School Climate Assemblies: co-creation of climate change mitigation and adaptation strategies and sustainability competencies' development (EDUCLIMAD)

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Project overview

- **DURATION:** 2 years (Dec 22 – Nov 2024)

- **CONTEXT:** 25 Primary Education schools in the province of Tarragona (Catalonia, Spain)

- **Multidisciplinary team**

  - Education for sustainability, science education and pedagogy

  - Psychology

  - Biology and environmental sciences

  - Geography

- **Applied research project**

- **Co-creation and participatory approaches science <=> society**
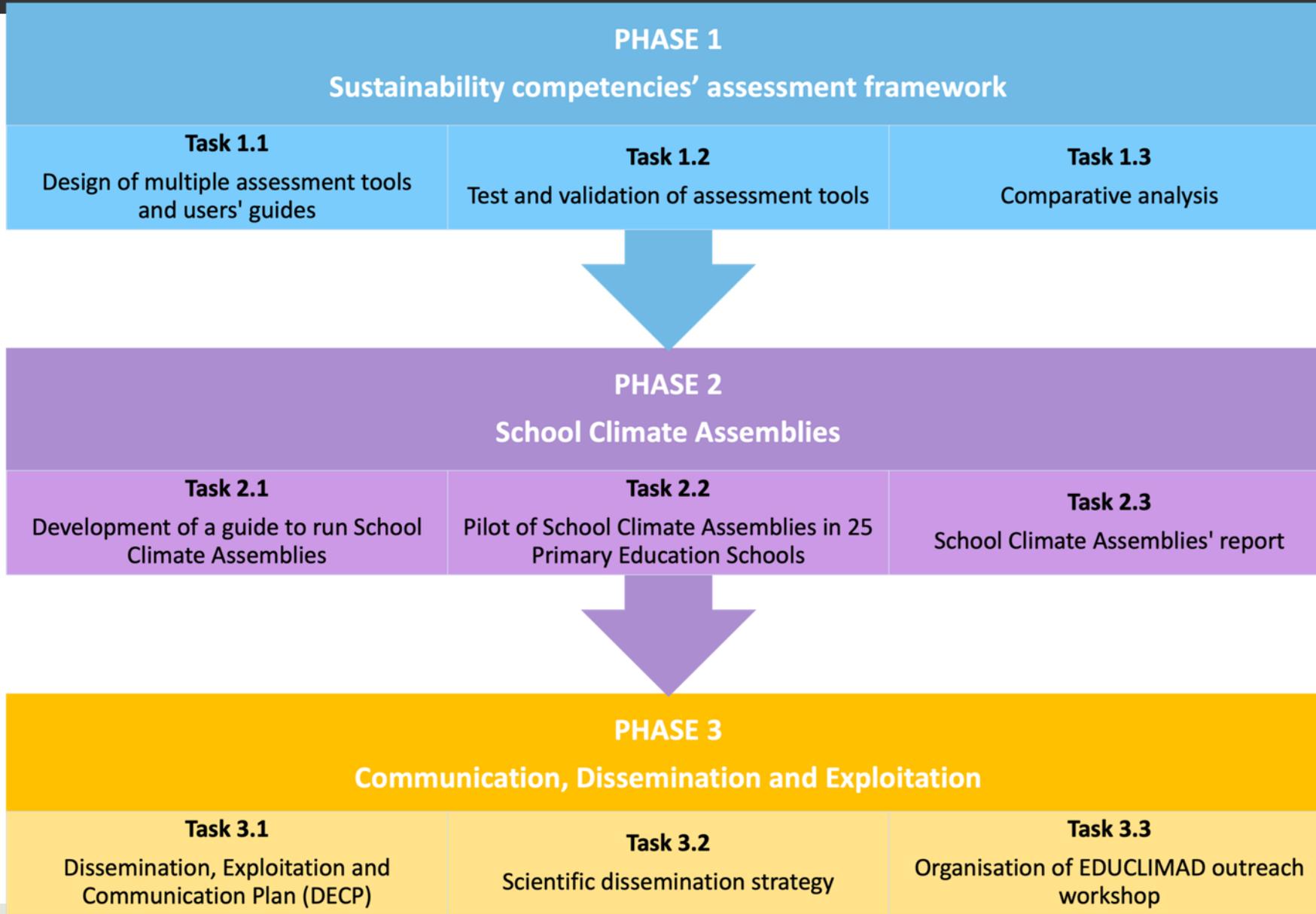
Specific objectives

1. To determine the **influence of School Climate Assemblies** in the **co-creation and development of climate change mitigation and adaptation strategies and solutions.**

2. To **build the ad hoc assessment tools** that facilitate timely and effective evaluation of the development of sustainability competencies in School Climate Assemblies.

