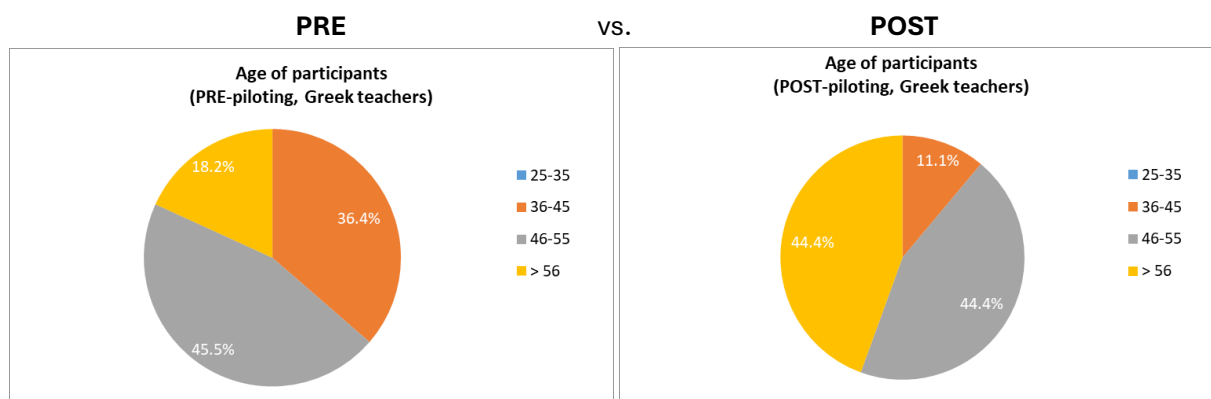
## Samples' characteristics

At pre-piloting, 11 teachers of the 1<sup>st</sup> General Lyceum of Rafina participated in the pre-piloting survey and 9 teachers participated in the post-piloting survey.

The personal details concerned age, gender and teaching experience and subjects.

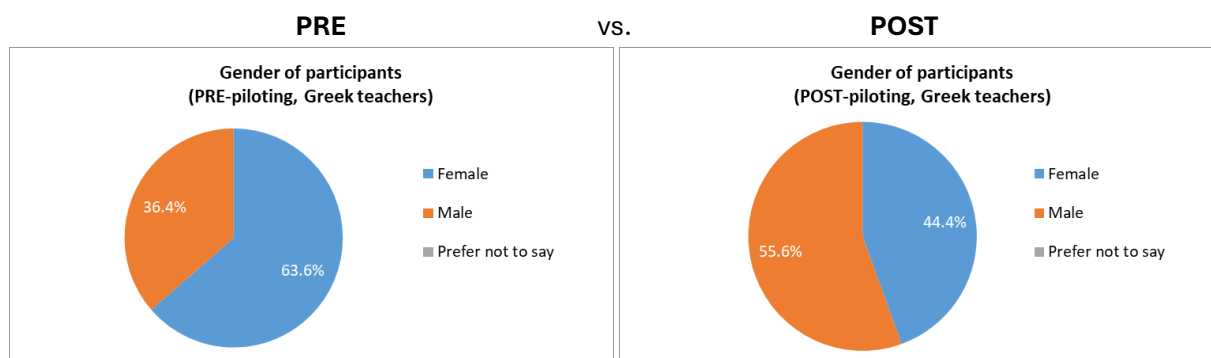
### Age of the teachers

In Greece, the most represented classes of age were 46-55 years old either at the pre-piloting and post-piloting. At the end of the project however, older teachers were more than before piloting.



### Gender of the teachers

At pre-piloting, most teachers were females (about 64%), but the final questionnaire was answered less females (44.4%) and more males.



### Teaching experience

Most teachers had long teaching experience as around 45% of the teachers indicated between 11 and 20 years of experience and more than 33% between 21 and 30 years of experience.

