



## Evaluation report, GreenPopUp4All

### Summary

The GreenPopUp4All project underwent continuous evaluation, forming the basis for this report assessing its main outcomes and impact on the target groups. The report suggests a significant positive impact on both teaching and student learning in the areas of green skills and entrepreneurship, as well as successful inclusion of students. The successful implementation of blended learning sessions indicates the potential usability of the developed materials, namely the Teacher's Manual and the Moodle platform, for other organizations.

The project's impact on student learning was measured using self-assessment questionnaires based on EU frameworks. Despite some challenges, the assessment revealed that participating students made reasonable progress. However, significant variations in outcomes among different workshop sessions were observed, highlighting the need for clear guidance and adaptability in educational materials and manuals. The teacher manual attempts to address these issues.

The survey conducted among participating teachers confirmed the usefulness of the project's concept and materials. While the response rate for some workshops was low, the collected responses underscored the usefulness of online sessions for both teachers and students. Furthermore, the teachers acknowledged the development of their teaching practice as a result of the blended learning activities. Ongoing challenges were noted, emphasizing the importance of thorough technical preparation and the management of potential platform issues for future users. To address these issues, a checklist for technical problems has been included in the Teacher's Manual, and separate guidelines have been produced for non-users of Moodle.



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## Student learning outcomes

The project used self-assessment questionnaires based on EU frameworks for entrepreneurship and green skills to measure student learning impact before and after each workshop. Students assessed their skills on a 1 to 3 scale. The table below displays the mean scores before and after blended learning, highlighting changes.

The table below show the mean score for each item before and after blended learning, as well as the difference in the mean score. Red indicates a small or negative change of the mean score, blue colours indicate larger changes.

	1 DK			2 Sve			3 Est			4 Fin		
	After	Before	DK Diff.	After	Before	Sve diff.	After	Before	Est diff.	After	Before	Fin diff.
<b>Green entrepreneurial skills</b>												
How the use of different ingredients impact the environment?	2,57	2	0,57	2,25	2	0,25	1,92	1,93	-0,01	2,82	2,13	0,69
The United Nations sustainable development goals (SDG)?	2,57	1,5	1,07	2	1,63	0,37	1,92	1,29	0,63	2,09	1,73	0,36
How to efficiently reduce food waste?	2,64	2,17	0,47	2,5	2,19	0,31	2,38	2,21	0,17	2,82	2,53	0,29
Practical experience in developing a business idea.	2,14	2,08	0,06	2,5	1,94	0,56	2	1,36	0,64	2,45	1,93	0,52
<b>Digital skills</b>												
I know how to organize group work online.	2,21	1,67	0,54	2,25	2,38	-0,13	2,08	1,79	0,29	2,36	1,93	0,43
I know how to work in a Moodle platform.	2,14	1,5	0,64	2,08	2	0,08	2,23	1,93	0,3	2,36	2,07	0,29
<b>Cooperation and communication</b>												
I feel confident in using English as a communication language.	2,29	2,08	0,21	2,58	2,19	0,39	2,62	2,36	0,26	2,73	2,53	0,2
I have practical experience in solving problems in a multicultural team.	2,29	1,75	0,54	2	2	0	2,31	1,86	0,45	2,55	2,33	0,22

Table 1: Students' self-assessment of their knowledge before and after Blended learning sessions.

When interpreting the data, it is important to consider that the result in terms of changes in self assessed knowledge may depend on different circumstances outside the project. One such circumstance is the students' assessment of their knowledge before the blended learning. A student that score their knowledge to three out of three have no room for improved scores even if they learn a lot. A few students did not respond to both surveys which may also affect the results.

That said, two main results seem evident. The first is that participating students make reasonable progress, the second is that there is also considerable variation of the results.

### Student learning overall

There has been a reasonable change in the students' assessment of their learning. The average change in scores are 0,35. The student assessed their skill to an average of 2 before the blended learning. This means that the highest possible change for any intervention would be 1 point. That is, if all students assessed scored their knowledge to the maximum of three points across all items after the intervention.

### Variation in results

There is considerable variation in results among workshops that seem to be related to how the workshop sessions have been executed. The Danish sessions increased student's knowledge about the *sustainable development goals* significantly while the scoring on *developing a business idea* remained almost unchanged. The Swedish workshops did not seem to improve the *digital skills*, while improving *developing a business idea*.

