

# GREENT PILOT DELIVERY IN LATVIA – REPORT COMPILED BY THE GREENT PROJECT TEAM

Funded by the ERASMUS+ Programme of the European Union

Created by JA Bulgaria in collaboration with JA Greece, JA Latvia, Ungt Entreprenørskap Sogn og Fjordane (Norway), and JA Romania

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## I. Teacher feedback after individual lessons delivery

A total of 17 lesson activity reports were submitted by teachers from Latvia. The 11 different lessons piloted by Latvian teachers (some of the lessons were delivered more than once to different classes) are:

First Name	Last Name	City / town	Name of school	Name of the GREENT lesson you delivered
Brigita	Eltermane	Olaine	Olaine secondary school No1	21. Green economy
Brigita	Eltermane	Olaine	Olaine secondary school No1	20. What is green entrepreneurship?
Brigita	Eltermane	Olaine	Olaine secondary school No1	15. The four system conditions and the four sustainability principles
Brigita	Eltermane	Olaine	Olaine secondary school No1	14. Sustainability and natural resources
Ieva	Sebre	Talsi	Talsi State Gymnasium	20. What is green entrepreneurship?
Ieva	Sebre	Talsi	Talsi State Gymnasium	19. What is entrepreneurship?
Ieva	Sebre	Talsi	Talsi State Gymnasium	22. Circular economy
Ieva	Sebre	Talsi	Talsi State Gymnasium	19. What is entrepreneurship?
Ieva	Sebre	Talsi	Talsi State Gymnasium	13. Different approaches to sustainability
Ilze	Rumbeniece	Jelgava	Jelgava State Gimnasium	21. Green economy
Ilze	Rumbeniece	Jelgava	Jelgava State Gimnasium	22. Circular economy
Ilze	Rumbeniece	Jelgava	Jelgava State Gimnasium	20. What is green entrepreneurship?
Ilze	Rumbeniece	Jelgava	Jelgava State Gimnasium	16. Sustainable solutions and their importance for the environment. Climate, energy and waste handling.
Juta	Birzniece	Liepāja	Draudzīgā aicinājuma Liepājas pilsētas	25. Business plan

			5.vidusskola	
Juta	Birzniece	Liepāja	Draudzīgā Liepājas 5.vidusskola	aicinājuma pilsētas 24. Sustainable business model canvas
Juta	Birzniece	Liepāja	Draudzīgā Liepājas 5.vidusskola	aicinājuma pilsētas 23. How to start up a green business
Juta	Birzniece	Liepāja	Draudzīgā Liepājas 5.vidusskola	aicinājuma pilsētas 22. Circular economy

The students to whom the lessons were delivered ranged from 8<sup>th</sup> to 11<sup>th</sup> graders. According to the information submitted in the forms, a total of 514 students participated in the lessons. The actual number of unique students may be lower because teachers who piloted more than one lesson may have piloted it to the same group of students. The teachers who delivered the lessons are teachers in Economy, Geography and Commerce.

Predominantly, teachers used 2 school hours to deliver the respective lesson. They focused equally on delivering the introduction, theory, practical activities, case studies and reflection sections of the lessons, sometimes omitting the entrepreneur profiles and the homework. They also used some flip-the-classroom techniques by assigning videos from the lesson to be watched at home by the students and using only several minutes for in-class discussion, thus saving some time for practical activities.

Teachers in Latvia gave mixed feedback on the length of the lessons. Some of them were able to do all the core sections within 1 or most of the times 2 school hours but there were teachers who couldn't deliver the lessons even within 2 hours and had to skip some parts. In general, teachers reported that they found the indicative timings for each lesson section a good reference point – only for three of the lessons it was reported that the timings do not offer good guidance.

The overall assessment presented in Chart 1 below reveals the high appreciation that Latvian teachers give to the relevance and appropriateness of the overall content and level of difficulty of the lessons, including their theoretical sections, entrepreneur profiles, and case studies.

