Creating a Next Generation Participatory Contest for Young People to integrate Circularity in School Curricula

CircularCityChallenge

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CREATING A NEXT-GENERATION PARTICIPATORY CONTEST FOR YOUNG PEOPLE TO INTEGRATE CIRCULARITY INTO SCHOOL CURRICULA

Deliverable D6.3.

Curriculum

Project

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1. Introduction

1.1. the place of the curriculum in the CCC approach

CircularCityChallenge - Creating a Next-Generation Participatory Contest for Young People to integrate Circularity into School Curricula is aimed at using project based learning (PBL) (in a competition setting) for focusing on the topic of urban circularity as a component of sustainable development education (SDE).

Integrating sustainable development education (SDE) with project-based learning (PBL) in both formal and non-formal settings provides a dynamic approach for teaching and applying sustainability concepts. In formal education (such as schools and also 1st year students in various universities), SDE with PBL can be integrated into subjects like science, geography, and economics, encouraging students to tackle real-world sustainability challenges.

The pupils' Projects might include creating waste reduction plans for the school or developing green energy prototypes.

In non-formal settings (such as activities within youth clubs, or workshops organized by non-governmental associations), SDE through PBL allows learners to engage with sustainability topics in practical, context-specific ways.

These projects often involve hands-on activities like community gardening, local recycling initiatives, or environmental advocacy campaigns. This approach provides an experiential, flexible framework that promotes community involvement and allows learners to see direct impacts of their efforts, enhancing their understanding of and commitment to sustainable practices.

Key benefits of combining SDE and PBL in formal and non-formal education:

a. **Interdisciplinary Learning:** Both settings facilitate interdisciplinary skills, merging science, economics, social studies, and more.
b. **Community Engagement:** Non-formal settings provide real-world contexts where learners can directly apply solutions within their communities.
c. **Personalized and Contextualized Learning:** PBL allows learners to select projects that resonate with their interests, enhancing motivation and relevance.
d. **Skill Development:** Both formal and non-formal PBL settings enhance critical thinking, collaboration, and leadership skills essential for sustainability work.

This combination of SDE and PBL supports the development of informed, proactive individuals capable of addressing sustainability challenges in diverse settings.

1.2. Curriculum Overview: Brief description of the topic, purpose, and its importance in a broader educational context.

The Circular City Challenge promotes learning about sustainable urban transformation by identifying ideas of how various stakeholders could adopt circular economy solutions in their cities.

The initiative encourages pupils to identify practical approaches to reduce waste, reuse resources, and create scenarios in which spaces and processes around them are transformed for more circularity.

In an educational context, it emphasizes interdisciplinary learning, connecting students with real-world sustainability issues.

This approach is essential for fostering environmentally conscious citizens and innovators prepared to address urban and environmental challenges through collaborative, circular methods.

Target Audience: the grade level and any prerequisites.

The targeted audience is from 14 to 19 years old pupils, in any educational format - both formal and non-formal settings.

The proposed learning activity is not a full school year subject but it can be used in connection to a variety of topics.

The only prerequisites are related to a project based learning (PBL) on a topic that is part of sustainable development education (SDE):

1. **Basic Understanding of Sustainability Concepts**: Familiarity with foundational environmental and social sustainability concepts.
2. **Research and Critical Thinking Skills**: Ability to conduct research, analyze information, and evaluate multiple perspectives.
3. **Teamwork and Collaboration**: Experience working in groups, sharing tasks, and collaborating on projects.
4. **Problem-Solving Abilities**: Openness to addressing complex, real-world challenges and developing creative solutions.
5. **Basic Technical Skills**: Proficiency in digital tools (like presentations or basic design software) to support project planning and communication.

These prerequisites prepare students to engage meaningfully with PBL, developing their own solutions and applying interdisciplinary knowledge effectively.

Goals: General aims

-Understand Circular Economy Principles: Educate students on minimizing waste and pollution, reusing resources, and restoring natural environments.

-Develop Innovative Solutions for Urban Sustainability: Encourage creativity in

designing sustainable, resource-efficient solutions for city infrastructure.

-Gain Practical Skills in Project Development: Equip students with project management, teamwork, and solution design skills relevant to circularity.

-Engage in Community and Global Networks: Promote local and global engagement, offering students a platform to share ideas and impact their communities.

Detailed expert knowledge is not seen as vital for preparing students for the competition. The use of a specific theoretical framework is not perceived as necessary, **but if needed, the SDG framework was named as a potential framework for the topic selection**.

Focus should not be put on a theoretical introduction, but on the **connection to tangible "real life" problems, to the students' daily life, to their own experience and their own local environment – the school, the municipality or local industry**.

The relation between the big picture and the students' individual experience should be made visible, by addressing questions such as: What is going on in the world? And what is your place in that world? And how can you make that world a little bit more beautiful, by the actions you actually choose to do? By raising awareness of the relevancy and urgency of the issues at hand, it can be highlighted why this challenge matters. Which specific topics matter for the competition should in the end, be defined by the students themselves. Overall, experts emphasized the importance of skills required to enter the competition, such as critical thinking, networking or multi-perspective thinking, rather than technical or scientifically detailed knowledge.