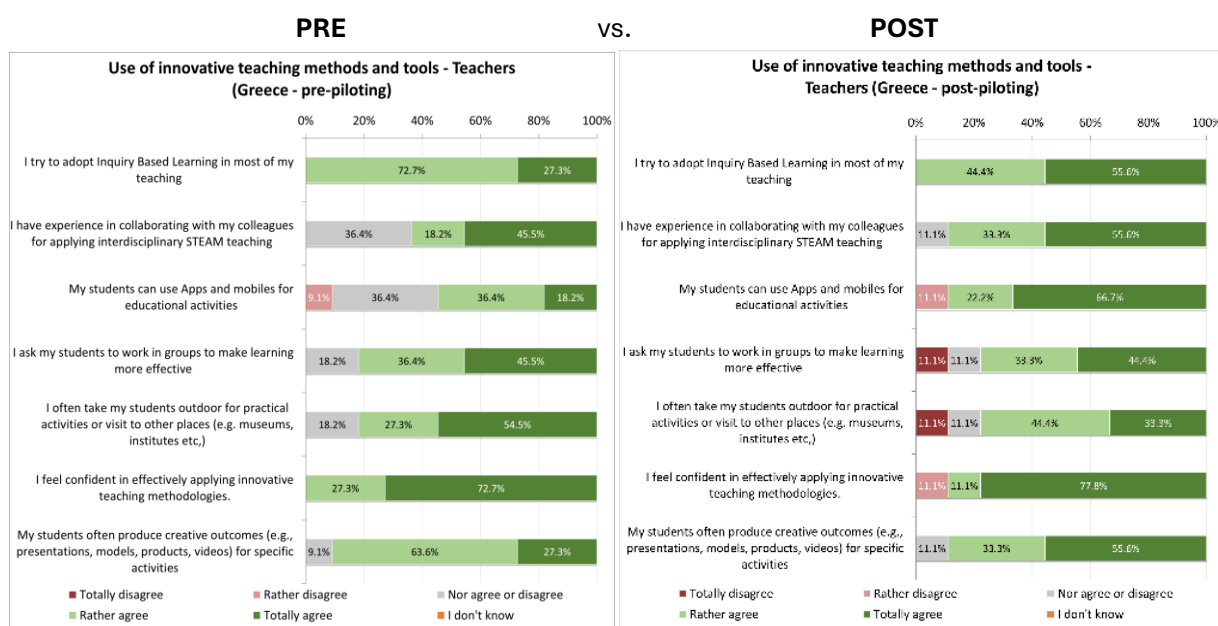


## “What is your level of agreement regarding the use of innovative teaching methods and tools?”

This question aimed to assess the teachers’ use and experience in innovative teaching methodologies such as Inquiry based learning, interdisciplinary teaching but also using tools and methods (e.g., Apps, creative outcomes, practical activities or group work etc.).

GOODFOOD had positive impact in the use of innovative teaching methods and tools with greater percentages of “totally agree” and “rather agree” responses for most of the most indicated items such as “adoption of Inquiry Based Learning in teaching” (23% more); “experience in collaborating with colleagues for applying interdisciplinary STEAM teaching” (11% more); “use of Apps and mobiles for educational activities” (49% more) and “students’ production of creative outcomes (e.g., presentations, models, products, videos) for specific activities” (19% more); while in contrast, regarding the “implementation of students’ groupwork” and “outdoor practical activities or visit to other places (e.g. museums, institutes etc.)”, there was a slight decrease of agreement after piloting.

More teachers totally agreed that they felt “confident in innovative teaching methodologies” after piloting, despite the percentage of those who did rather disagree increased as well.



### Bullet 2. GOODFOOD teachers’ experience in innovative methods and tools.

- At the 1<sup>st</sup> General Lyceum of Rafina, GOODFOOD influenced teachers’ methods and tools as it increased the number of those applying interdisciplinary STEAM, using IBL, using Apps and mobiles for educational activities and asking students creative outcomes.
- Some teachers still feel less confident in applying innovative methodologies after the GOODFOOD experience and less teachers do outdoor activities or visit to other places.

This question aimed to assess the teachers' attitudes towards innovative teaching methodologies and tools. Greek teachers had a positive attitude towards innovative methods and tools since the beginning of the project, but GOODFOOD enhanced further such attitude with an increase of teachers totally agree and rather agree with the question items. For instance, all teachers totally agreed on the "interest on being updated on innovative teaching methodologies" and agreed to different extent on the "pleasure of collaboration with STEAM colleagues to implement interdisciplinary classes", "mentoring, and facilitation being more effective than traditional teaching (e.g., frontal lessons and exercises) in increasing student's permanent and meaningful learning". 41% more teachers totally agreed on "soft skills are very much needed and project-based learning enhances them" and 32% more teachers totally agreed that "as teachers, they observe students' individual personality to try to identify the best educational approach". Less relevant was the change of agreement regarding "teaching by topic-centered instead of subject-centered approach".



