



Learning and Teaching Package 7

Sustainable Entrepreneurship Education

UNIT 1: INTRODUCTION “SUSTAINABLE ENTREPRENEURSHIP MINDSET”

ESZTER CSEPE-BANNERT, COREDU, GERMANY

KERSTIN SPECHT, COREDU, GERMANY



Co-funded by
the European Union



Contents

| | |
|--|----|
| Overview | 2 |
| Pedagogical Approach..... | 2 |
| Sustainable Entrepreneurship Education: Background information | 3 |
| Piloting of the materials within TAP-TS..... | 3 |
| UNIT 1 Introduction “Sustainable entrepreneurship mindset” | 4 |
| UNIT DESCRIPTION | 6 |
| Start-Up | 6 |
| Development..... | 7 |
| Consolidation | 8 |
| Follow-Up | 9 |
| Glossary | 10 |
| Glossary of Icons | 11 |
| Worksheets and Links | 12 |
| Appendix | 13 |
| Appendix 1 Online course concept | 13 |
| Appendix 2 TAP-TS Roadmap | 16 |



DISCLAIMER: Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or EACEA. Neither the European Union nor the granting authority can be held responsible for them.

CREDIT: Cover Photo by RosZie on pixabay.

The icons were created by Taimoor D on Flaticon.

LICENSING:



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License: Reusers may distribute, remix, adapt, and build upon the material in any medium or format for noncommercial purposes only, and only so long as attribution is given to the TAP-TS Project as the creator.

<http://creativecommons.org/licenses/by-nc-sa/4.0/>



Overview

The present Learning and Teaching Package follows a holistic approach by providing background information and methodologies to foster the sustainable entrepreneurship competences of in-service and pre-service teachers. Based on the knowledge, skills and competences acquired by completing this LTP, teachers will be able to develop new teaching materials or adapt already existing ones with aspects of sustainable entrepreneurship education (SEE).

Entrepreneurship education plays a key role in supporting young people to adopt a positive mindset. The entrepreneurial mindset is referred to a certain way of thinking by which young people confront difficulties and problems in life. The entrepreneurial mindset enables young people to overcome those challenges, be decisive and take on responsibilities for any of their behaviours and activities.

The focus of the present Unit is knowledge-basis around entrepreneurship and sustainability competences supported by focusing questions. Unit 1 materials are recommended for educators who are educating pre-service and/or in-service teachers. This unit aims to reflect on the level of the entrepreneurial mindset of the teachers in a creative and trustful atmosphere.

The aim of Unit 2 is self-reflection on values and attitudes towards sustainability and entrepreneurship. This unit raises the awareness of the teachers for fostering their own sustainable and entrepreneurship competences. Through different reflective phases teachers get aware of their motivation to work with these topics and also with the possibilities of interdisciplinary linking the theory (GreenComp, EntreComp) with the practice (own living and teaching environment).

Unit 3 supports teachers by the transfer of their know-how, values, attitudes, and motivation into the teaching practice. The key focus is to get into action while elaborating ideas on how to connect the sustainable entrepreneurship approach with own teaching subject.

In Unit 4 the participants develop their own teaching and learning materials by aligning the learning objectives of their subject(s) with the sustainable entrepreneurship competencies. Furthermore, the participants also elaborate hands on working materials for students and set the assessment methods and tools for the assessment of the learning outcomes. There are examples provided.

Unit 5 is more practice-based, and would be of interest for student teachers and teachers to implement directly in the classroom. It aims to inspire to develop sustainable entrepreneurship competences among students in an engaging and fun way, while at the same time giving knowledge-basis around key concepts. Students will set on a journey to improve their local surroundings by critically exploring what could be improved and how in their own cities or towns.

Pedagogical Approach

The pedagogical approach is based on the [TAP-TS Roadmap](#) and aims to enable learners and teachers to think and act sustainably. The elaborated four units within the 7 Learning and Teaching Package (LTP) “Sustainable Entrepreneurship Education” include methodologies and tools to foster the active participation of the pre-service and in-service teachers in the discourse on sustainability and follow a whole-school-approach when it comes to the



transfer of the sustainable entrepreneurship approach into their own teaching. The four units furthermore follows a holistic approach while focusing on the competences defined in [the Green Comp Framework](#).