3. To **implement, test and validate multiple assessment tools for measuring sustainability competencies' development** through School Climate Assemblies.

4. To determine the **influence of School Climate Assemblies in the development of sustainability competencies.**

Methodology

PHASE 1

Sustainability competencies' assessment framework

Task 1.1	**Task 1.2**	**Task 1.3**
Design of multiple assessment tools and users' guides	Test and validation of assessment tools	Comparative analysis

PHASE 2

School Climate Assemblies

Task 2.1	**Task 2.2**	**Task 2.3**
Development of a guide to run School Climate Assemblies	Pilot of School Climate Assemblies in 25 Primary Education Schools	School Climate Assemblies' report

PHASE 3

Communication, Dissemination and Exploitation

Task 3.1	**Task 3.2**	**Task 3.3**
Dissemination, Exploitation and Communication Plan (DECP)	Scientific dissemination strategy	Organisation of EDUCLIMAD outreach workshop

PHASE 1 – Sustainability competencies' assessment tools

Systematic literature review

- Existing studies focused on assessment of sustainability competencies in Primary Education
- **28 articles identified and analysed**

**Design of 3 assessment tools**

- **Open-ended questionnaire** focused on futures literacy
- **Sustainability Competence Perception Scale (SCPS)**
- **Sustainability Competence Vignette Questionnaire (SC-VC)** including 4 scenarios / situations / real contexts

Pilot study and validation

- **Expert validation** with 10 experts in ESD
- Pilot in 6 Primary Education schools between May and June 2023 **=> 352 students 5th and 6th Grades**
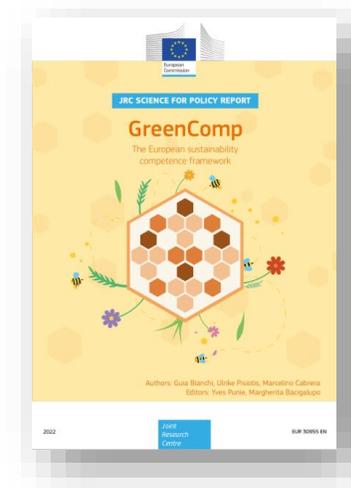
Sustainability Competence Perception Scale (SCPS)

Questionnaire: 36 items – 12 knowledge, 12 attitudes and 12 skills in sustainability item. Three items for each sustainability competence of the GreenComp.

4-point Likert scale (agreement) in which a higher score indicates a more favourable attitude, knowledge and skill.
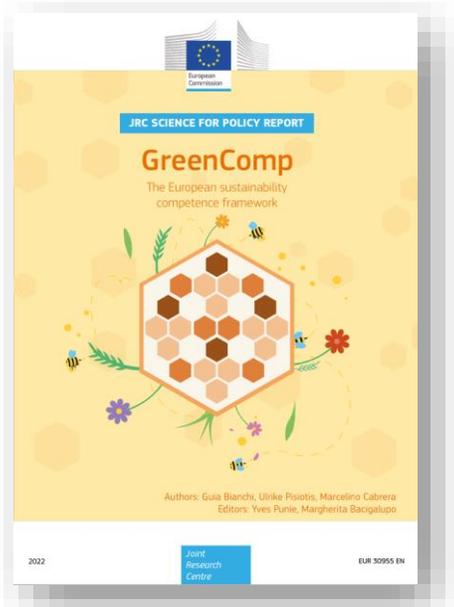
Envisioning Sustainable Futures (ESF)	Futures literacy	K7. The effects caused by human activity play an important role in the future of the planet.
		A7. I am aware that what we imagine for the planet could become reality.
		S7. I have good ideas to achieve a better future for the planet.
	Adaptability	K8. A person's lifestyle influences the health of the planet (for example, transport, use of vehicles, consumption of meat, use of water and light,..).
		A8. I am willing to change my lifestyle to reduce my impact on climate change.
		S8. I try not to waste resources in my day-to-day life (for example, water, electricity, food, material goods...).
	Exploratory thinking	K9. It is necessary to work together from different areas such as science, economy, technology, geography, history, etc. to deal with climate change.
		A9. I like to think of new ideas and solutions to deal with climate change.
		S9. I look for information about climate change to understand, explain and make changes in my day-to-day life.