2. Learning Objectives

2.1. Specific Objectives: Concrete skills, knowledge, and attitudes that students will acquire by the end of the curriculum.

By the end of a curriculum inspired by the Circular City Challenge, students will acquire the following skills, knowledge, and attitudes:

Skills: Problem-solving, project management, and collaboration, with practical experience in designing and proposing circular solutions.

Knowledge: In-depth understanding of circular economy principles, sustainable urban planning, and innovative waste management and resource reuse practices.

Attitudes: A proactive, solution-oriented mindset, responsibility toward environmental sustainability, and commitment to creating regenerative city systems.

These competencies empower students to tackle urban sustainability challenges effectively.

The logic of the competition is based on the following sequence of steps:

a. understanding urban circularity brings to seeing opportunities for circularity - and to being able to identify also issues associated to processes that can be transformed from linear (take-use-waste) to circular (keep resources in the loop),

b. in their community (school community, neighborhood community, the entire city community), there are ways to introduce circularity, but for each such an opportunity, there is a set of stakeholders who should change their relation towards resources, towards other actors, etc - and this change can not happen if there is no benefit, this commitment can not be triggered unless there are common values and ideas that motivate the stakeholders,

c. getting to know the ecosystem around an opportunity for change towards more circularity means also to become more aware of the common objectives that could be established - so that there is a solid base for collaborations,

d. getting to know the people around an issue in our community, means also recognizing and transforming their various resources into contributions and finding the right methods to act in order to reach the common objectives,

e. last, but not least, visibility, clear explanations of the ideas, and good story telling skills can bring traction to those initiatives and could transform them into reality or scale up demonstrative actions.

2.2. Alignment with Standards

The Circular City Challenge curriculum aligns with secondary school competencies by addressing several key standards:

-**Critical Thinking and Problem-Solving:** Students analyze real-world urban issues and develop innovative solutions, aligning with competencies in analytical reasoning.

-**Collaboration and Communication**: Group work and community engagement foster teamwork, aligning with standards in social skills and effective communication.

-**Civic Responsibility and Ethical Understanding**: The curriculum promotes environmental stewardship, supporting civic and ethical competencies.

-**STEM and Digital Literacy**: Research, design, and modeling processes align with science, technology, and math standards.

These transversal competencies of secondary school students are aligned with the objectives of the Circular City Challenge (CCC) method since the CCC method offers a structured approach that fosters the development of critical thinking, problem-solving, collaboration, and communication skills while embedding the principles of sustainability and circularity within real-world contexts.

Understanding Urban Circularity and Identifying Opportunities for Change
The first step in the CCC method aligns closely with the secondary school competency of **analytical reasoning and critical thinking**. By exploring the concept of urban circularity, students learn to identify both opportunities and challenges associated with shifting from linear processes (take-use-waste) to circular approaches (keeping resources in the loop). This process sharpens students' ability to critically assess systems in their own communities—be it their school, neighborhood, or city—by highlighting inefficiencies, such as excessive waste, and envisioning ways to transform these processes into sustainable ones. This foundational understanding of circularity builds the problem-solving competencies necessary for addressing real-world issues.

Engaging Stakeholders and Building Commitment through Shared Values
The next stage focuses on identifying stakeholders who play a role in the resources' lifecycle within the community. Students must explore how these stakeholders—whether individuals, groups, or organizations—can alter their relationships with resources and with each other to adopt circular practices. This step ties directly into competencies in **collaboration and communication**, as students learn that changes cannot occur without shared benefits, mutual understanding, and the creation of common values. By examining the motivations and needs of stakeholders, students develop empathy and negotiation skills, critical for building partnerships and fostering collective action.

Understanding Ecosystems and Establishing Common Objectives
As students delve deeper into the ecosystem surrounding an opportunity for circular change, they enhance their ability to work towards shared goals. This aligns with the competency of **systems thinking**, enabling students to analyze complex relationships and interdependencies within a community. By identifying common objectives, students learn to form solid foundations for collaboration, bridging diverse interests to create a unified vision. This process equips them with the ability to think strategically and work collaboratively toward sustainability goals.

Leveraging Resources and Action Planning
Recognizing and transforming the various resources available within a community builds the competencies of **planning and execution**. Students learn to evaluate and harness the contributions of different stakeholders, transforming abstract ideas into tangible actions. This stage emphasizes practical skills, such as creating detailed action plans with defined roles, responsibilities, and timelines. These competencies are directly applicable to students' academic and personal development, fostering independence and precision in project management.

Communicating Ideas for Traction and Scaling
The final step focuses on **presentation and storytelling skills**, key aspects of secondary school communication standards. Students are guided to present their analysis and proposals in a clear, compelling way to stakeholders, juries, or community members. By learning to articulate their ideas effectively, students enhance their ability to influence and inspire others, gaining support for their initiatives. Strong storytelling skills help students build visibility and traction for their projects, increasing the likelihood of their ideas being adopted or scaled.

By connecting these steps in the CCC method with secondary school competencies, students gain a holistic learning experience that prepares them not only for academic success but also for active participation in shaping sustainable communities. The CCC method ensures that students develop critical knowledge, practical skills, and collaborative values essential for addressing the challenges of circularity and sustainability in their local and global contexts.