This LTP incorporates activities which are focusing on real life challenges (Unit 1), action-oriented, hands-on and action-oriented (Unit 2, Unit 3, Unit 5) activities, and stimulate creative collaboration between the teachers (Unit 4). Unit 5 also invites teachers and student teachers who have tried out the materials to reflect on teacher practice at three levels and different dimensions (Follow-Up Activity2).

Sustainable Entrepreneurship Education: Background information

Sustainable entrepreneurship education teaches young people on the one side how to successfully use current resources to achieve sustainable growth while not risking future generations' ability to access resources. On the other side sustainable entrepreneurship competences enable young people to value sustainability; to support equity and justice for current and future generations; to approach a sustainability problem from all sides, to formulate current and potential challenges in order to identify sustainable approaches to anticipating and preventing problems, and to mitigating and adapting already existing problems. Furthermore, to adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas and methods and to act for change in collaboration with others round up the sustainability competences.

Piloting of the materials within TAP-TS

This LTP was piloted within the online Workshop in 2023 and one module was tested as a face-to-face workshop in November 2023 in Dresden. The online workshop is available on the [TAP-TS Platform](#), and as text in [Appendix 1](#).



UNIT 1 Introduction “Sustainable entrepreneurship mindset”

| Main Topic | Target Group | Duration | Knowledge Area/ Subjects in School | Activities | Suggestions for Possible assessment |
|---|---|----------------------------|---|--|---|
| Acquire knowledge about entrepreneurship and sustainability competences | Pre-service and in-service teachers in secondary schools | 180 min | Applicable multidisciplinary across different subjects and knowledge areas | Activity 1. Trends and Challenges Activity 2. Competence Frameworks Activity 3. Transfer Activity 4. Exchange | Reflection questions |
| Intended Learning Outcomes | Having worked through the activities and materials, students will be able to: ✓ describe the core idea behind the GreenComp and EntreComp. ✓ list at least 5 competencies related to the GeenComp and EntreComp. ✓ elaborate first examples for the listed competencies in relation to the daily life. | | | | |
| Prior Competencies | optional/ideal: no prior competencies required | | | | |
| Required materials | <ul style="list-style-type: none">• Power Point with Information on the Entrepreneurship Competence Framework and Green Competence Framework• flipchart paper, moderation cards, pens | | | | |
| Cooperation/ Networking | Not applicable | | | | |
| Practical Notes for Teachers | These materials are recommended for educators who are training pre-service and/or in-service teachers. As this unit aims to reflect the level of the entrepreneurial mindset of the teachers it is important to create a trustful and interactive learning atmosphere. | | | | |
| Addressing GreenComp | Embodying sustainability values | | | | |
| | x | 1.1 Valuing sustainability | To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values. | | |
| | x | 1.2 Supporting fairness | To support equity and justice for current and future generations and learn from previous generations for sustainability. | | |
| | x | 1.3 Promoting nature | To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems. | | |
| | Embracing complexity in sustainability | | | | |
| | x | 2.1 Systems thinking | To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems. | | |
| | x | 2.2 Critical thinking | To assess information and arguments*, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions. | | |
| | x | 2.3 Problem framing | To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems. | | |
| | Envisioning sustainable futures | | | | |
| | x | 3.1 Futures literacy | To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future | | |
| | x | 3.2 Adaptability | To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk. | | |
| | x | 3.3 Exploratory thinking | To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods. | | |



| Acting for sustainability | | |
|---------------------------|---------------------------|---|
| x | 4.1 Political agency | To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability. |
| x | 4.2 Collective action | To act for change in collaboration with others. |
| x | 4.3 Individual initiative | To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet. |



UNIT DESCRIPTION

Start-Up

The aim of this “warm-up” group work is to sensitize the participants for current and future trends and global challenges, which are the starting point for the introduction of the EntreComp and GreenComp. Starting with the reflection on the global challenges leads the participants to deeper understanding for the need for green and entrepreneurship competences.

Estimated
Duration

Activity 1. Trends and Challenges





This activity supports the reflection process of the participants for current global challenges in the society. During the start-up session the participants work in groups which also fosters the exchange of the ideas and feelings among the different participants.

GreenComp Reference:

2.3 Problem Framing

Preparation for Activities: For this activity you will need flipchart paper and pen for the group session. Ideally, you will need furthermore a presentation space (e.g. a table) where you can pin the flipcharts of the groups with their answers.

