GREENATHON IN VET

WP3-A2: Teachers' Guide

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of VET students for a sustainable business culture
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Instructions for Teachers

WELCOME TO THE 'GREENATHON IN VET' TRAINING!

Thank you for registering for our training package on green entrepreneurship. This program consists of five modules designed to equip your students with the knowledge and skills to develop sustainable and environmentally friendly business ideas. On our training platform, you can find not only the modules but also assessment questions, classroom activities and further materials. Below are the instructions to help you guide your students through the training material effectively.

Module Overview:

- Module 1: Major Challenges of Sustainability and Climate Change
- Module 2: Main Green Solutions
- Module 3: Introduction to Green Entrepreneurship
- Module 4: Basics for Green Idea Development
- Module 5: Preparation for Greenathons

Step 1: Familiarize Yourself with the Content

Go through the modules and the instructions to understand the objectives, materials, and activities.

Step 2: Prepare for the Classroom Environment

Check the modules and their content to see if they are all applicable to your students. If you have local examples for the topics, add them to your class plan. Skip the topics that are well-known to your students, and focus on those questions that are more relevant to them or learn less about them. If you need more information about a topic, check the reference list at the end of the module or the Teachers' Guide parts of the platform.

You can download the modules, and according to the selected copyright license, you can remix, tweak, and build upon our work non-commercially, as long as you credit and license your new creations under identical terms. We kindly ask you to always refer to our original output.

Before the course, ask your students to register on our platform.

Step 3: During Your Class

You can open the presentations from the platform in full screen, or you can download the modules (and even edit them if you prefer) to start them from your computer.

In the modules and the Teachers' Guide parts of the platform, you can find classroom activities and ice-breaker games that can make your classes more interactive.

Step 4: After the Classes

Ask your students to answer the questions after each module. In the end, they will find a summary test covering all the modules. Ask your students to make a screenshot of their results or the message/certificate they received on the platform.

1. Module 1

1.1. Syllabus

<table>
<tr><td>Module 1: Major Challenges of Sustainability and Climate Change</td><td>Workload in hours: 1.5</td></tr>
<tr><td colspan="2">Although the global climate has always been changing, the current and severe climate phenomena and conditions are due to human activities and behaviour. The changing average temperature, extreme weather conditions, melting icecaps and glaciers, and rising sea levels all have an impact on our daily lives. Biodiversity, food security, fossil fuel dependency and waste are also among today's challenges. This module will summarise and explain these issues and their impact on us.</td></tr>
<tr><td colspan="2">Goal of the module

● To summarise the main concept of climate change and sustainability.
● Understand the need for the adoption of adaptation measures to cope with the risks and impacts resulting from climate change.
● Gain the necessary knowledge to understand barriers on an economic, social, institutional, and ecological level.
● To raise awareness about the global, regional and local effects of climate change and the concept of climate justice.
● To highlight the different dangers deriving from the loss of biodiversity, including food security threats.
● To introduce the significance of energy consumption and our dependence on fossil fuels.
● To highlight the importance of Water Quality, be aware of causes of water pollution and impact on life.
● To explain the effects of waste and environmental pollution.
● To highlight individual and collective responsibility.</td></tr>
<tr><td colspan="2">Learning outcomes in terms of knowledge and skills</td></tr>
<tr><td>Knowledge

● Concept of climate change.
● Concept of sustainability.
● Global and local impacts of climate change.
● Concept of climate justice.
● Concept and significance of biodiversity.
● Energy consumption trends and the definition of energy mix.
● Effects and challenges of fossil fuels.
● Main food security challenges and their possible impact.
● Major waste types and pollutants, and their effect on the environment, water, climate and humans.</td><td>Skills

1) Demonstrate an understanding of climate change and sustainability.
2) Identify the impact of climate change.
3) Demonstrate an understanding of the need to protect biodiversity.
4) Identify the challenges related to energy consumption.
5) Acknowledge the complexity of food security challenges.
6) Distinguish between the different waste types and pollutants.</td></tr>
</table>

1.2. Further information related to the slides

None.