These alignments ensure the curriculum supports students' academic growth and practical, real-world competencies essential for sustainable development.

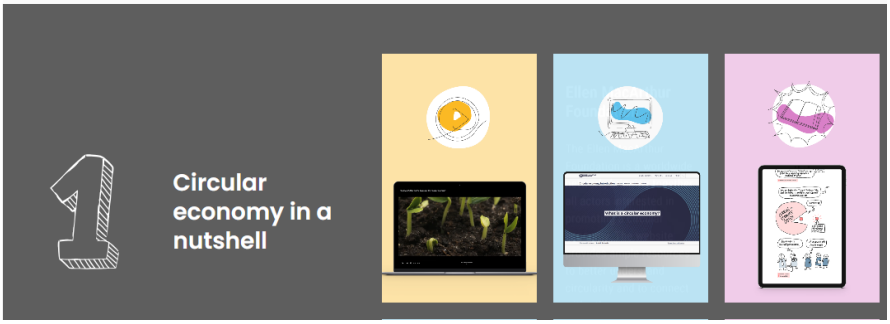
3. Curriculum Content and Key Concepts

The stages of the challenge are also the units of the curriculum.

3.1. unit 1 - CIRCULAR CITIES

circular economy in a nutshell

= an introductory unit to circular economy in urban contexts:



Based on the resources listed in this section, several subtopics could be addressed when identifying the ways to keep resources in the loop:

-basics of the circular economy in relation to sustainable urban development goals.

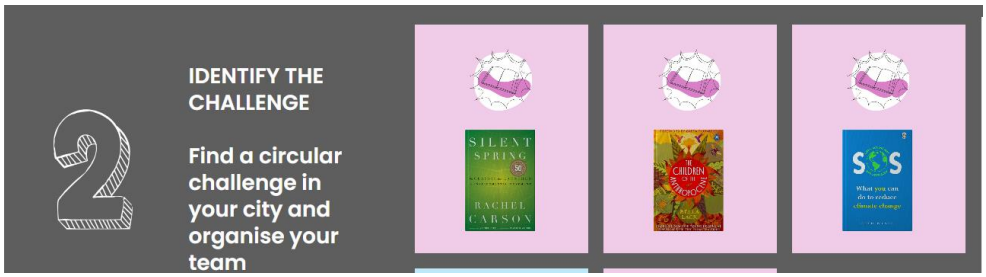
-subtopics, at the city level, for possible actions aiming at urban circularity:

a. waste management with waste reduction strategies, recycling systems, composting, and resource recovery.
b. green building practices, eco-friendly materials, reuse of abandoned spaces,
c. sustainable transportation, electric vehicles, and urban mobility solutions,
d. circular solutions for energy renewable energy in cities,
e. green spaces in relation to urban food
f. water conservation in cities.

3.2. unit 2 - ACTIONS FOR CIRCULARITY

spaces for circularity in my city

= a set of questions and indications to identify, by looking around, possibilities for improvement of the use of resources



This unit is based on documenting and case study analysis from a collection of examples for urban circularity in connection to:

a. **Waste Collection Circularity:** waste systems focused on prevention, reduction, reuse, and recycling.
b. **Buildings and Public Spaces:** designed, constructed, and operated in ways that minimize waste, energy, and water consumption, while maximizing material reuse and recycling.
c. **Sustainable Mobility:** mobility systems that rely on shared, low-carbon modes of transport such as public transit, cycling, and walking, promoting accessibility and connectivity.
d. **Circular Energy:** energy systems that utilize renewable sources, such as solar, wind, and biomass, enabling decentralized production, distribution, and storage of energy.
e. **Food Circularity:** food systems based on the production, consumption, and distribution of local and eco-friendly food, reducing waste and food loss along the value chain.
f. **Water Supply and Sewage Systems:** water systems focused on efficient use, reuse, and resource recovery, including rainwater collection, wastewater treatment, and greywater recycling.

The project based learning approach requires students to organize themselves in teams of 3 and also to choose together, as a team, a challenge in the city of the pupils - some place or process that could be improved.

the field work - to visit the place - and consider answering the following questions:

a. Are there enough elements to inspire us toward a vision for transforming that place? WASTE OF RESOURCES / PRACTICES THAT GENERATE A TOO LARGE CARBON FOOTPRINT / UNTAPPED POTENTIAL
b. Are there some voices expressing interests and potential benefits from changing that place? This includes various stakeholders such as owners, users, and decision-makers who can provide insights or influence the future direction of the area
c. What is the history of that place? Understanding the narrative of the location can reveal its significance, challenges, and transformations over time, helping to inform potential future developments and improvements.