Description

1.  The unit starts with a brainstorming session with the participants. The leading question for the brainstorming session is **“What trends and challenges are our society/economy/environment facing now and in 5 years?”**
2.  Participants work in small groups and note their answers on a flipchart paper.
3.  After 15 minutes of group work the groups present their findings.
4.  After each group has presented their outcomes, the trainer **clusters** the answers, e.g. *society* related answers, *environmental* related answers, *education* related answers, *work* related answers, etc.






The final overview and clusters visualize in an easy and clear way the starting point for understanding the relevance for the EntreComp and Green Comp.

45 min



Development

| <i>Pre- and in-service teachers acquire knowledge about entrepreneurship and sustainability competences. They get first insights into <u>the Entrepreneurship Competence Framework</u> and <u>Green Competence Framework</u>.</i> | | Estimated Duration |
|--|--|--------------------|
| Activity 2. Competence Frameworks This activity provides insights into the two main competence frameworks which are the basis for the development of teaching materials. GreenComp Reference 1.1 Valuing Sustainability | Preparation for Activities: For this activity you will need a room with computer and beamer for the presentation of the competence frameworks. The presented competences should be pinned on the wall so that the participants could see them during the whole workshop (visualization). | 45 min |
| | Description  After clustering the participants' answers in the "Start-up-phase" the trainer introduces the EntreComp and GreenComp by focusing further on key questions.  Give time to study each competence framework, having the following questions in mind: <ul style="list-style-type: none"> - <u>EntreComp Framework</u> <ul style="list-style-type: none"> ✓ What is an entrepreneurial mindset and how do we create <u>value</u> for the society? ✓ Why are entrepreneurship competences important for future societies? ✓ How do the competences fit into the regular education system? - <u>GreenComp Framework</u> <ul style="list-style-type: none"> ✓ What are green competences and why they are important? ✓ What is the reference of the GreenComp to my personal and professional life? ✓ How do the competences fit into the regular education system?  Have a plenary discussion to collect thoughts. | |



Consolidation

The aim of this activity is to link the competences presented within the two frameworks to the living environment of the participants, to consolidate the knowledge gained in the previous phase.

Estimated
Duration

Activity 3. Transfer

The focus of this activity is on the transfer of the theory presented in the previous phase into the practice, i.e. into the working and living life of the participants and underpin the relation.

GreenComp Reference

1.1 Valuing

Sustainability;

2.2 Critical thinking

Preparation for Activities: For this activity you do not need any further preparation.

Description

🎯 After the EntreComp and GreenComp competences are visualized in the classroom (on the table or on the wall) the participants are asked to think about **2-3 situations from the daily life** where these competences are targeted.

💡 The trainer can support the thinking process through the following questions:

- In which situation do we create value for the society?
- In which situations do we have to foster equity?
- Which activities may support the harmonious relationship between nature and humans?
- How do you access information about global challenges?
- What is the main difference between opinion and facts?



Please check the [Worksheet "Ideas and Examples"](#) (in Handouts) to get some ideas.

45 min



Follow-Up

This activity is aimed to make the participants aware of the different situations where the entrepreneurship and green competences can be fostered in a practical way.

Estimated
Duration

Activity 4. Exchange

The focus of this activity is on the exchange of different ideas of the participants on how to foster the entrepreneurship and green competences in a practical way and inspire each other.

Preparation for Activities: No specific preparation of this activity is needed.

Description



The participants present the **2-3 situations** identified in the previous phase. The other participants reflect the situations while focusing on **the following possible questions:**

1. Are there common situations mentioned by the participants to foster the selected competences?
2. Are there different situations mentioned to foster the same competences?
3. Is it difficult/easy to foster the entrepreneurship and green competences in the daily life?

Other reflection questions are also possible, based on the interest and need of the trainer/participants.

45 min



Glossary

Learning outcomes – are statements of what an individual should know, understand and/or be able to do at the end of a learning process, which are defined in terms of knowledge, skills and responsibility and autonomy.

Cedefop: [Learning outcomes](#).

Sustainability - means prioritising the needs of all life forms and of the planet by ensuring that human activity does not exceed planetary boundaries.

GreenComp: [Green Competence Framework](#)

Entrepreneurship - is the capacity to act upon opportunities and ideas, and transform them into value for others. The value that is created can be financial, cultural or social.

EntreComp: [Entrepreneurship Competence Framework](#)

GreenComp - comprises four interrelated competence areas: ‘embodying sustainability values’, ‘embracing complexity in sustainability’, ‘envisioning sustainable futures’ and ‘acting for sustainability’. Each area comprises three competences that are interlinked and equally important. GreenComp is designed to be a non-prescriptive reference for learning schemes fostering sustainability as a competence.