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## “What is your level of agreement regarding the following constraints on the use of innovative teaching methods and tools?”

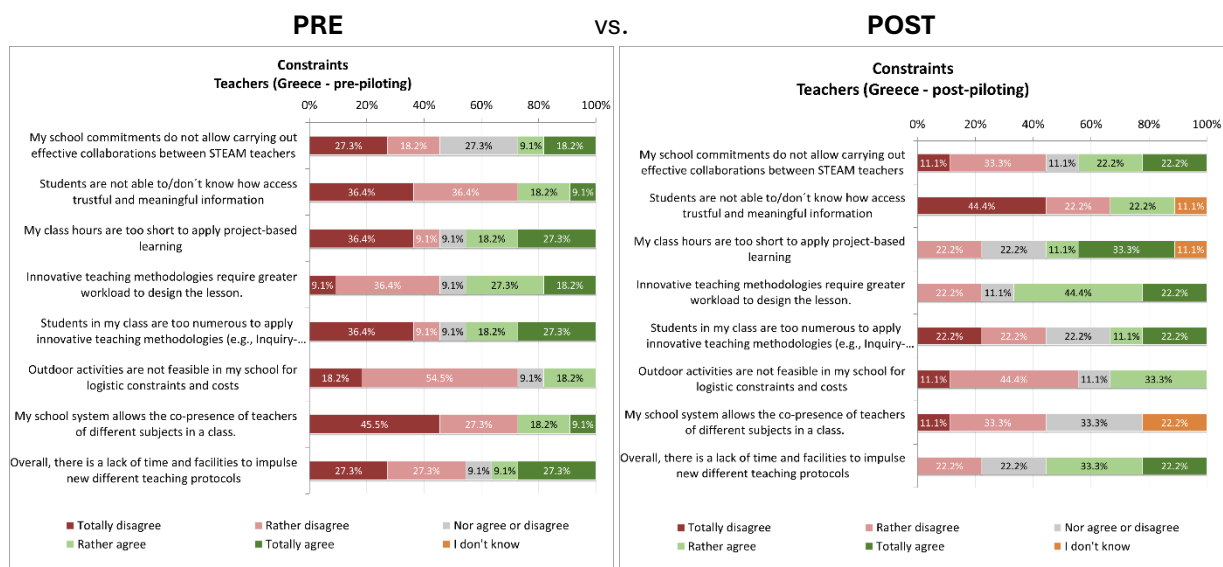
This question aimed to assess any opinion regarding the possible constraints (es. time, workload, school system etc.) to implement innovative teaching methods.

Before piloting, teachers expressed slightly better attitude than after piloting regarding the application of innovative methodologies at school although without evidencing relevant differences. For instance, before piloting, only 21% agreed to different extents that “school commitments do not allow carrying out collaborative teaching between STEAM teachers” and after the piloting the percentage of teachers increased (23% more). 45% teachers agreed that “school hours were too short to apply project-based learning” without substantial change, although there was a relevant percentage of those who totally disagreed before piloting (36%) that vanished after the piloting.

Before piloting 45% teachers agree on the item “innovative teaching methods require greater workload to design the lessons” while this percentage increased by 21%. In contrast, 45% teachers before piloting agreed on the fact that “students in class are too numerous to apply innovative methodologies” while after the piloting decreased to 33%.

Regarding the item “outdoors activities are not feasible in the school for logistic constraints and costs”, only a minority of teachers (18%) rather agreed before piloting and the percentage increased after piloting (15% more), the same was observed regarding the “lack of time and facilities to use different teaching protocols” as 19% more teachers (from 36% to 55%) agreed on that.

In contrast, regarding the agreement on “the school system allows the co-presence of teachers of different subjects in a class” there was a decrease of agreement from 27 to 0%.