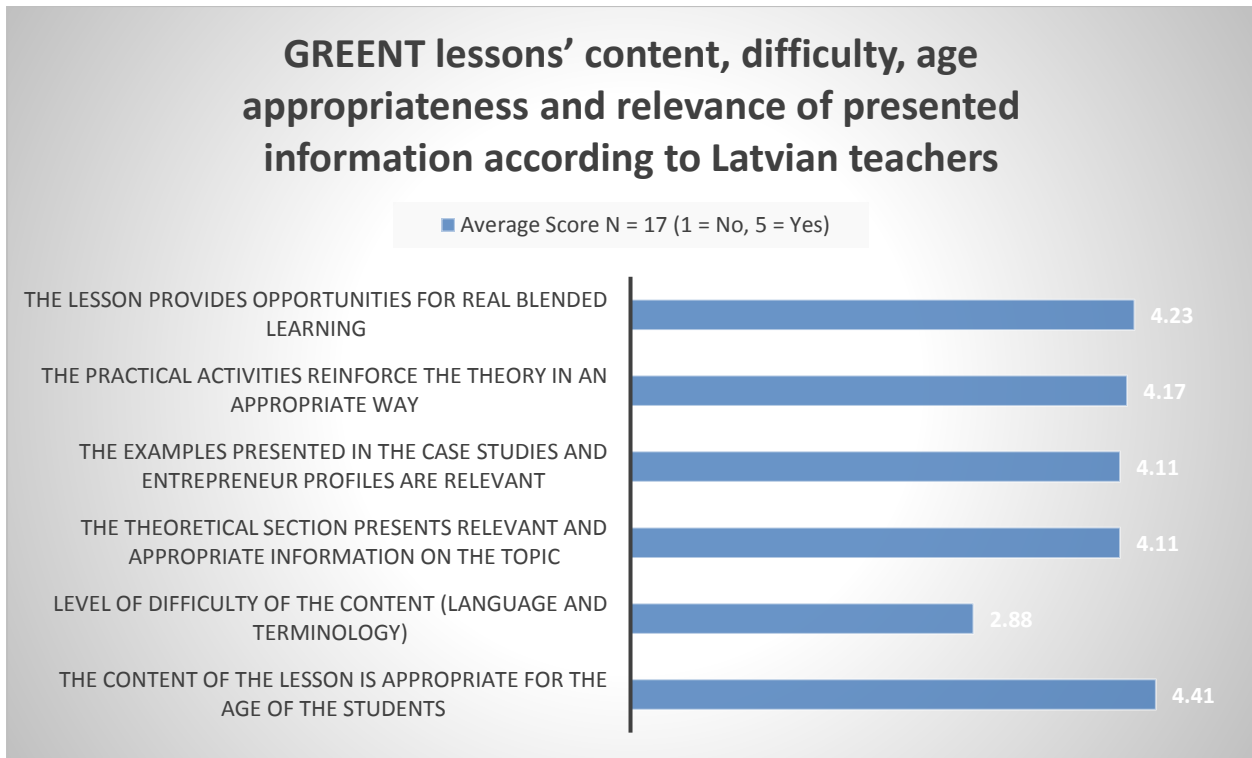


Chart 1. Assessment of Latvian teachers related to GREENT lessons' content, difficulty, age appropriateness and relevance of presented information.

None of the teachers in Latvia experienced difficulties with the fact that the online videos in the lessons are in English. Only in 3 cases the teachers assessed that their students experienced difficulties with the English videos. Further more profound analysis of the results from the activity reports may go deeper at the level of individual lessons and explore the content and level of English language in the videos to that particular lesson and if the language is assessed as too complicated the video may be replaced with another appropriate one.

An important aspect of the GREENT lessons is their influence on fostering and/or changing students' attitudes. The teachers in Latvia were requested to give their assessment of whether the lessons they piloted have an impact on students' creativity, environmental responsibility and willingness to generate their own sustainable business idea. The scores are presented in Chart 2 below:

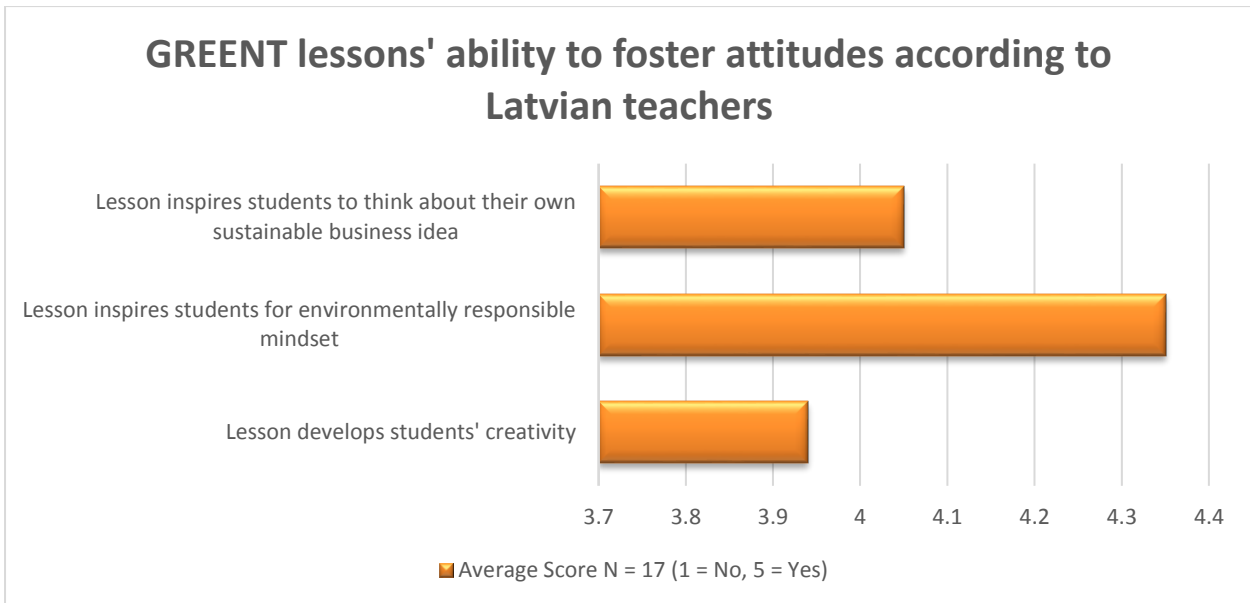


Chart 2. Assessment of Latvian teachers related to GREENT lessons' ability to foster attitudes and creativity.