Sustainability Competence Vignette Questionnaire (SC-VC)

4 scenarios / vignettes – One for each GreenComp competence area. For each scenario 1 specific questions focused on each of the GreenComp sustainability competencies

Multiple-choice responses for each question (3 options). One unique option is the most suitable response.
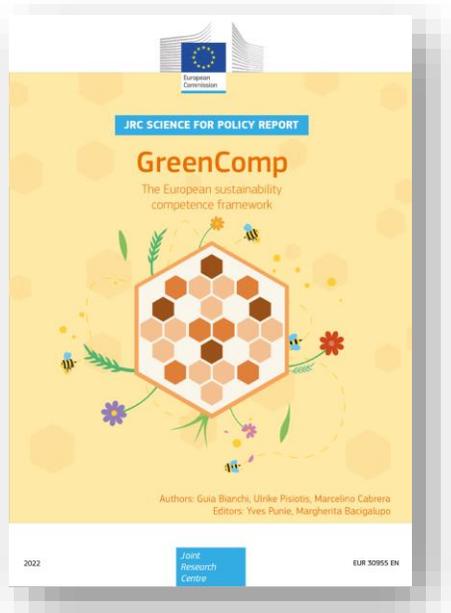
COMPETENCE AREA	Situation	COMPETENCE	Questions	Alternative responses
Embodying Sustainability Values (ESV)	Joana has gone to spend the weekend in the village, at her grandparents' house. Joana really likes going there because in the village, she can go outside to play, climb trees, and ride her bike wherever she wants. Although sometimes she doesn't like it when her grandmother scolds her, whether it's for leaving the tap open while brushing her teeth or taking too long to shower...	**Valuing sustainability**	ESV 1.1 What would you say to Joana about her behaviour?	a) Joana should conserve water because it is a resource that depletes and should be shared with all the people and living beings on the planet. b) Joana should conserve water because it is a resource that costs money. c) Joana should conserve water because in the town, it's more challenging for houses to have these services.
		Supporting fairness	ESV 1.2 Why do you think the grandmother says this?	a) The grandmother believes it is necessary to use water wisely and help prevent its depletion. b) The grandmother believes that water should be used carefully because it is a resource that costs a lot of money. c) The grandmother believes that water will run out someday, but she is mistaken because it is a resource that does not deplete.
		Promoting nature	ESV 1.3 What would you do in Joana's place, and why?	a) I would use water responsibly because that way, I take care of other living beings and nature. b) If I occasionally leave the tap open, it's no big deal. The water won't run out. c) To avoid my grandmother scolding me, I don't leave the tap open.

Phase 2 – School climate assemblies

Implementation in 25 Primary Education Schools

5th and 6th grade (10-13 years old)

46 class groups

Direct participation of **1.170 students**

+ other students in the school + families + local community
+ policy makers + entities

Pretest posttest design

Determine the influence of school climate assemblies in the development of sustainability competencies

What is a Climate Assembly?

An **innovative democratic process** to **learn, deliberate, make informed decisions and find solutions** to tackle **climate change** and promote **local and regional sustainability.**

Phases of Climate Assemblies

LEARNING PHASE

- Creating a dynamic learning environment that fosters critical thinking
- Using varied learning formats
- Involving guest experts
- Providing preparatory educational materials for the assembly
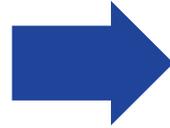
DELIBERATION PHASE

- Inclusive, balanced, and thorough deliberations
- Establishing basic rules, structure, and clear frameworks for debate and discussion

DECISION-MAKING PHASE

- Voting and prioritizing actions and recommendations arising from the assembly
- Consensus-building through negotiation among groups can also be promoted.