1.3. Further readings and materials to the module topics

Topic 1: Slides 7-15

IPCC. *(2023). Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II, and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.*

Mastrandrea, M. D., & Mach, K. J. *(2022). Making climate change science more policy-relevant. Nature Climate Change, 12(6), 480-487.*

Xu, C., Kohler, T. A., Lenton, T. M., Svenning, J. C., & Scheffer, M. *(2020). Future of the human climate niche. Proceedings of the National Academy of Sciences, 117(21), 11350-11355.*

United Nations Environment Programme (UNEP). *(2022). Emissions Gap Report 2022: The Closing Window – Climate Crisis Calls for Rapid Transformation of Societies. United Nations Environment Programme.*

Topic 2: Slides 16-24

Roberts, C. M., O'Leary, B. C., McCauley, D. J., Cury, P. M., Duarte, C. M., Lubchenco, J., ... & Worm, B. *(2020). Marine reserves can mitigate and promote adaptation to climate change. Proceedings of the National Academy of Sciences, 114(24), 6167-6175.*

Tang, Y., Liu, J., Li, Y., & Ma, H. *(2022). Evaluating the impact of plastic pollution on climate change: A comprehensive analysis of emissions from plastic waste management. Environmental Pollution, 307, 119448.*

Parry, M. E., & Davidson, C. I. *(2023). Air pollution and its role in exacerbating climate change: A review of sources, impacts, and policy responses. Nature Reviews Earth & Environment, 4(4), 249-261.*

Oliveira, A. R., Silva, A. J. N., & Carvalho, P. *(2021). Assessing the carbon footprint of industrial waste management systems: A multi-regional input-output approach. Science of The Total Environment, 755, 143266.*

UNEP. *(2021). From Pollution to Solution: A Global Assessment of Marine Litter and Plastic Pollution. United Nations Environment Programme.*

Hoesly, R. M., Smith, S. J., Feng, L., & Crippa, M. *(2022). Historical and future emissions of short-lived climate pollutants from waste sector activities. Environmental Research Letters, 17(8), 084010.*

Topic 3: Slides 25-29

Lewis, N. S., & Nocera, D. G. *(2022). Depletion of critical mineral resources in the context of climate change and the energy transition. Nature Energy, 7(1), 15-23.*

Boehm, R., & Lou, Y. *(2023). Climate change and global resource depletion: Assessing future sustainability. Sustainability Science, 18(2), 487-499.*

Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., III, & Lambin, E. F. *(2022). A safe operating space for humanity: Climate change and the depletion of planetary resources. Nature, 486(7402), 472-475.*

Drexhage, J., & Murphy, D. *(2021). Sustainable development and resource depletion: The interplay between natural resource management and climate action. Development Policy Review, 39(4), 513-527.*

Wagner, L., & Thiel, C. *(2019). Resource Depletion, Climate Change, and the Limits to Growth: Implications for Sustainable Development. Routledge.*

Topic 4: Slides 30-35

Urban, M. C. *(2022). Accelerating extinction risk from climate change. Science, 373(6557), 1327-1330.*

Bellard, C., Bertelsmeier, C., Leadley, P., Thuiller, W., & Courchamp, F. *(2021). Impacts of climate change on the future of biodiversity. Ecology Letters, 25(6), 924-936.*

Pecl, G. T., Araújo, M. B., Bell, J. D., Blanchard, J., Bonebrake, T. C., Chen, I. C., & Williams, S. E. *(2017). Biodiversity redistribution under climate change: Impacts on ecosystems and human well-being. Science, 355(6332), eaai9214.*

Topic 5: Slides 36-45

Hulme, M., O'Neill, S., Dessai, S., & Lorenzoni, I. *(2023). Public engagement and climate change: Research directions and critical reflections. WIREs Climate Change, 14(1), e791.*

Diffenbaugh, N. S., & Burke, M. *(2019). Global warming has increased global economic inequality. Proceedings of the National Academy of Sciences, 116(20), 9808-9813.*

UNICEF. *(2021). The Climate Crisis Is a Child Rights Crisis: Introducing the Children's Climate Risk Index. United Nations Children's Fund (UNICEF).*

Jenkins, K. E. H., & McCauley, D. *(2021). Social acceptance of low-carbon energy and climate policy: Socio-political, community, and market dimensions. Renewable and Sustainable Energy Reviews, 142, 110869.*

Schäfer, M. S., Ivanova, A., & Schmidt, A. *(2014). Media attention for climate change around the world: A comparative analysis of newspaper coverage in 27 countries. Global Environmental Change, 23(5), 1233-1248.*

Andonova, L. B., Betsill, M. M., & Bulkeley, H. *(2009). Transnational climate governance. Global Environmental Politics, 9(2), 52-73.*

1.4. Classroom activities

These games and in-class activities can be used by teachers as they go along Module 1. Each activity has additional information on how to prepare and use it.

1. ***FIELD TRIP (Activity relevant and can be adapted for all module slides)***

Description: Conduct a field trip to a locality in the vicinity of your school or college. This can help students to learn of local experiences of, and perspectives on, climate change impacts and actual and potential climate change responses.