#### Bullet 4. GOODFOOD teachers' opinion on constraints to apply innovative methodologies.

- At the 1<sup>st</sup> General Lyceum of Rafina, before piloting teachers expressed slightly better attitude than after piloting regarding the application of innovative methodologies at school, although without evidencing relevant differences.
- GOODFOOD made teachers slightly more aware about constraints such as the additional workload, the lack of facilities and time and logistic constraints for outdoors activities.
- Teachers were more positive regarding the length of the school hours and co-teaching in the school system.

## “What is your level of agreement regarding yourself efficacy in front of new challenges?”

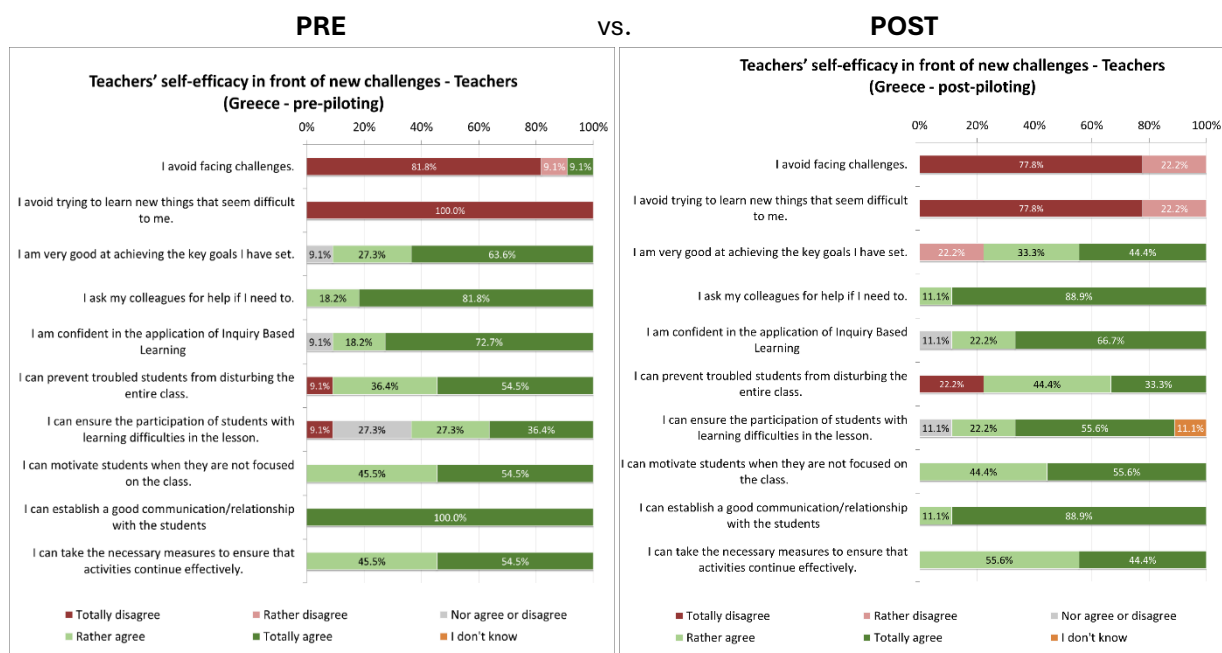
This question aimed to assess any attitude regarding own efficacy in front of new challenges that may occur in the class (e.g. learning new methods, asking help, managing troubling students etc.).

There was no substantial change between the teachers’ attitude before and after the GOODFOOD piloting experience.

All teachers do not escape in front of new challenges and learning new things even though they seem difficult. Slightly less were the teachers who agreed on the “capacity to achieve key goals” (64% before piloting totally agreed vs. 44%) but all of them are able “to ask own colleagues for help if needed”.

Regarding the application of Inquiry Based Learning about 90% teachers felt confident to different extent before and after the piloting experience.

Regarding the class management capacity, most teachers (about 90%) are able to “prevent troubled students from disturbing the entire class” but this percentages decreases after piloting (12% less) while they can “ensure the participation of students with learning difficulties”, “motivate students when they are not focused on the class”, “establish a good communication with the students” but also “take necessary measures to ensure that activities continue effectively”.