These questions encourage a comprehensive examination of the current and historical context of the site. Also as part of this unit, pupils are asked to go in depth with possible ACTIONS = verbs that can be taken so that an improvement is achieved. The references for this part are based on Circular Cities Actions Framework

Circular Cities | Knowledge Hub | Circle Economy Foundation (circle-economy.com)

The possible VERBS are: RETHINK, REGENERATE, RECOVER, REDUCE, REUSE

Also, some other few categories of verbs are explained briefly:

-prioritize regenerative resources

-stretch the lifetime

-use waste as a resource

-team up to create joined value (planning and collaboration)

-design with innovation and incorporate new technologies

Participants have a task - to work in teams in order to prepare a visual support focusing on VERBS and on collaborations that were needed in the selected case study.

3.3. Unit 3 - ACTORS OF CIRCULARITY

stakeholders in the urban context in relation to the chosen challenge

= categories of stakeholders and tools for role analysis in order to map and understand the possible alliances, the potential benefits and resources of various actors

This unit is based on a stakeholder analysis method - with the listing of persons who are connected to the challenge, but also mapping themselves as part of the local ecosystem.

Also, there are few main messages that need to be understood by all teams:

a. **For each category of stakeholders, pupils must understand that motivations are basically BENEFITS that could be pursued and the degree of involvement is influenced by the degree of interest. Also, the nature of their power to influence is based on the RESOURCES of that stakeholder.**

Conversations and the analysis associated to each challenge chosen by a team should therefore address:

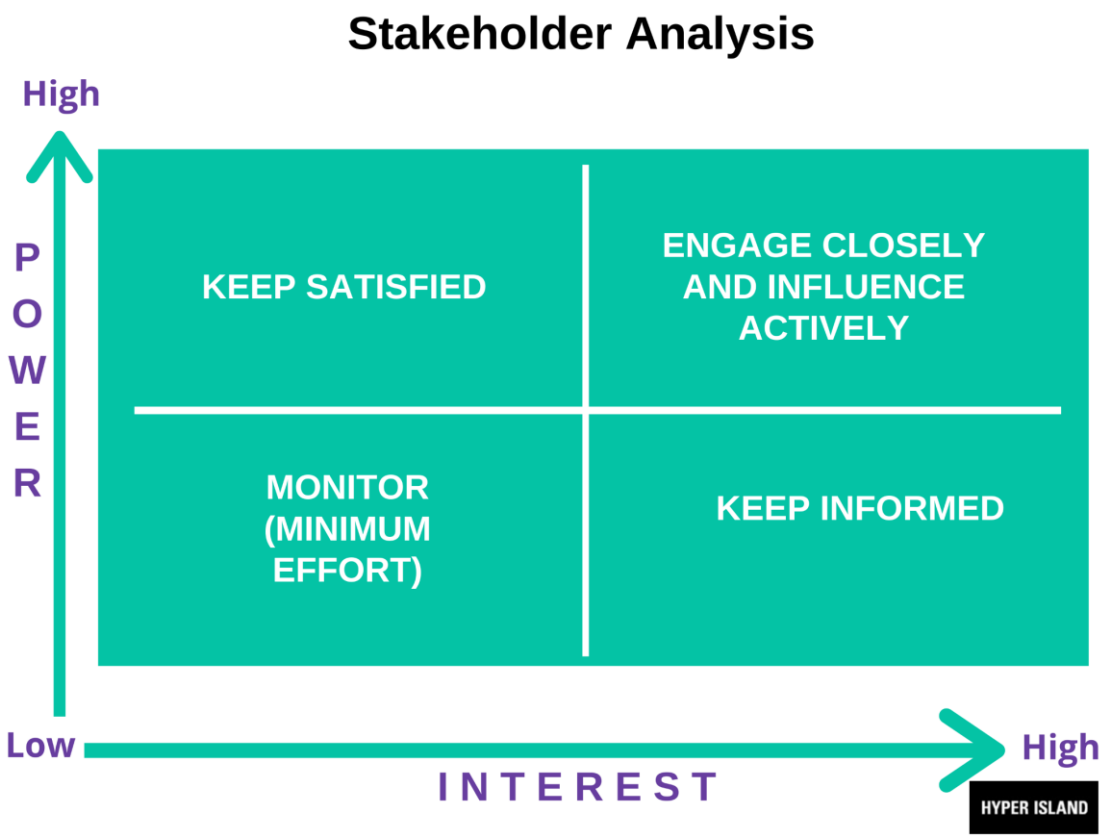
1. Categories of Actors: Discuss who is involved in a project (e.g., community members, local businesses, government officials) and their roles.

2. Categories of Benefits: Explain motivations for participating, like community improvement or personal gain.
3. Degree of Involvement: Illustrate how some actors may be more engaged than others.
4. Categories of Resources: Highlight the different resources (e.g., money, expertise) that actors can contribute.
5. Powers and Influence: Discuss how certain actors can shape decisions and outcomes based on their resources and involvement.

b. Stakeholder analysis is not only addressing the NATURE of interests and resources that give each actor but also the intensity, the level, the degree of both interest and influence.

Conversations and the analysis associated with each challenge chosen by a team should therefore address: relatable examples to explain the different types of actors (e.g., local businesses, residents), their motivations, and how their resources could influence a common project.

Students, during their team work, should therefore identify these roles in real-life scenarios or local initiatives. Incorporate case studies to illustrate the impact of various interests and their degree of involvement, fostering critical thinking about how these dynamics shape decision-making in their communities.