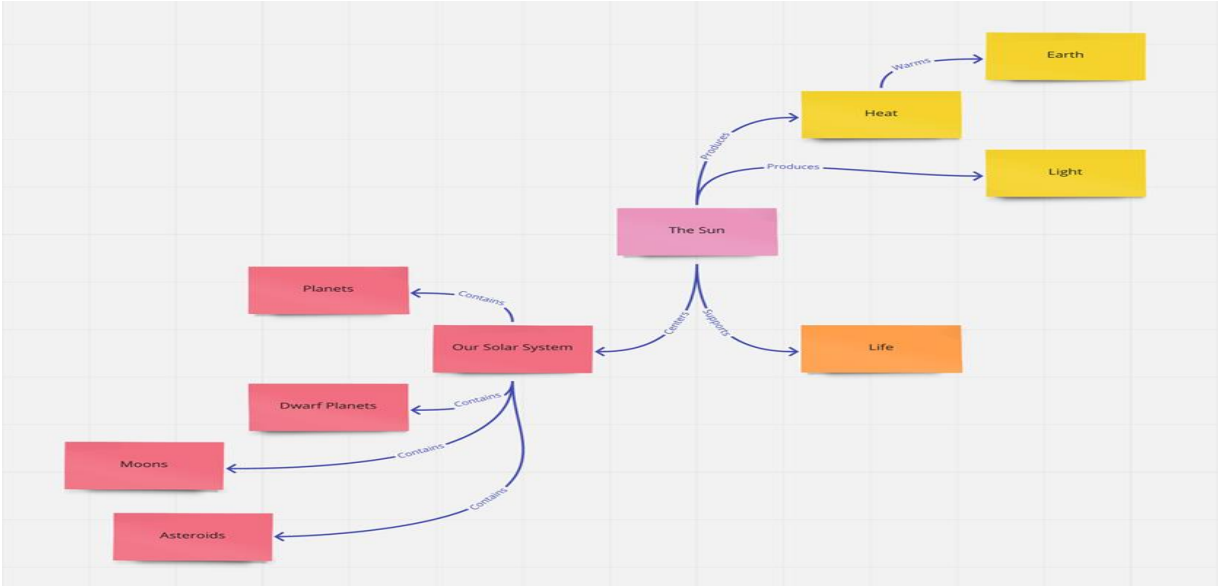
Examples of sectors with a strong vulnerability to climate change include: agriculture, forestry and fishing sector.

Examples of other sectors: retail trade, tourism and manufacturing.

Optional: In the class room discuss students experiences after the field trip.

2. ***CREATE A MIND MAP (Activity can be adapted to any module topic)***

Description: Use an online tool to create a mind map to link the climate change effects and their consequences on humans and the planet / consider the range of probable and possible near and mid-term consequences (and knock-on effects) arising with the onset of increasingly severe climate change. Example www.miro.com



1.5. Further ice-breaker games and activities

Sustainability in Schools - Simulation card game: https://games4sustainability.org/gamepedia/sustainability-in-schools/

The Systems Thinking Playbook for Climate Change - A toolkit for interactive learning: https://klimamediathek.de/wp-content/uploads/giz2011-0588en-playbook-climate-change.pdf

2. Module 2

2.1. Syllabus

<table>
<tr><td>Module 2: Main Green Solutions</td><td>Workload in hours: 1.5</td></tr>
<tr><td colspan="2">After understanding the major challenges we face related to climate, environment and sustainability, Module 2 will introduce how society and economy try to tackle these issues. The module will provide an overview of the currently available solutions and tools, their concept, benefits and challenges. Local/national/European examples and best practices will support a better understanding of these solutions.</td></tr>
<tr><td colspan="2">Goal of the module
● To introduce renewable energy sources and their possible application as well as advantages/disadvantages of their use.
● To highlight the importance of energy efficiency.
● To discuss different solutions addressing food challenges.
● To explain nature-based solutions and further methods related to the environment.
● To introduce circular economy and compare circular design principles to linear method.
● To explore alternative transport modes and solutions.
● To explain the difference between climate change mitigation and adaptation.
● To raise awareness about ethical considerations and active citizenship.
● To explain issues arising from social acceptance of proposed solutions.</td></tr>
<tr><td colspan="2">Learning outcomes in terms of knowledge and skills</td></tr>
<tr><td>Knowledge
● Concept of different renewable energy-based technologies.
● Methods to increase energy efficiency.
● Concept of food and nature-related solutions.
● Definition and elements of circular design.
● Benefits and challenges of solutions for climate change mitigation and adaptation.
● Scenarios for alternative transport modes.
● Challenges of ethical consideration and social justice.</td><td>Skills
1) Identify the possible use of renewable energy sources.
2) Understand and apply measures to improve energy efficiency.
3) Explain the food and nature-related solutions and their benefits.
4) Acknowledge circular methods and products.
5) Identify solutions for climate change mitigation and adaptation.
6) Quantify the different alternative transport modes, their benefits and challenges.
7) Act with consideration of ethical and social justice questions.
8) Identify and describe the various players involved in climate change mitigation/adaptation and their conflicts.</td></tr>
</table>

2.2. Further information related to the slides

Slides with figures may contain text boxes to help their translation.