GreenComp: [Green Competence Framework](#)

EntreComp - is the European Entrepreneurship Competence Framework for people interested in learning, teaching and fostering the knowledge, skills and attitudes that make up an entrepreneurial mindset.

EntreComp: [Entrepreneurship Competence Framework](#)

Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social (FFE-YE, 2012).

Value - Sense of initiative and entrepreneurship can be broadly defined as the capacity to turn ideas into action, ideas that **generate value for someone other than oneself**.

(EntreComp, p. 7)



Glossary of Icons



- Video



- Quiz



- Worksheets



- Editable Worksheets



- Various Media, e.g. Learning Apps



- Text to Read, or engage in active listening to others



- A question to Respond or a Question for Reflection



- A Discussion



- A task for an inquiry or search



- Focusing Activity



- A Reflection Activity



- An Activity for Action



- Suggested answers



- a short note for a teacher



- a group exchange



Worksheets and Links

Start-Up

EntreComp Framework - <https://ec.europa.eu/social/main.jsp?catId=1317&langId=en>

GreenComp Framework in different languages -

<https://publications.jrc.ec.europa.eu/repository/handle/JRC128040>

Consolidation

Activity 3. Transfer



Worksheet “Ideas and Examples

Appendix

Appendix 1 Online course concept

The online course is a one-week asynchronous course with a workload of about 1 hour per day. The concept bases on the above presented LTP. The content, the duration and the methodologies and tools have been adapted to the online format.

Overarching understanding goals

Over this one week you will:

- explore best practices and strategies for teaching sustainable entrepreneurship.
- engage with one another to spark innovative thinking and develop practical ideas for implementation.
- apply ideas to your work by creating a usable product, such as a facilitation guide, or lesson plan.

Structure

This course is designed to offer overarching frameworks and ways of thinking, along with curated resources, that you then can apply to your own context. More specifically, this week you will find the following components:

- an overview and specific learning objectives of each module.
- a presentation of the course content (frameworks, models, etc.).
- one discussion to collaboratively process the content of the course.
- opportunities to give and receive peer feedback.

During the one-week course there is **one** live session at the end of the course. You are welcome to engage with the material at your own place. In order to reach the set learning objectives we recommend to complete the tasks day by day. However, if your learning style is different from this recommendation, please feel free to arrange your learning individually according to your needs and possibilities.

Unit 1 Entrepreneurship in Education

Learning objectives:

At the end of this course module you will be able to:

- describe the core idea behind the entrepreneurship education.
- list at least five competences related to the entrepreneurship education.
- to elaborate one practical example (case) with the reference to your own working field.

Unit 1.1 What is entrepreneurship education?

In the following module there are 16 learning videos available for you. It seems to be a lot, we agree! But each video lasts only for 2 - 3 Minutes and the speakers are very nice people. As the videos focus on the audio content, you can instead of watching too, only listen to them, for example by driving your car, sitting in the public transportation or by doing your weekly shopping. As the videos are practice oriented, we are sure you will enjoy it.

The following 15 videos give you a deeper insight into the particular entrepreneurship competences. You can start with any of the videos as all of the videos are standing alone videos.



Please remember: After watching all videos please reflect on your learnings and post your answers in the forum. Thank you.

Additional task: If you are interested in an additional task to strengthen your learning outcomes, please feel free to read our "Case study Inedible canteen food". The case study is available at the end of the course in a pdf document.

Unit 1.2 Case study "Inedible canteen food"

Dear Participants, if you are still motivated and interested in our course (we hope so 😊) we would like to provide you an additional task to deepen your expertise in the implementation of the Entrepreneurship Education in the practice. The [Case study „Inedible canteen food“](#) provides you an opportunity to apply your knowledge, skills and attitudes gained in this course on *Entrepreneurship Education* in practice.

How to work on this case?

1. Please read the case carefully.
2. Please follow the instructions in the document to start working on the case.
3. In this document YOUR perspective, ideas and visions are asked. In this way you have the chance to test the case by you, before you involve your students in this case.
4. Please feel free to fill in the document and send it to us, if you wish feedback from us. We would be glad to reflect together with you on your work.

If you have any question, please feel free to contact us.

nota bene: We also provide you a filled in document with some ideas (Document: [Solution approaches](#)). But please, only check this document after your tasks are done as it may impact your initial ideas.