In terms of skills that piloting teachers thought were mostly developed by the GREENT lessons piloted in Latvia, the leading ones are critical thinking, holistic thinking, teamwork and analysis of information. Data is summarized in Chart 3 below:

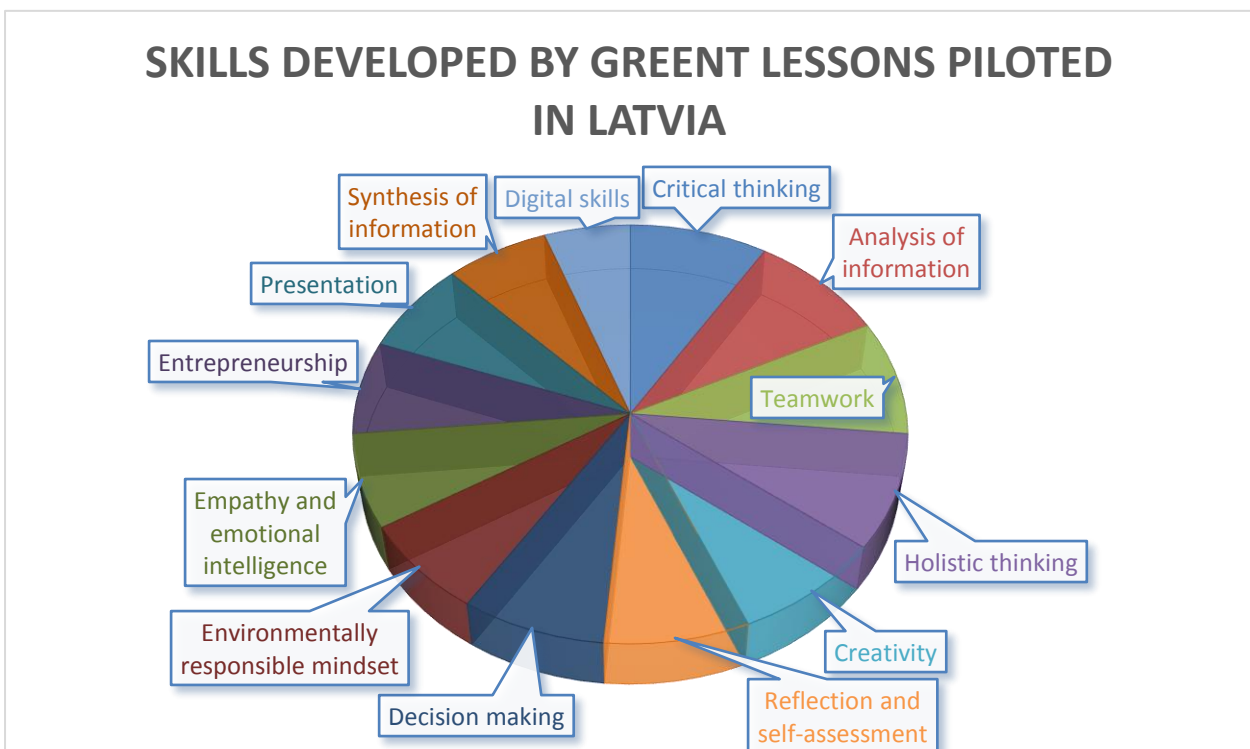


Chart 3. Skills developed by GREENT lessons piloted in Latvia, according to piloting teachers.

The Latvian teachers who piloted the content saw a number of cross-curricular links of the respective piloted lesson with the other subjects from the compulsory educational curriculum – such as geography, economics, entrepreneurship and foreign languages. Lessons 13 and 22, for instance, were thought to make interdisciplinary connections to various economics subjects, such as entrepreneurship, the behavior of consumers, and the role that a country plays in international economic relationships.

Part of the themes included in the GREENT content are also studied in Biology, Chemistry, Geography, Economics, and Social Studies. The materials from separate themes can be very useful for foreign language teachers, class teachers, and the teacher – consultant of the Eco group. Some materials can be used during the environment week by displaying them on the information screen. Other opportunities to use the GREENT materials are through organizing excursions, meetings with entrepreneurs, consulting student companies.