### Bullet 5. GOODFOOD teachers’ attitudes in front of new challenges.

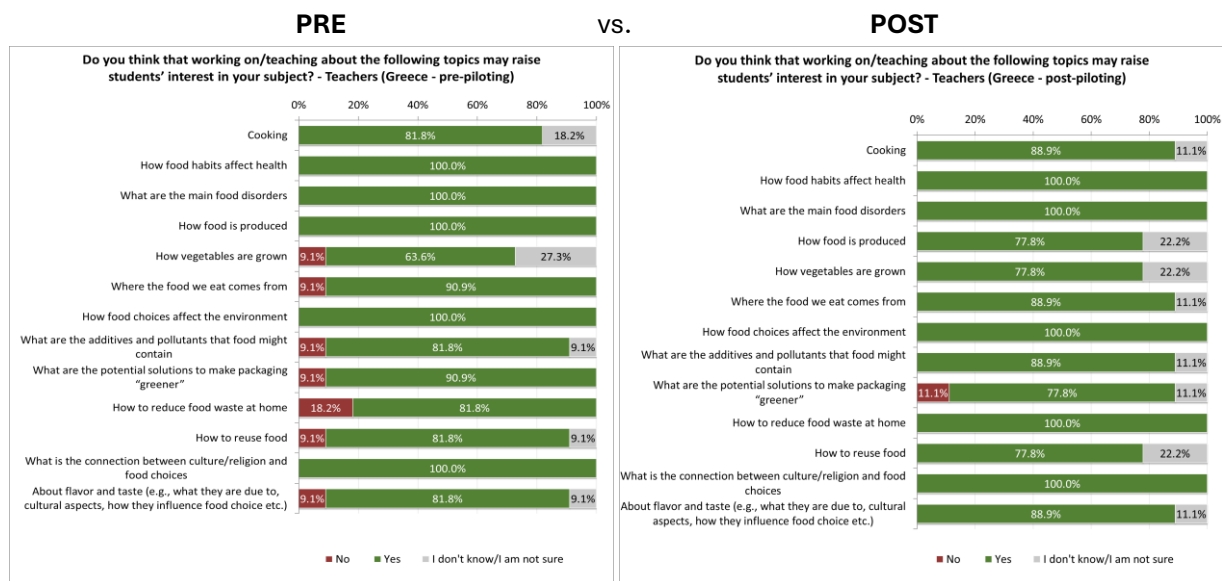
- At the 1<sup>st</sup> General Lyceum of Rafina, there was no substantial change between the teachers’ attitude before and after the GOODFOOD piloting experience, as they tend not to escape in front of new challenges and learning new things and feel confidence in the management of troubles within the class.
- However, slightly less teachers felt capable after piloting to achieve key goals.

## “What is your level of agreement regarding teaching about food-related topics and the students’ interest in your subject?”

With this question we wanted to assess teachers’ opinion regarding the possible change of students’ interest in own subject by teaching some topics related to food.

Most teachers agreed that all suggested topics are important in raising students’ interest in school subjects, and some topics were selected by all teachers, such as “how food habits affect health”, “food disorders”, “how food choices affect the environment” and “connection between culture/religion and food choices”.

Also other topics are important for many teachers in this objective although percentages decreased from pre- to post- piloting relatively to “how food is produced” (22% less), “green solutions for packaging” (13% less) but increased in others such as “cooking” (7% more), “how vegetable are grown” (14% more), “additives and pollutants in food” (7% more), “how to reduce food waste” (18% more) and “flavour and tastes” (7% more).