Unit 2 Sustainability and Entrepreneurship Education

Dear Participant, after finishing your case study you are ready for our second module. In this module we will work on the topic "**Sustainable** Entrepreneurship Education.

Let's have a look together on the two terms "sustainability" and "entrepreneurship" and let's elaborate the synergies for the education.

[Which competence are targeted when we speak about sustainability?](#)

[Education for Sustainability](#)

[Sustainable meats Entrepreneurship Education](#)

Unit 2.1 Case study "Sustainable canteen food"

Dear Participants, we would like to provide you a second case study which foster your expertise in the implementation of the approaches on the Sustainable Entrepreneurship Education in the practice. The case study „Sustainable canteen food“ provides you an opportunity to apply your knowledge, skills and attitudes gained in this course on Sustainable *Entrepreneurship Education* in practice.

[What does sustainable food means?](#)

[The case](#)

[Case study solution approaches](#)



Unit 3 SEE in light of the “Whole school approach”

The two case studies in the previous chapters are good examples for showing options, how different approaches on Sustainable Entrepreneurship Education can be covered within the school curriculum. These kind of approaches can be embedded in small project related activities, depending on your resources and possibilities in your schools and organisations. But the topic on Sustainable Entrepreneurship Education can also be covered holistically based on the "Whole School Approach".

[SEE in light of the “Whole school approach”](#)

Unit 3.1 Implementation of Whole School Approach in project based work on SEE

In this module we will show you some ways for elaborating ideas for the project related work on "Sustainable Entrepreneurship Education" in your school or organizations.

[The whole school approach in the practice](#)

[The five step investigation plan](#)

[The five step investigation plan in practice](#)

[Case study Whole School Approach with SEE template](#)

Dear Participant, it's your turn. Please find attached the template for your work. You can use this template immediately in your classroom with students. But please feel free too, to work on this template first by you own and make first experiences without involving students in this work. You can send us your filled in template if you wish feedback from us. Thank you!

Unit 4 Recommendations for the implementation of SEE projects

Dear Participant, congratulations! You finished the pilot course on "Sustainable Entrepreneurship Education (SEE)". In the following document you will find some recommendations on how to develop a SEE-Project by focusing on the EntreComp and GreenComp framework. Thank you for your participation and support!

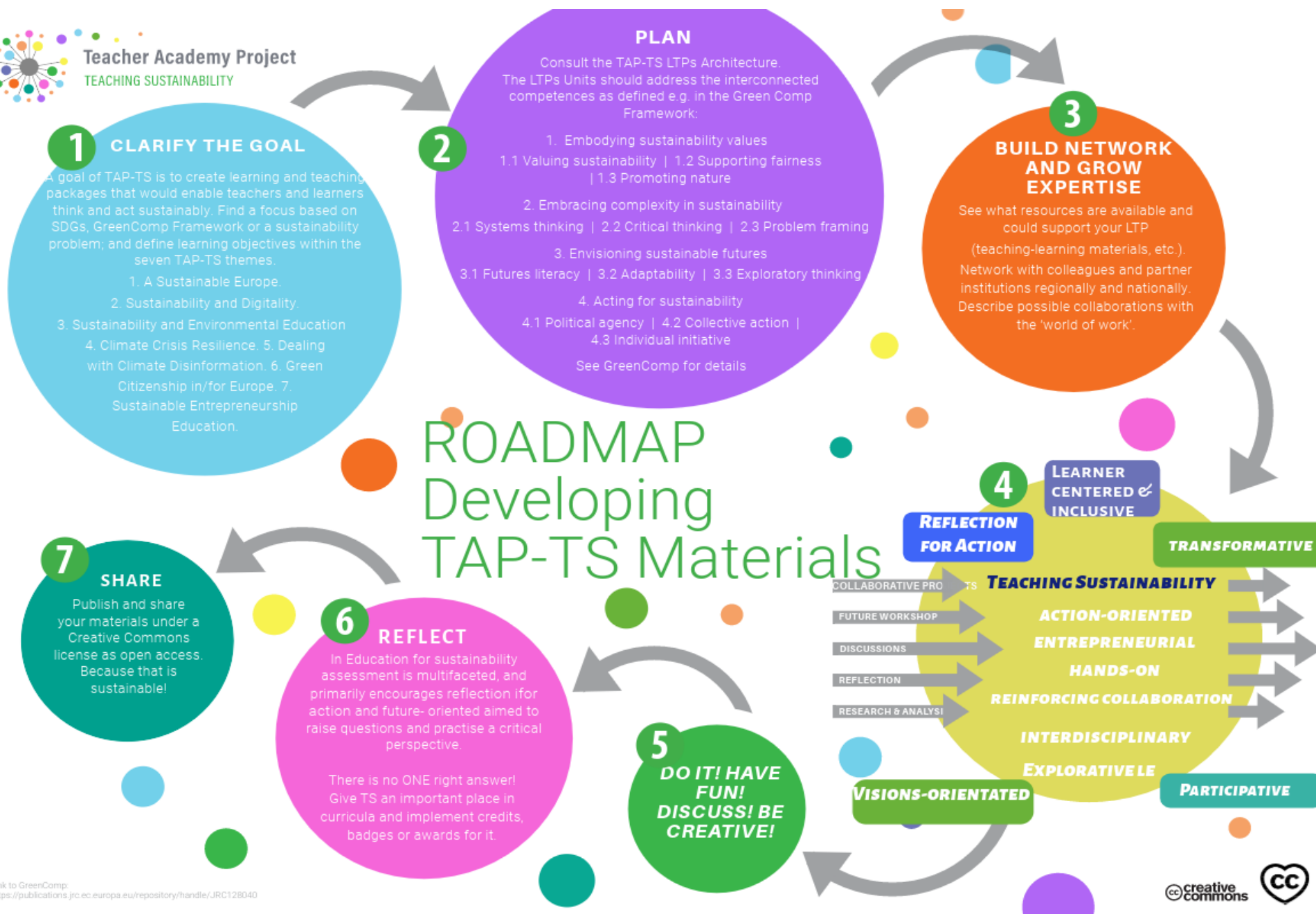
[Recommendations for the implementation of SEE project in your institution](#)