EDUCLIMAD process

PER GROUP CLASS

SESSION 1

- Learning and reflection phase – **CONCEPT MAP**
- Deliberation phase - **DECALOGUE**

Decision-making phase – **INDIVIDUAL PRIORISATION**

SESSION 2

- **Decision-making and consensus building**

- Group priorisation and voting

- **Further development and concretion of specific actions**

FINAL FAIR PREPARATION

Each class group researches and works on **a concrete action.**

Meetings with the city councillors

Actions presented to the rest of the local community, policy makers,..

JANUARY TO MARCH 2024

APRIL TO MAY 2024
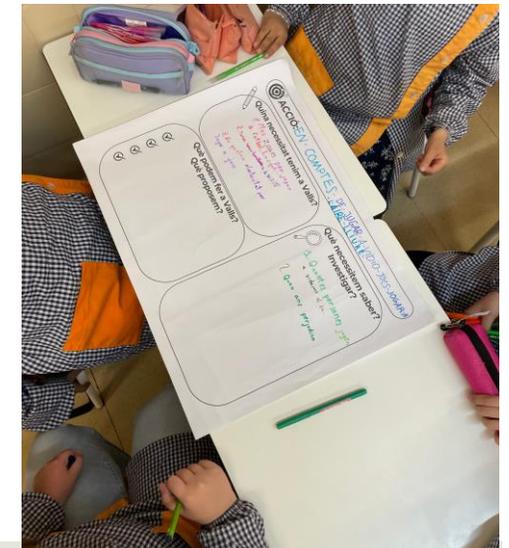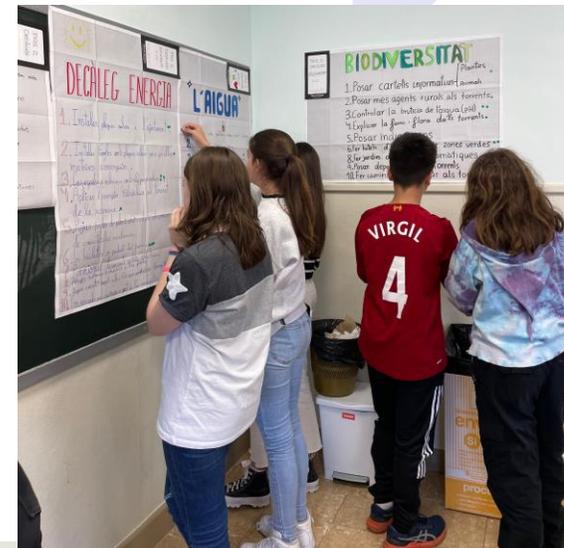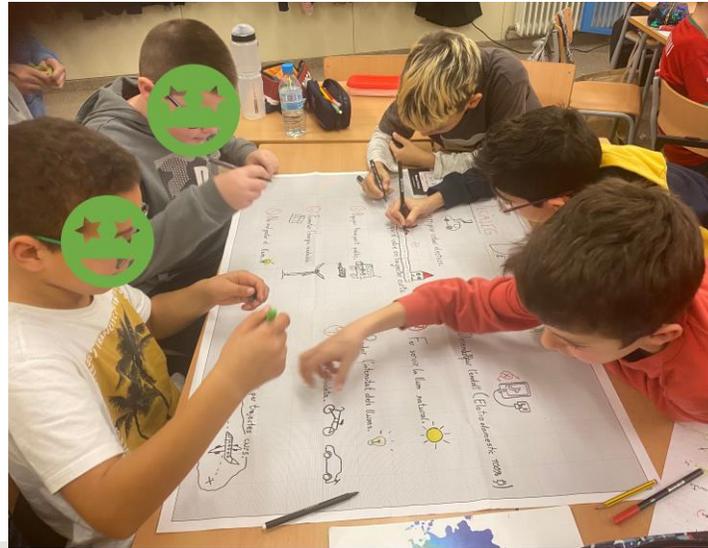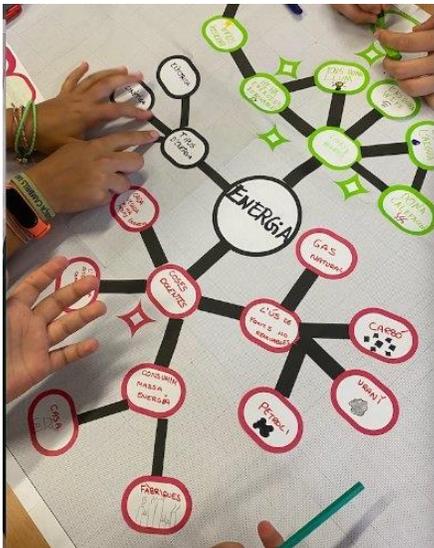
Expected results