### Bullet 6. GOODFOOD topics and students’ interest in own subject.

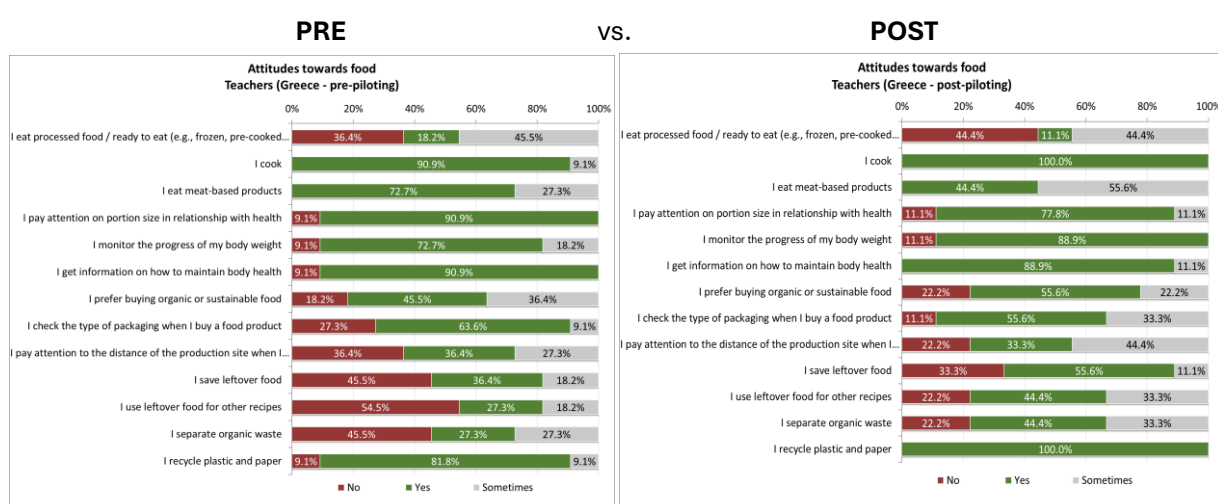
- At the 1<sup>st</sup> General Lyceum of Rafina, most teachers generally thought that all food-related topics would raise students’ interest in own subject and this opinion was confirmed at the end of the piloting.

## “What is your habit and behaviour regarding food?”

This question aimed to assess whether GOODFOOD changed any habits and behaviours in teachers regarding food.

GOODFOOD improved Greek teachers’ behaviour and habits as compared to pre-piloting. For instance, 10% more teachers “cook food” and 28% teachers reduced “the consumption of meat-based products” (73% before piloting). However, 13% less teachers “pay attention to food portion size”, while 16% more “monitor the height-weight development”. There was also 10% increase in teachers who “buy organic or sustainable food” but 7% less “check the type of packaging when they buy food products”.

At home, before piloting only one third of the teachers used to have sustainable behaviours regarding the use of food, while there was an increase of teachers “saving leftover food” (21% more), “using leftover food for other recipes” (17% more), “separate organic waste” (17% more) and “recycle plastic and paper” (18% more).



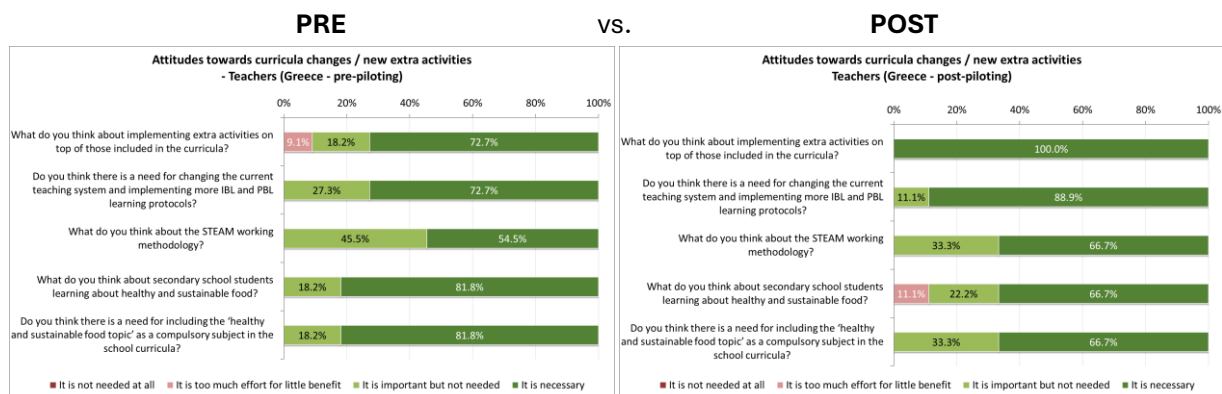
### Bullet 7. GOODFOOD teachers’ habits and behaviours regarding food.

- At the 1<sup>st</sup> General Lyceum of Rafina, GOODFOOD improved teachers’ behaviour and habits with more teachers “cooking food”, “reducing the consumption of meat-based products”.
- In addition, more teachers after piloting declared to “use leftover food for other recipes”, “separate organic waste” and “recycle plastic and paper”.