Appendix 2 TAP-TS Roadmap

TAP-TS Roadmap has three main goals: (1) for the TAP-TS partners as a roadmap to design LTPs; (2) for teachers and student teachers to design materials for teaching sustainability; (3) evaluation of LTPs. Explore the visualisation on the next page.

TAP-TS Roadmap: the Steps / stages in the TAP-TS LTPs Design Journey

| | |
|--|--|
| 1: Clarify the Goal | Our overarching goal is to enable learners and teachers to think and act sustainably. To actively participate in the discourse on sustainability, the topics must also be addressed - sustainably - in schools and universities. The goal of TAP-TS is to create learning and teaching packages for this purpose in the following areas: 2.1 A Sustainable Europe. 2.2 Sustainability and Digitality. 2.3. Sustainability and Environmental Education. 2.4 Climate Crisis Resilience. 2.5 Dealing with Climate Disinformation. 2.6 Green Citizenship in/for Europe. 2.7 Sustainable Entrepreneurship Education. |
| 2: Competency Areas | The LTPs should be aligned with the interconnected four competences defined in the Green Comp Framework: • Embodying sustainability values • Embracing complexity in sustainability • Envisioning sustainable futures • Acting for sustainability |
| 3: Networking & Bundle Expertise | There are many exciting topics. 1. Find a focus: what driving question is at the centre of your LTP. 2. See what resources are available (competencies, teaching-learning materials, etc.). 3. Network with colleagues and partner institutions regionally and nationally. |
| 4: Working through the design process | Teaching Sustainability should be: action-oriented learning; hands-on; focussing on real life challenges; stimulate creative collaboration between teachers and learners; visions-oriented; participatory and action oriented . Approaches to teaching sustainability may be inquiry-based learning; explorative learning; networked learning; participation learning aimed at problem framing. Teaching Sustainability may incorporate the following activities: collaborative projects, future framing workshops, research and analysis, discussion. |
| 5: ASSESSMENT DESIGN | In Education for Sustainability assessment can be multifaceted and primarily encourage reflection and be evidence based. There is not always ONE right answer. The goal should be to RAISE QUESTIONS. TS is not about teaching the „right“ behaviour, but about practising a critical perspective. Give TS an important place in curricula and implement credits, badges, or awards for it. |
| 6: PUBLISH TO TAP-TS PLATFORM | Can you and where can you publish your materials under a Creative Commons license as free as possible. Because that is sustainable! |





Co-funded by
the European Union



Teacher Academy Project
TEACHING SUSTAINABILITY

Project partners



TECHNISCHE
UNIVERSITÄT
DARMSTADT