Design of educational resources and activitites aligned with GreenComp and SDGs
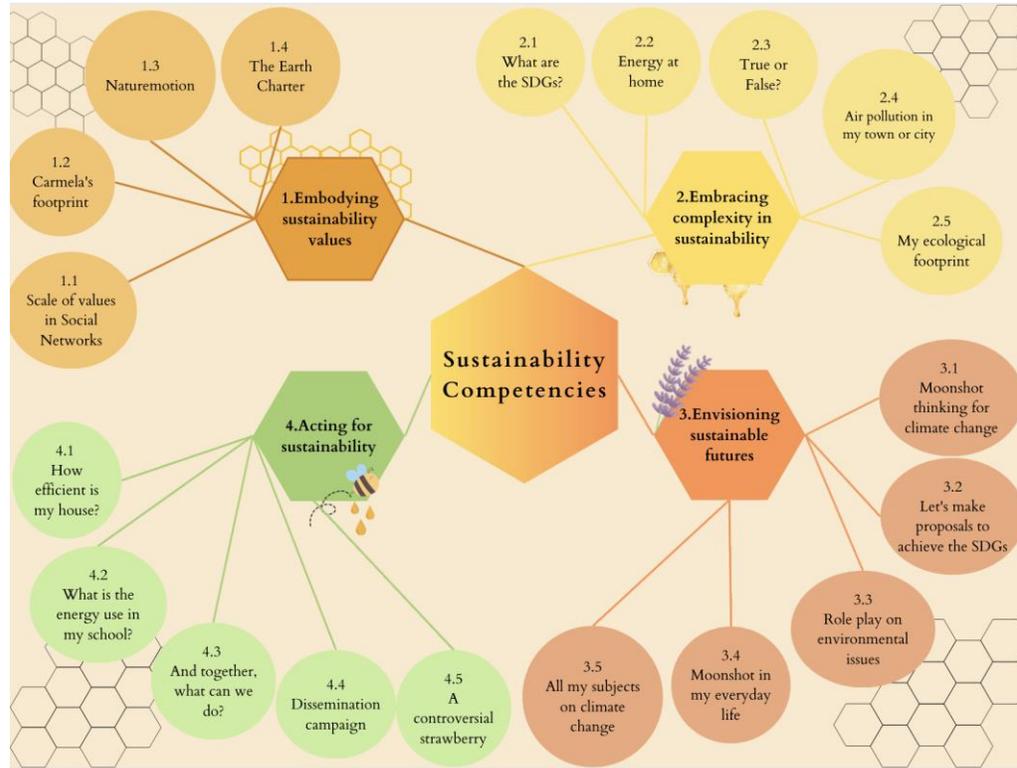
Methodological guidelines to organise school climate assemblies

Expected results

- ✓ **Action plans and policy recommendations** for climate change adaptation and mitigation and the promotion of sustainability at local and regional levels.

  - ❖ *Individual report for each school – outcomes assemblies*

  - ❖ *Global public report – including actions and policy recommendations emerged from the assemblies*

- ✓ **Study of the influence of school climate assemblies on the development of sustainability competencies** (GreenComp)

- ✓ **Dissemination to local community and policy makers** through invitation to participate + online forums + formal communication channels + **FINAL FAIR**

Many thanks for your attention

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