“What is your opinion regarding curricula changes or new extra activities?”

This question aimed to assess the teachers' opinion regarding the introduction of extra-activities in own teaching, of IBL and PBL in current teaching or interdisciplinary STEAM approaches but also about teaching about food.

After GOODFOOD piloting, teachers' opinion enhanced regarding some issues. For instance, all teachers thought necessary "implementing extra activities on top of those included in the curriculum", 89% thought necessary to "change the current teaching system and implement more Inquiry- and Project- Based Learning", and 67% it is necessary to "apply integrated STEAM" and to "include the healthy and sustainable food topic as compulsory in the school curriculum", while the remaining thought these changes important but not needed. Again, 67% thought necessary "students' learning about health and sustainable food" although 11% considered it too much effort for little benefit.



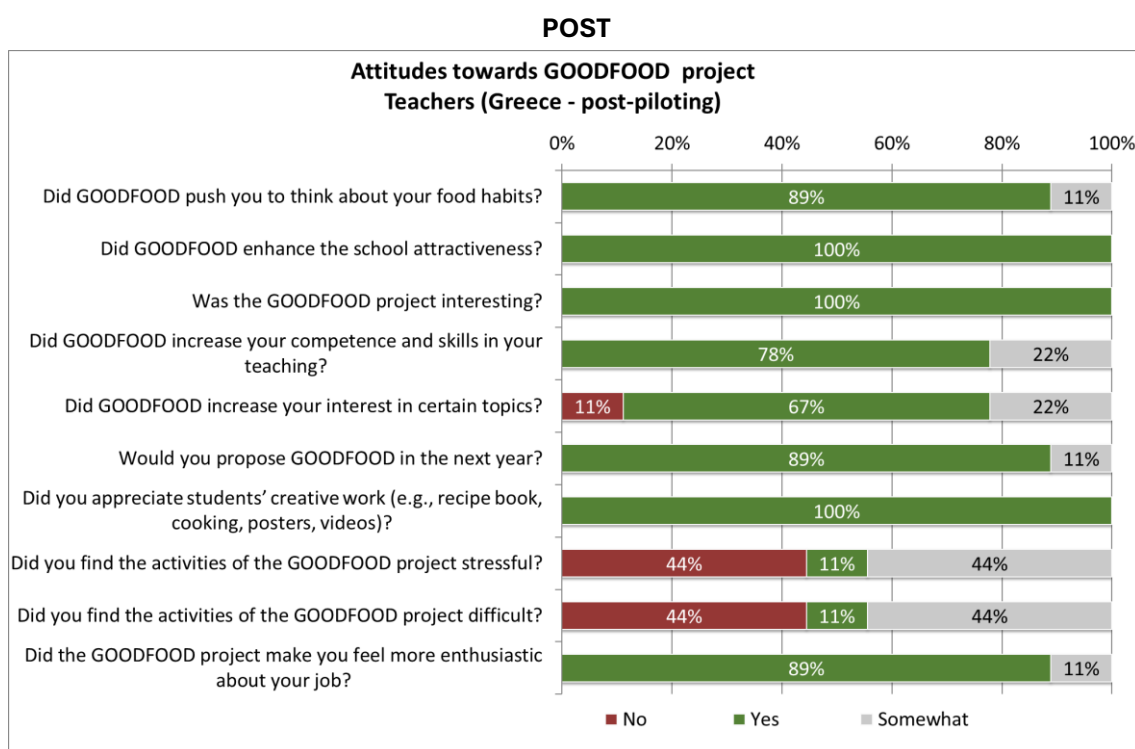
Bullet 8. GOODFOOD teachers' opinion regarding curricula changes or new extra activities.

- GOODFOOD experience refined positively teachers' opinion regarding the extra-activities on top of those included in the curriculum and in applying IBL, PBL and interdisciplinary STEAM
- More teachers agreed about the need for teaching about health and sustainable food within the school curriculum

## “What was the GOODFOOD impact on your teaching?”

This question aimed to assess the teachers’ opinion regarding any impact on food habits, school attractiveness and in enhancing students’ competences and skills.