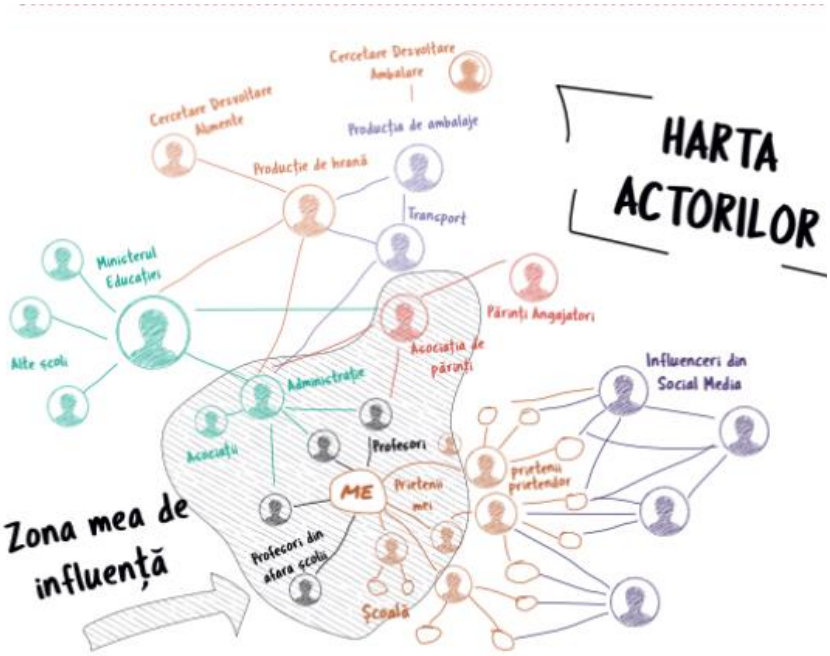
c. connections among the stakeholders - and the role of the TEAM

Teaching objectives for stakeholder analysis should include:

1. Understanding Relationships: Students should identify and analyze the relationships among stakeholders to map their connections and influence.

2. Creating Synergies: Encourage students to explore how stakeholders can collaborate effectively, leveraging their strengths to enhance project outcomes.
3. Building Alliances: Highlight the importance of forming alliances among stakeholders to increase the likelihood of success in collaborative project design.

These objectives foster critical thinking and teamwork skills essential for effective project management.



3.4. **Unit 4 - SCENARIOS FOR CIRCULARITY**

from a vision for the future of a place to an action plan

= identifying the verbs for each actor - getting from resources to the benefits

Using Specific Verbs for the Stakeholders:

Identify Specific Verbs: Encourage students to define actionable verbs for each actor involved in the project, such as "collaborate," "advocate," or "fund."

Connect to Benefits: Have students relate these verbs to the motivations of each actor, emphasizing how actions contribute to desired benefits.

Align with Resources: Discuss how each actor can leverage their unique resources (expertise, funding, influence) to facilitate improvements in the chosen place.

Include the Team: Remind students to ensure that the team's roles and actions are well-defined within the context of the project.

This approach fosters a strategic mindset in planning for change.

After the team has determined specific actions (verbs) each actor will take, ensuring they align with the project's goals, these actions should be organized in a logical order, from initial tasks to those that follow. Also, timeline should be established by estimating duration and dead-lines for each sequence of the ACTION PLAN.

It is important to have the pupils willing to validate the ideas they have ideally through interviews with real actors and experts, fostering empathy and understanding of their roles in a scenario.

Validation plays a crucial role in project success, so it is essential to emphasize on the consequences of neglecting this step.

-facilitate conversations about the feasibility of different roles and solutions, encouraging critical thinking.

-require students to conduct desk research on a specific role or solution, reinforcing the value of evidence-based conclusions.

-invite professionals to share their experiences with validation processes, providing practical insights**.**

3.5. Unit 5 - (RE)PRESENTATION

preparing the SCENARIO representation + the PROCESS representation

= defining the storytelling sequences, the visual support

Using storytelling techniques can also help create a narrative that resonates with an audience. Other tools for effectively conveying ideas for a scenario could be associated with storyboards and the students will be encouraged to be using tools like presentations, infographics, and short videos.

A specific aspect of this section is that not only the scenario has to be represented, but also the learning process, the team work during all 5 units.

In project-based learning, self-documenting and self-evaluation are essential for effective teamwork and process assessment. Curriculum aspects should include structured reflection sessions where students analyze their contributions, group dynamics, and learning outcomes. Incorporating peer evaluations can enhance accountability and provide diverse perspectives on team performance. Additionally, integrating tools like learning journals or digital portfolios allows students to document their progress and insights throughout the project. This approach fosters a growth mindset, encouraging continuous improvement and deeper understanding of collaborative processes.

To enhance students' competence in **learning how to learn** and foster agency, journaling can be effectively integrated into all five units. Encourage students to reflect regularly on their experiences, challenges, and insights. They can use prompts that guide them to identify their learning strategies, evaluate their progress, and set goals for improvement. Additionally, group discussions around their journal entries can build community and shared understanding, reinforcing their role as agents of change. Teaching methods should emphasize critical thinking and self-regulation skills, empowering students to take ownership of their learning.