Reducing such variations in results is challenging, even more so when working in an international environment with different teaching cultures within different educational systems. Manuals and



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materials need to strike a fine balance of clear guidance on one hand, and room for adaptation to the local context on the other.

The project result *Teacher Manual* used together with the open course may be helpful for future users as it clarifies goals of the different stages in the course and how to approach them with a reasonable level of detail. However, users need to be aware of how they need to adapt the model to conditions in their specific context in order to make it work. Examples of such conditions is the prior knowledge of students, national curriculum and teaching culture.

## Students learning experience

During the project, the online platform was tested and evaluated multiple times. The project made changes to address issues and enhance the learning experience. After each blended learning session, students rated their experiences on a scale of 1 to 3, with 3 being the highest

	I had no technical problems entering Moodle.	I found the Moodle module (tasks, material) easily understandable.	I found the online lessons useful and interesting.	I found learning in Moodle module user-friendly.
SWE	1,75	2,50	1,75	2,25
DK	2,75	2,42	2,25	2,58
EST	2,15	2,08	2,31	2,08
FIN	2,45	2,18	2,18	1,91
Tot	2,32	2,27	2,16	2,20

	There was a friendly and welcoming atmosphere at the host organisation.	The virtual studies before the Popup restaurant gave me sufficient preparation.	All team members contributed equally to the work.	I liked the method used (blended learning).
SWE	2,63	2,13	2,13	2,00
DK	2,58	2,00	1,83	2,33
EST	2,69	2,38	2,38	2,46
FIN	2,73	2,36	2,09	2,09
Tot	2,66	2,23	2,11	2,25

While the overall rating is satisfactory (2.28 across all items), there were significant variations in the results, likely due to differences in how the modules were executed. For example, technical difficulties during the initial blended learning sessions in Sweden led to lower scores.

The project noted the importance of adequate preparation, particularly for students unfamiliar with Moodle. Allocating sufficient time and resources to ensure a positive user experience became apparent during the project. The project has incorporated steps in the teacher's manual to address this issue. However, since organizations using the GreenPopUp4All concept might employ other digital tools, it may be more practical for them to adapt the material to their existing platform instead of investing in a new digital tool. The project emphasized the importance of making the material adaptable to other digital tools and not limiting the concept exclusively to Moodle. This consideration is reflected in the teacher's manual, which includes a separate guide for non-users of Moodle.



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Inclusion for all students is a key priority in the project. In order to evaluate inclusion the questionnaire contains the item: “There was a friendly and welcoming atmosphere at the host organisation”. The average scoring on this item has been high across the entire project. However, since we need to ensure that *all* students feel included the evaluator have investigated the distribution of responses on this item. Two students gave the score one, indicating a non-satisfactory result during the first half of the project. The importance to make sure that all student feel included was therefore highlighted in the mid-project progress report. After this, all student have marked a score of two or higher, with the majority marking the highest score of three. We deem that the project has been successful in creating an environment of inclusion for all participating students. Other organizations can implement the concept in a way that benefit students from a variety of backgrounds.

## Impact on teachers’ practice

In order to ensure that the LTA:s and tools developed in the project were useful for teachers, the project surveyed teachers participating in the project on how their teaching has been impacted and how they perceive the usefulness of the online sessions.

The methods for data collection has changed during the project and unfortunately the response rate after some of the workshops is low. Therefore a comprehensive presentation of the results cannot be made.

However a few results seem evident from the responses collected. Still, it seems evident that is the concept and material described in the Teacher’s Manual and the Moodle platform is useful for teaching and learning.

Online sessions are useful for teachers (10/14 responses reported this) and for students (10/14 responses). After the workshop in December 2022 all five teachers reported that they would be developing their teaching practice as a result of the blended learning activities.

However, challenges persist, leading to variations in results. Some feedback emphasized the need for thorough preparation to ensure smooth technical operations and adequate student readiness for online sessions. Recurring technical issues highlighted the importance of users being aware of potential platform issues due to varying technologies used by different organizations. A check list for technical issues has been included in the Teachers manual to ensure that these issues are dealt with.



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