## II. Teacher feedback and recommendations on individual lessons

### Lesson 14. Sustainability and natural resources

- When watching the video „Human impact on the environment” the students were actively involved in a discussion regarding the human impact on the environment and usage of resources. A good teaching approach was to then divide the mixed group of students into two: the 10<sup>th</sup>-graders watched other video materials, while the 11<sup>th</sup>-graders creatively performed the SWOT analysis of the resources of their own region.

- The introduction part has to be reconsidered. With the first class of students that the Latvian teacher piloted the lesson with, one part of students felt confused when the teacher asked what they had done during the weekend. They had to admit that not all food they had eaten was healthy. Not all students had properly observed the eating times. In the next class, the teacher slightly changed the formulation of the question – what would students prefer to have for lunch, and then linked the information to the waste of water resources for the preparation of lunch.
- It is recommended to make the SWOT analysis of the resources of your own region during the last lessons as the summary of the theme if there is a separate subject „Green Economics”. It is also possible to create a separate practical activity lesson, at the time when the lessons „Sustainability and natural resources” and “The four system conditions and the four sustainability principles” are delivered.

#### Lesson 15. The four system conditions and the four sustainability principles

- The school in Latvia which piloted this lesson has obtained the status of an Eco School. Some students take an active part in Eco council, in international projects connected with environmental protection, and they organize various events, and therefore the discussions regarding the ecological footprint and each student’s ways to decrease it and the practical activities related to it were carried out in an interesting and exciting way.
- A recommendation is to come up with a more visually expressive way to get the students acquainted with the theoretical material „The four system conditions and the four sustainability principles”.
- A further recommendation is to carry out a separate practical activity lesson, when the lessons „Sustainability and natural resources” and “The four system conditions and the four sustainability principles” are introduced. Students are interested in these themes and willingly get involved in the practical activities. Students can be motivated to present ideas regarding the production of environmentally-friendly products in a student company and thus make a good link to JA’s Company Program.

#### Lesson 16. Sustainable solutions and their importance for the environment. Climate, energy and waste handling.

- One teacher recommended to change the examples presented in the case studies but did not offer justification why.

#### Lesson 19. What is entrepreneurship?

- The analysis of the profile of a successful entrepreneur went particularly well.
- The analysis of the entrepreneurs profile and self-assessment of entrepreneurial inclinations also went well.

#### Lesson 20. What is green entrepreneurship?

- The practical activities reinforce the theory in an appropriate way.

- Students were actively involved in the discussion on what green entrepreneurship is, on the entrepreneur's social responsibility and could name definite examples in Latvia. There were interesting debates between „regular entrepreneurs „ and „green entrepreneurs”.
- The teamwork when analyzing examples of circular economy and creating and developing ideas for green entrepreneurship went particularly well in this lesson.

#### Lesson 21. Green economy

- The practical activity with exploring the global green economics index went particularly well, the theoretical part also went well because it was based on the knowledge previously acquired by the students.
- Analysis of information, Reflection and self-assessment, Teamwork, Decision making went really well in this lesson too.
- The timings of the sections were a bit misleading for one of the teachers.
- Since time is limited, a possible teaching strategy is to get the students acquainted with the main points of discussion during the previous lesson so that we would fit into the time devoted to the lesson.
- A recommendation is to develop a separate practical activity lesson when the lessons „What is green entrepreneurship” and “Green economy” are taught – it can be an extra lesson. The students are interested in these themes; they willingly get involved in the practical activity as well. Students could be motivated to remember the products they have seen at the trade fairs for student companies, which follow the principles of the green economy.
- In the grades, where students are relatively passive, it is necessary to prepare leaders for separate parts of the lesson, finding them among the students from the same grade.

#### Lesson 22. Circular economy

- The teamwork when analyzing examples of circular economy and creating ideas for green entrepreneurship went particularly well.
- The Entrepreneur profile section didn't go very well.

#### Lesson 23. How to start up a green business

- The case studies went well, but the reflection didn't go so well.

#### Lesson 24. Sustainable business model canvas

- The practical activities went well, while the case studies didn't go so well.



### III. Overall teacher self-assessment after delivery of all planned lessons

Apart from the feedback and recommendations teachers gave after piloting each lesson, they were asked to fill in a short self-assessment survey designed to gauge their perception regarding possible improvements in the level of their teaching skills and knowledge as a result of participating in the pilot. A total of 4 teachers filled in the survey although more teachers participated in the pilot. Although by no means representative, the results show an improvement in the way teachers see their green entrepreneurship and blended learning knowledge and skills after the end of the pilot:

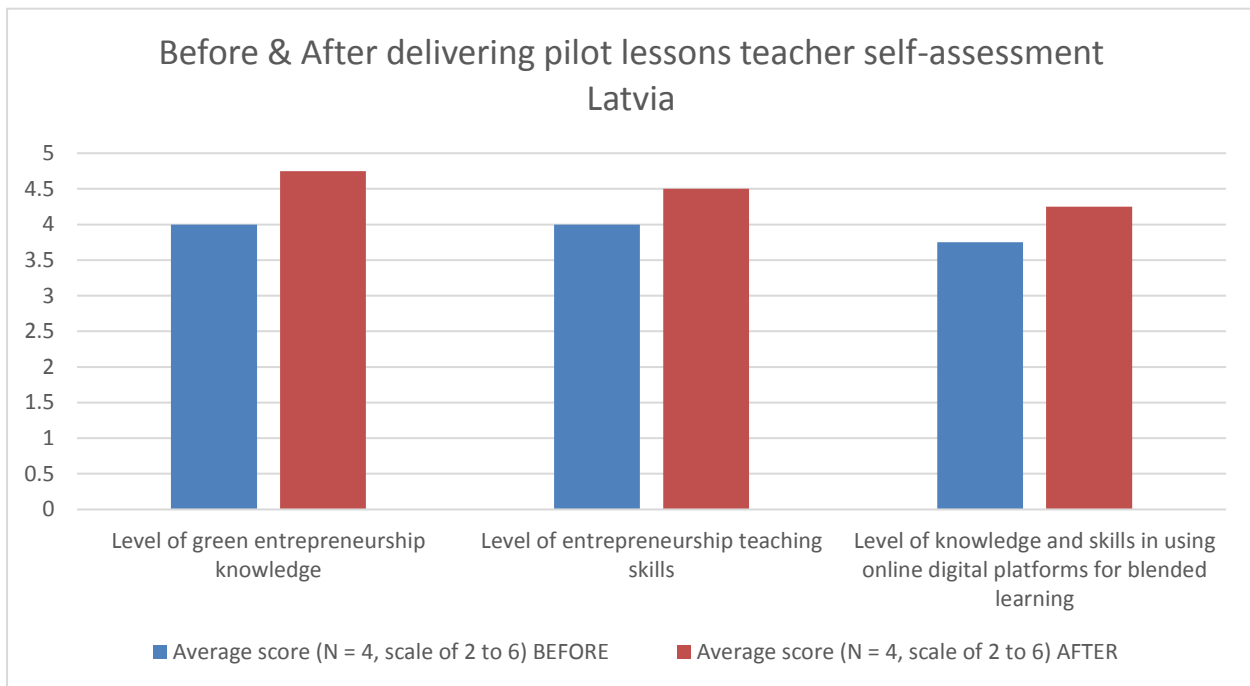


Chart 4. Before & After delivering pilot lessons teacher self-assessment for Latvia

According to one of the piloting Latvian teachers, the project is a great chance to assess her knowledge, skills, attitude to the environment, its long-term sustainability. The school curriculum of Geography and the curriculum of Economics view these questions in a narrower perspective. The project activities motivated this teacher to reconsider the methods and structure used during the lesson. The opportunity to get acquainted with the teachers' experience from the schools of other countries when developing the materials of the GREENT project lessons was highly evaluated.

Another teacher commented that the topics from the GREENT course are essential to teach as they concern global and important processes that we have to know about in order to preserve our Earth. It is crucial because the generation being educated right now is going to be the generation in charge in as little as 10 to 20 years and they have the potential to change the world for good.

As a conclusion, one of the teachers recommended that GREENT project initiators reach out to the government and offer to include this program in the general curriculum.