- 89% teachers thought about food habits
- 100% teachers thought that GOODFOOD enhanced the school attractiveness
- 100% teachers thought that GOODFOOD was interesting
- 76% teachers thought that GOODFOOD increased competence and skills in teaching
- 67% teachers thought that GOODFOOD increased interest in certain topics
- 89% teachers will propose GOODFOOD in the next year
- 100% teachers appreciated students’ creative work (e.g., recipe book, cooking, posters, videos)
- 11% teachers found the activities of the GOODFOOD project stressful
- 11% teachers found the activities of the GOODFOOD project difficult
- 89% teachers thought that GOODFOOD made feel more enthusiastic about own job



### Bullet 9. GOODFOOD teachers’ opinion on the project impacts.

- GOODFOOD stimulated most teachers to think about own food habits
- All the teachers thought GOODFOOD interesting and that GOODFOOD enhanced the school attractiveness. About all of them will propose GOODFOOD in the next year.
- All teachers appreciated students’ creative work (e.g., recipe book, cooking, posters, videos)
- The large majority of the teachers declared that GOODFOOD increased competence and skills in teaching or the interest in certain topics and felt more enthusiastic about own job.

## Further Opinions

Additional comments, suggestions and/or ideas regarding the implementation of the GOODFOOD project and potential future development:

The following Table collects some other opinions from the teachers that participated in the GOODFOOD project.

<b>What did you like most about the GOODFOOD project?</b>	<b>Do you think that the GOODFOOD project has not met your expectations in any way? Please explain to us why</b>	<b>What ideas/activities would you like to suggest to help us improve the GOODFOOD project? What would you recommend to enhance GOODFOOD?</b>
<i>The new knowledge he offered. The innovative teaching methods used. The interesting findings of the investigations carried out.</i>	<i>No it didn't fail.</i>	<i>We should strengthen experiential learning and visits to places where food is produced. As well as the interconnection of the previous ones with the social processes of each region.</i>
<i>The many new and interesting things that I and my students learned, the collaboration with some colleagues, the actions, the visits of experts, the excursions, the creativity of the students.</i>	<i>No.</i>	<i>It would be good if more students and teachers participated. To have a fixed time weekly for its implementation.</i>
<i>The updates made in relation to healthy eating by experts, also the interest shown by the students in the subject and the approach of the courses with experiential and discovery learning.</i>	<i>GOOD FOOD achieved my expectations although there are several difficulties in relation to a suffocating course schedule</i>	<i>No</i>
<i>Proper nutrition</i>	<i>No it was within my expectations.</i>	<i>I would suggest that we constantly strive for proper nutrition</i>
<i>The creativity developed by the students.</i>	<i>.The school schedule is particularly stressful. Many actions that we had planned did not take place due to time pressure. We didn't manage to do enough activities outside of school hours and the hours we got from the school program were relatively limited.</i>	<i>One idea is for the GOODFOOD student section to be made up of only students who wish to participate in the program. It would be good if there was a flexible zone in the time schedule and at that time/times the schedule would take place on a weekly basis.</i>

<i>The fact that we worked exploratory / student-centered.</i>	<i>I often felt that there was not a good atmosphere among colleagues.</i>	<i>Better organization.</i>
<i>He was very interested in the children</i>	<i>It was not easy to implement within the educational framework of the Greek school</i>	<i>More visits to places related to food production and consumption.</i>
<i>The cooperation of my students as well as the cooperation with other colleagues... also the range of activities in which I participated offered me beautiful experiences and knowledge!!!</i>	<i>No!!</i>	<i>Ideally I would prefer the participation of more students as well as having more time to implement more activities...</i>
<i>Teaching visits and the application of STEAM in teaching.</i>	<i>GOODFOOD did not fail my expectations</i>	<i>The possibility for students from all participating states to meet in order to exchange experiences and knowledge.</i>

## Bullet 10. Other opinions and ideas about the GOODFOOD project.

### POSITIVE ISSUES

- The knowledge on new interesting topics for students and teachers
- The collaboration with other colleagues
- The learning process as student-centred approach.
- Visits of experts

### NEGATIVE ISSUES

- The strict time due to a stressful and strict school curriculum schedule.
- Limited collaboration.

### NEEDS

- More experiential learning and visits to food production sites.
- More time in the schedule in order to carry out the project on a weekly basis.
- Expand the participation to all the students and to other courses.