4. Instructional Strategies and Pedagogical Approaches

While some methods were mentioned in the previous section, the following pedagogical principles can be applied to all five units:

a. Introducing new concepts with visual materials: Presentations for the whole group of students should include visual aids and explanatory materials from the CCC platform and other online sources. This approach addresses participants' need for information and ensures they have the tools to select relevant online resources for each unit.

b. Requiring documentary research results: Teaching methods in this category focus on helping participants develop skills to extract key ideas from case studies, list stakeholders, and analyze their current and potential roles. This involves searching for relevant online information about similar or identical stakeholders.

c. Facilitating design thinking methods: These teaching methods aim to guide a process that encourages cooperation (teamwork skills) and creative thinking (negotiating priorities, merging perspectives on possible solutions, etc.).

d. Encouraging engaging presentations: Teaching methods for this essential 21st-century skill focus on helping participants communicate ideas effectively and attractively.

Each of the categories of pedagogical strategies has resources available here:

https://circularcitychallenge.eu/inspiration/

As an example, for each unit, a possible synthesis of the teaching approaches:

CIRCULAR CITIES	ACTIONS FOR CIRCULARITY	ACTORS OF CIRCULARITY	SCENARIOS FOR CIRCULARITY	(RE) PRESENTATIONS
1. CCC = exploring circularity in my city	**2. ideas and approaches - get circular for sustainable development**	**3. categories of stakeholders and tools for roles analysis**	**4. from a vision for the future of a place to an action plan**	**5. preparing the two files: file 1 - scenario, file 2 - process**
ICE BREAKING - forming teams ideas about PLACES	**documenting** ONE EXAMPLE of circularity	**listing** the stakeholders: who? what powers? what interests?	**identifying the verbs** for each actor: getting from resources to benefits	**defining the sequences** - doing the sketches for the storytelling
consulting CCC PLATFORM and other resources	**presenting** the examples: 5 teams x 10 minutes	**presenting** the stakeholders: 5 teams x 10 minute	**teamwork:** guidance to each team	**teamwork:** guidance to each team

Important Note for Instructional Strategies:

As outlined in the following section (Evaluation), the goals of the Circular City Challenge are not to train students to become professionals but to encourage them to consider how an initiative might begin and what is needed to rally more people around an idea for circularity. Therefore, the teaching methods are not focused on imparting specific knowledge from various fields of expertise but on guiding students on how to connect with such experts, local administrations, or other stakeholders who are or should be involved in transforming their chosen location toward greater circularity.

Before creating their own improvement scenario for the selected site (avoiding the term "SOLUTION" is recommended, as a solution would require specific professional knowledge and skills), the objective is to work on acquiring transversal competencies useful to any citizen involved in participatory diagnostic or participatory design processes:

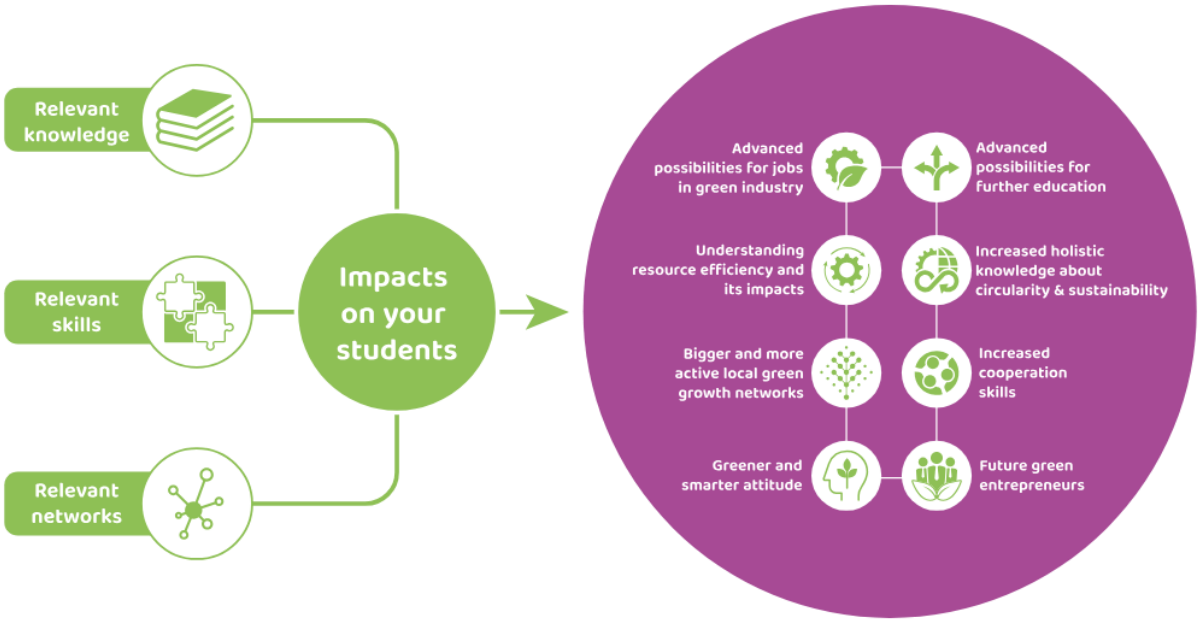
- Documenting, discussing, and presenting case studies: By exploring examples from other contexts where space has supported circularity, students will gain a deeper understanding of the concept. Presenting the selected case study in a way that is relevant to other teams also enhances critical thinking skills.
- Identifying and analyzing stakeholders: This teaches young people to use practical tools for stakeholder analysis applicable in any context for preparing change initiatives. These tools include:
    - Creating a list of relevant actors.
    - A table detailing the power/resources each actor holds.
    - Understanding the nature and intensity of their interests concerning a specific location.