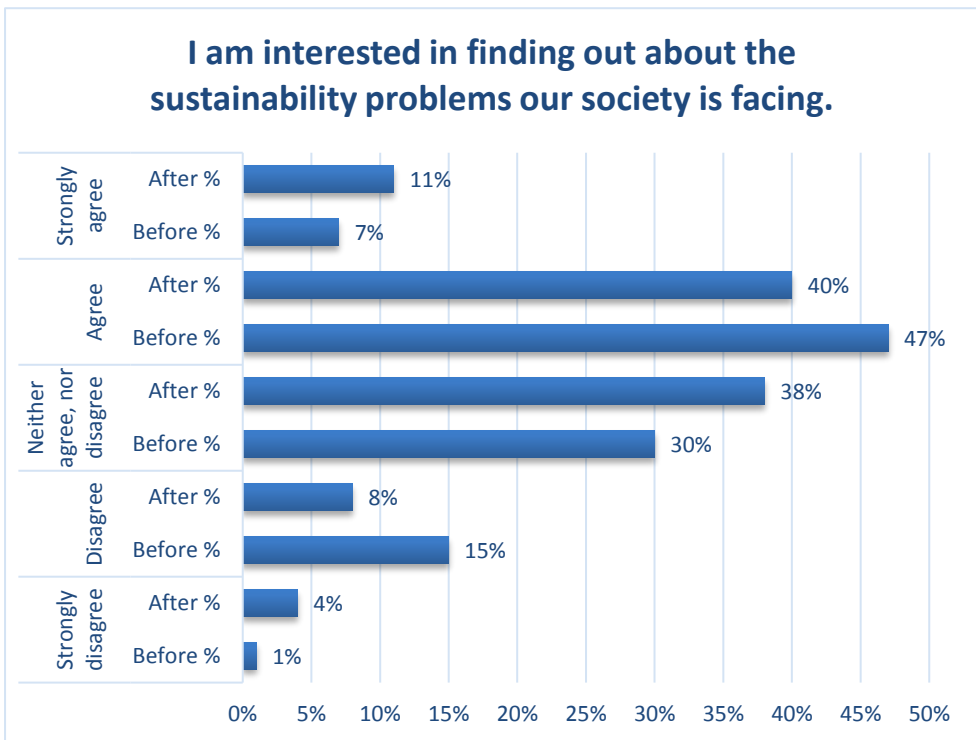
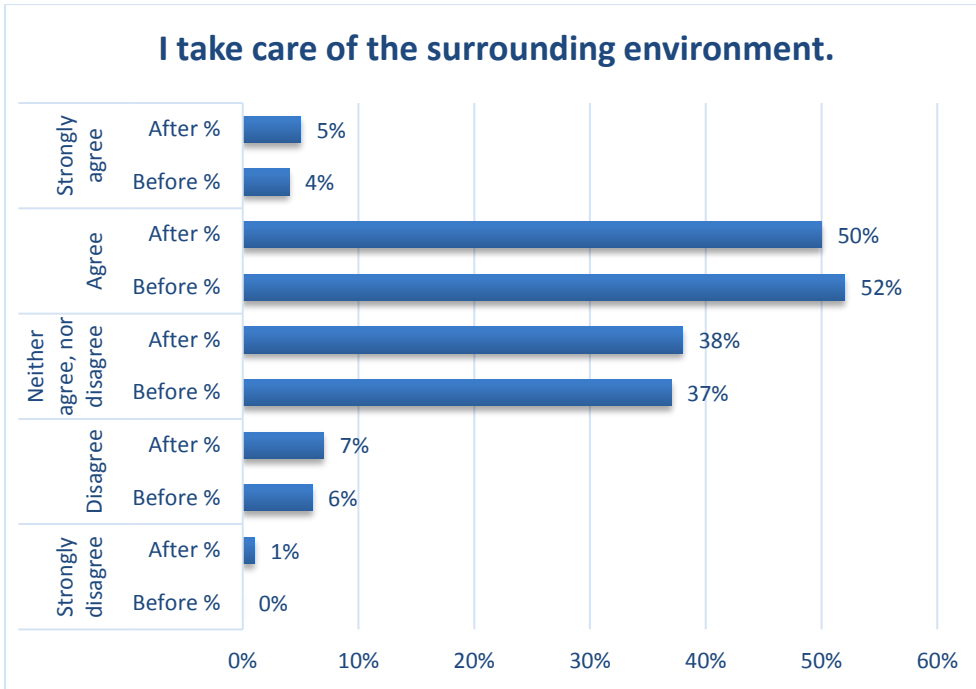
Two of the Latvian teachers expressed their desire to implement the full GREENT course in the 2017-2018 school year.