5. Assessment and Evaluation

The CircularCityChallenge is a new way of teaching about circularity and sustainability that is inspired by Sir Ken Robinson’s vision of education. Sir Ken Robinson was a global authority on creativity,

education, and human potential. He believed that every person has unique talents and passions that should be nurtured and celebrated. He questioned the conventional education system that relies on uniformity, norms, and exams. He supported a more customized, natural, and creative approach that uses the varied resources of technology, culture, and human potential. He aimed to change education into a lifelong adventure of learning, exploring, and personal growth.

The CircularCityChallenge method follows Sir Ken Robinson's vision by making circularity and sustainability a creative and engaging learning experience for students and teachers. The method helps students and teachers discover new values, explore local community and circularity, and contribute to positive change. The method uses a variety of digital and physical tools, platform, and resources that support the learning process and facilitate knowledge transfer and stakeholder engagement. The method also creates communities of practice that connect students, teachers, parents, community members, experts, policymakers, and practitioners in the field of circularity and sustainability. The method aims to empower students and teachers to become active agents of change in their own contexts.



5.1. Learning outcomes

After completing the module, your students will be able to:

Knowledge

-Explain the value and meaning of circularity and sustainability

-Demonstrate situations in their communities (households, schools, neighborhoods, cities) that are problematic in terms of too much linearity in the resources management, i.e. too much waste

Skills

-Apply the process of mapping and understanding stakeholders and their relationships for selecting more circular options

-Independently plan and implement a circularity project in their community

-Plan actions while being very precise about the roles and describing the results in a time frame

-Present analysis and proposal to the jury and any other audiences in a well argued manner

Values

-See the waste as a potential resource

-Contribute to circularity, that includes each and every one of us in the community

-Align the vision on the common perspective that results from collaboration, from thinking together about the present and future

-Steer creativity – seen as innovation with available resources

-Contribute to teamwork that enables the quality of the process and the result

5.2. reference frame - part of the facilitators guidelines

Each of the steps could be then described in terms of necessary knowledge, attitudes and aptitudes - all contributing to increasing pupils capacity to prepare a solid participation in the competition and reach the learning objectives.

a. understanding urban circularity and seeing opportunities for circularity

KNOWLEDGE COMPETENCES	ATTITUDINAL COMPETENCES	APTITUDINAL COMPETENCES
finding out about the CIRCLE and understanding that circularity is sustainability **WE KNOW:** the circle saves natural resources	challenging UN-sustainability and seeing WASTE as a valuable RESOURCE **WE VALUE:** waste a potential resource	looking around for very concrete and problematic situations of too much linearity **WE DO:** actively search for issues in my city

Table x competences for urban circularity

b. in our city where various stakeholders have a role

KNOWLEDGE COMPETENCES	ATTITUDINAL COMPETENCES	APTITUDINAL COMPETENCES
finding out about circularity requiring collaborations among various stakeholders - mobilisation of multiple actors to correlate activities, behaviours, etc. **WE KNOW:** circularity is only possible when there are connections among actors to keep resources in their loops	recognizing that there are many stakeholders even if less visible at first, and that paying attention to the relationships among them is essential to understand the context of the issue we want to address **WE VALUE:** the contributions to circularity could come from each and every one of us in the community	mapping beyond the obvious players with stakeholder analysis methods **WE DO:** actively identify the stakeholders arpund the selected issue / problematic situation - listing them, reaching them for interviews

Table x competences for stakeholders system

c. establishing objectives through cooperation

KNOWLEDGE COMPETENCES	ATTITUDINAL COMPETENCES	APTITUDINAL COMPETENCES
finding out about defining relevant objectives in strong connection to a shared (agreed upon) assessment of the existing situation **WE KNOW:** change happens when there is agreement on the set destination and the reasons for choosing that destination are clear to all who are expected to contribute to the change	accepting that change only occurs when stakeholders are convinced about the need and the opportunity for change **WE VALUE:** aligning visions into a common perspective that results from collaboration, from thinking together about the present and the future	defining relevant objectives in strong connection to a shared (agreed upon) assessment of the existing situation **WE DO:** actively engaging ourselves and the stakeholders in conversations to get a problem-tree turning into an objective-tree (cause and effect relationships) + SWOT analysis and then focusing on establishing directions for change

Table xcompetences for defining common objectives

d. finding ways to reach those objectives

KNOWLEDGE COMPETENCES	ATTITUDINAL COMPETENCES	APTITUDINAL COMPETENCES

finding out about project management principles and about design thinking approach - the basic theory behind a good action plan **WE KNOW:** there is a logical approach: in order to reach objectives, we need to find the right actions leading to results - this is called planning and Theory of Change frame can help	aiming at being EFFECTIVE as much impact as possible in short time with limited financial and human resources **WE VALUE:** creativity seen as innovation with what we have at hand	practicing design thinking going from divergent thinking to convergent thinking and reiterating it until we have a solid plan in design thinking approach participation of stakeholders is embedded **WE DO:** we plan the actions (verbs) being very precise about the roles (who?) and describing results and a time-frame (duration for each action and the links between them)

Table x. competences for planning and taking action

e. be convincing to anyone about your analysis and proposals

KNOWLEDGE COMPETENCES	ATTITUDINAL COMPETENCES	APTITUDINAL COMPETENCES
finding out about the tipis and tricks of communicating complex messages **WE KNOW:** the role of emotions - and the importance of storytelling the importance of choosing the right instrument for a specific content to be communicating	creating a work environment which is CONSENSUS ORIENTED and that allows room for all to contribute and be credited for that contribution **WE VALUE:** teamwork brings quality to the process that, in turn, brings quality to results	preparing presentation materials **WE DO:** DEMONSTRATION SCENARIO FOR CAMPAIGN / PROPTYPE ACTION IMPLEMENTED **report and illustrate report "impact"** **what you did! in 10 years from now**

Table x competences for communicating with convincing arguments

6. Timetable recommendations

Within Formal Education Contexts:

Option 1 - Complementing an Existing Subject/Discipline
Teachers involved in Education for Sustainable Development (ESD) can integrate this initiative to supplement theoretical knowledge with practical experiences throughout their existing subject or discipline schedule.

- The process begins by introducing the challenge at the start of the subject's timeline, ensuring students understand its objectives and its connection to their broader learning goals.
- Periodic 30-minute sessions (e.g., once a month) can be dedicated to student project progress, guided by step-by-step instructions provided on the Circular City Challenge platform.
- These structured sessions allow teachers to offer timely feedback, facilitate discussions, and address challenges, fostering essential skills such as problem-solving, teamwork, and critical thinking.
  This integration balances theory with application, creating a more engaging and effective learning process.

Option 2 - Project-Based Learning Activity - Workshop Format
Teachers may design the Circular City Challenge as a stand-alone project-based learning (PBL) activity tailored to students' learning needs and abilities.

- Projects may span a single week or several weeks, potentially aligning with Romania's *Green Week* program, a 5-day event promoting sustainable development education.
- Teachers and students collaboratively plan the project schedule, ensuring activities are incorporated into the school year.

In Non-Formal Education Contexts:

Facilitators in NGOs or youth clubs can use the step-by-step manual and curriculum as a self-guided activity tailored to their context and participants' needs.

Option 1 - Intensive One-Week Program (e.g., Summer School or Camp)
Participants immerse themselves in the learning experience, dedicating several hours daily to exploring concepts, working on projects, and collaborating in teams.

Option 2 - Extended Calendar
Facilitators can spread the activity over five weeks, with weekly sessions focusing on specific stages of the manual, including identifying challenges, brainstorming solutions, prototyping ideas, and planning strategies.

Both options offer unique benefits:

- The intensive program fosters concentrated learning and team camaraderie.
- The extended program supports deeper engagement and sustained learning.

By leveraging the manual and curriculum, facilitators can create impactful learning experiences that align with non-formal education principles and promote active participation in sustainability projects.

7. Conclusions

18 million more jobs will result from implementing the Paris Agreement on climate change and shift to a greener economy goal by 2030. 24 million jobs will be created, and 6 million will be lost in this transition. 1.2 billion jobs globally depend on a stable and healthy environment. Currently, there are significant imbalances between the skills offered and the skills needed for this green transition. CircularCityChallenge curricula will give teenagers a view of career opportunities in the green jobs industry and make them more attractive candidates to enroll in related universities and the green jobs industry.

The #CircularCityChallenge uses a participatory contest to connect students across communities, nations, languages, and demographic groups and get them thinking.

Our aim is not to find solutions but to get young people thinking, communicating, and planning about how they can make a meaningful contribution in their daily lives to the fight against climate change and environmental degradation. Thinking and acting about circularity in the ways on the opposite page is an important way into this very complex and sometimes anxiety-provoking problem.

We want young people to come out of this contest with a greater sense of agency and empowerment as well as an understanding of these complex and often contentious topics. We also want to ensure that by participating in the contest, students develop transversal twenty-first-century skills that will benefit them across secondary education and beyond. There are many resources on the project platform to help students, teachers, and facilitators understand the concepts of circularity.

We strongly encourage everyone to read, listen, watch, and use those resources. Circularity is a social and economic principle that aims to reduce and eventually eliminate waste in all production and consumption processes.

Circularity is a means towards living and producing in a sustainable way that recognizes the finite and delicate nature of our environment. **Circularity is also a goal, something to work towards, not necessarily an endpoint that we need to focus exclusively on. All actions that reduce waste are steps in the right direction.**