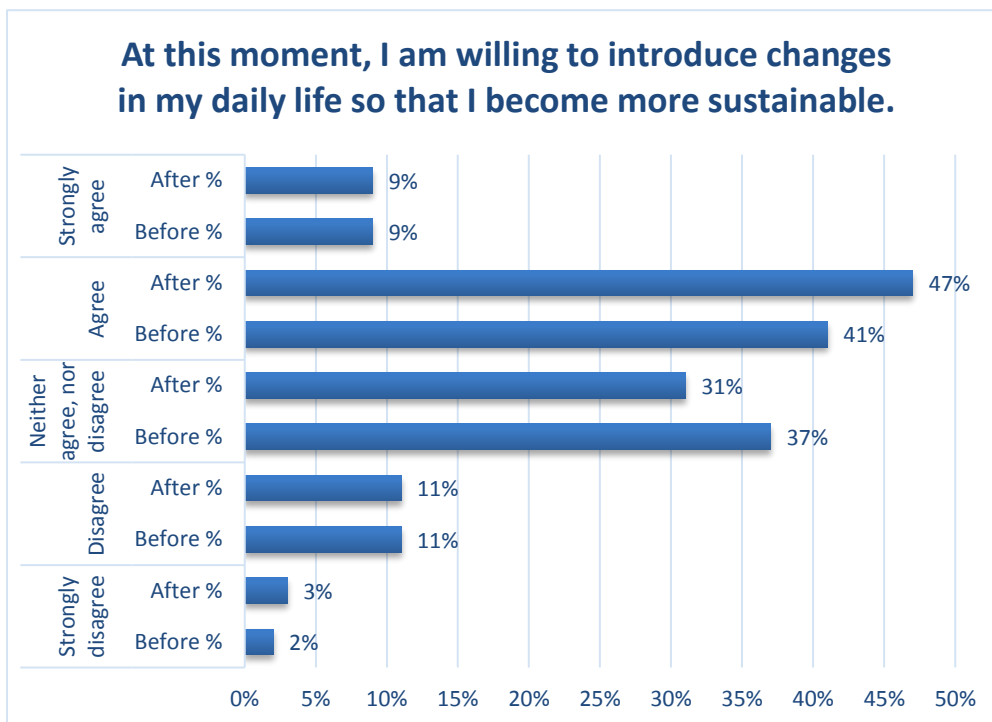
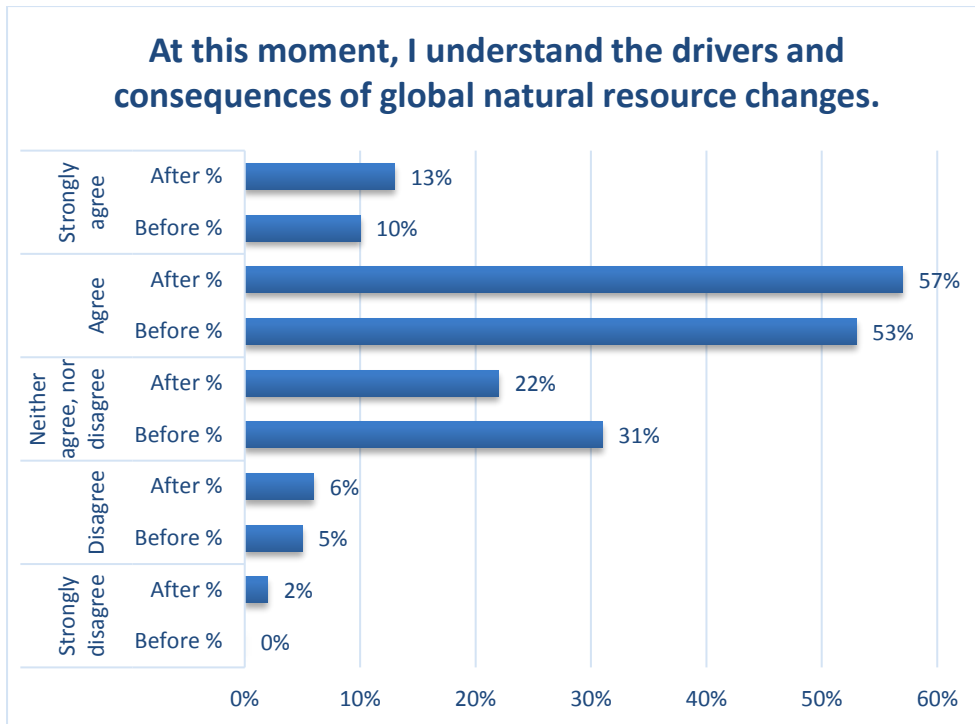
### IV. Student pre- and post-test results

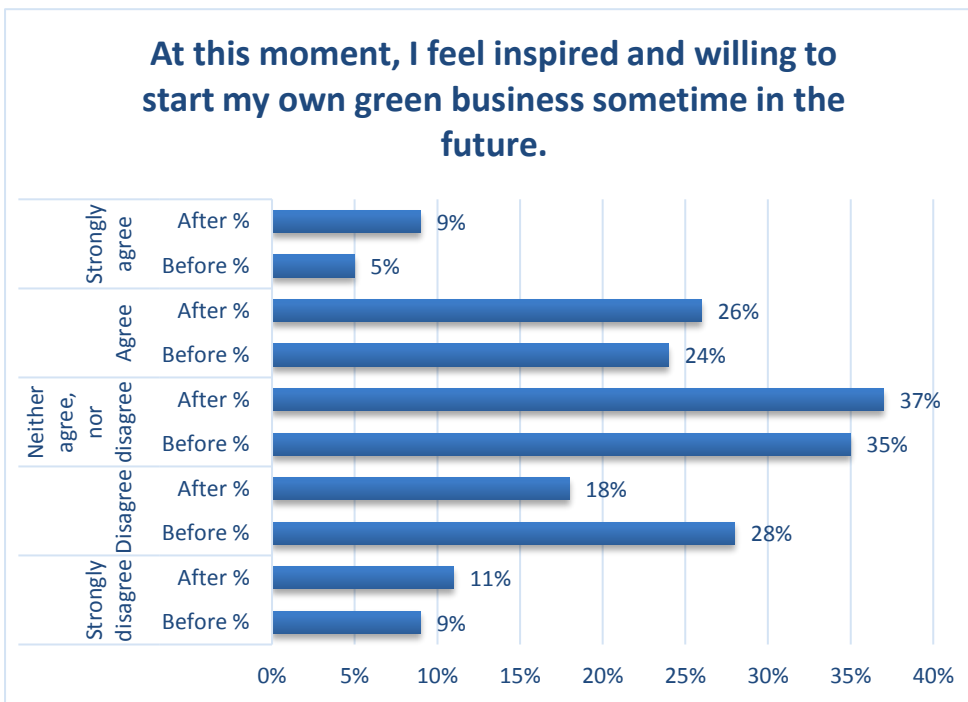
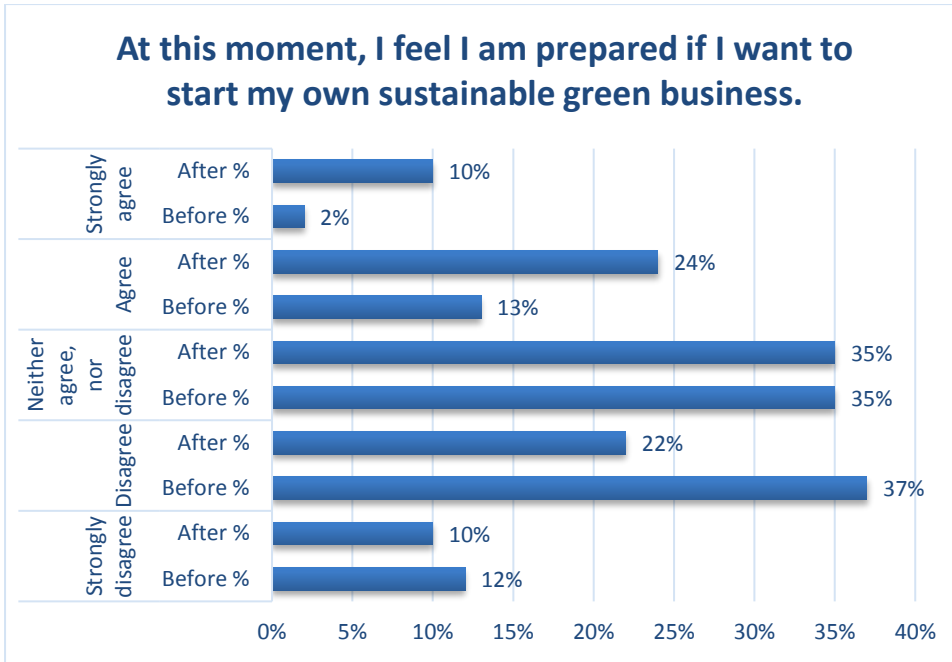
In order to gather information on the improvement of students' knowledge and perceptions, we designed a test with 10 closed- and open-ended questions which teachers were asked to distribute to students before and after the piloted lessons. The results should not be treated as too reliable, as some students who took the test were exposed to only 1 pilot lesson while other were exposed to 3 and more, thus the level would undoubtedly vary because the test questions cover aspects from several of the GREENT lessons. Also, mainly due to the fact that the piloting was done at the end of the school year, many students did not fill in the post-test (and filled in only the pre-test) which does not allow us to compare like for like. However, we believe it is useful to present the results as a vantage point.

In Latvia, a total of 217 students completed the pre-test and 101 completed the post-test.

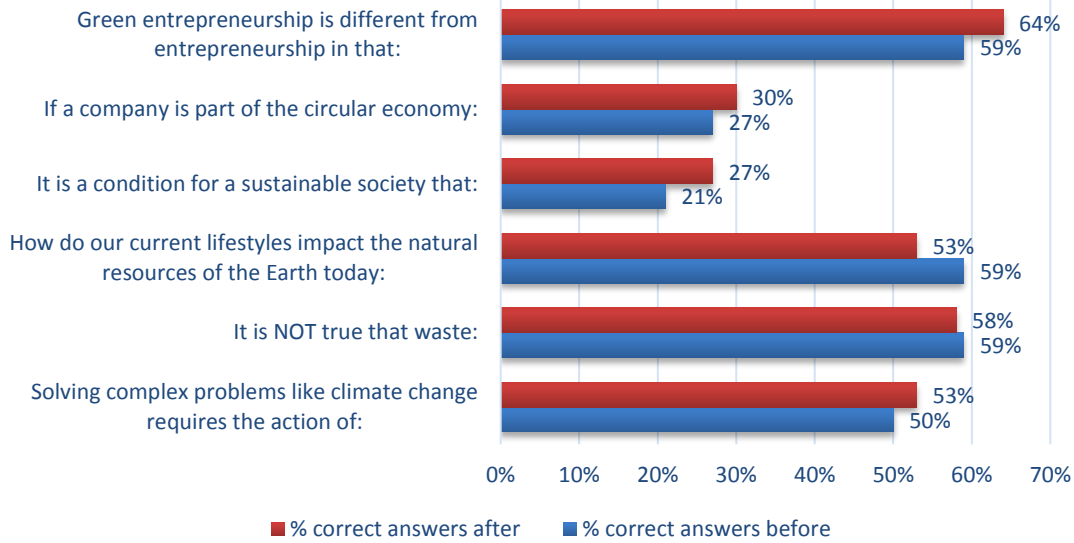








### Correct answers on knowledge questions Latvia



### Students' perception of the value of GREENT Latvia