Slide 9: The figure can be downloaded from the source's hyperlink in different languages.

Slide 10: The figure can be downloaded from the source's hyperlink in different languages.

Slide 35: The figure can be downloaded from the source's hyperlink in different languages.

Slide 51: The table is editable for translation.

2.3. Further readings and materials to the module topics

Miacademy Learning Channel (2023): Renewable and Nonrenewable Resources - General Science for Kids! (video): https://www.youtube.com/watch?v=D_2okEW4nG8

Next Generation Science (2022): Renewable and Non-renewable Resources (video): https://www.youtube.com/watch?v=axCR3uIn3Vs

Sustainability in Vocational Education project: Siveprojectcorketb.ie

2.4. Classroom activities

Slide 9 Instruction: Collect the potential impacts of climate change together. Try to figure out what mitigation and adaptation measures we apply.

2.5. Further ice-breaker games and activities

None.

3. Module 3

3.1. Syllabus

<table>
<tr><td colspan="2">Module 3: Introduction to Green Entrepreneurship</td><td>Workload in hours: 1.5</td></tr>
<tr><td colspan="3">Module 3 will be a bridge between green and sustainability challenges, and entrepreneurship. This module will highlight the responsibilities of the businesses, and also the potential benefits market actors can achieve with measures tackling the main challenges. Local/national/European examples and best practices will support a better understanding of green entrepreneurship.</td></tr>
<tr><td colspan="3">Goal of the module

● To clarify the connection between entrepreneurship and environmental and sustainability challenges.
● To raise awareness of greenwashing.
● To introduce the concept of green entrepreneurship.
● To explain the possible climate change mitigation measures a business can implement.
● To explain the measures a business can implement to adapt to the effects of climate change.
● To highlight the significance of sustainable measures and approaches in the working environment.
● To highlight the importance of materials, waste and optimised logistics.
● To introduce the role of facilitators and funding opportunities.
● To raise awareness about social enterprises and businesses addressing physical and mental health issues.</td></tr>
<tr><td colspan="3">Learning outcomes in terms of knowledge and skills</td></tr>
<tr><td colspan="2">Knowledge

● Concept of green entrepreneurship and greenwashing.
● Responsibilities of businesses in climate change and sustainability.
● Benefits and challenges of climate change mitigation measures on businesses.
● Benefits and challenges of climate change adaptation measures on businesses.
● Benefits and challenges of sustainability measures on businesses.
● Strategies for sourcing eco-friendly materials, reducing waste, and optimizing logistics.
● Definition of sustainable supply chains.
● Benefits and challenges of social enterprises and businesses addressing physical and mental health issues.
● Green opportunities for companies and green startups.</td><td>Skills

1) Identify the responsibilities of businesses in climate change and sustainability.
2) Recognise greenwashing methods.
3) Understand and apply measures to mitigate the impact of a business on climate change.
4) Understand and apply measures to adapt a business to the effects of climate change.
5) Design a sustainability integration plan to promote awareness in a business or a working environment.
6) Acknowledge the benefits and challenges of these above measures.
7) Define elements for making a supply chain more sustainable.
8) Demonstrate an understanding of the concept of social enterprises.
9) Engage with funding opportunities.</td></tr>
</table>

3.2. Further information related to the slides

Here are some further readings and materials related to slides:

The Corporate Sustainability Solution: Triple Bottom Line, by M COŞKUN ARSLAN, H. KISACIK, *The Journal of Accounting and Finance*, July 2017, special issue»

Green start-ups- a new typology for sustainable entrepreneurship and innovation research, L. BERGSET, K. FICHTER, *Journal of Innovation Management*, *JIM 3*, *3* (2015) 118-144.

Sürdürülebilir tedarik zinciri yönetimi ve sürdürülebilirliğin tedarik zincirleri üzerindeki etkileri: kavramsal bir değerlendirme, Y. GEDİK, Uluslararası Yönetim İktisat ve İşletme Dergisi, Cilt 17, Sayı 3, *2021 International Journal of Management Economics and Business*, Vol. 17, No. 3, 2021 (in Turkish).

Integrating sustainable practices within supply chain management: A systems perspective. Vidal, N. & Croom, S. (2018), *BioProducts Business 3*(8), 92-106.

3.3. Further readings and materials to the module topics

Here are some further readings and materials related to module topics:

More about the triple bottom line approach:

The Economist: https://l24.im/hywn
Harvard Business School Online: https://online.hbs.edu/blog/post/what-is-the-triple-bottom-line
IBM: https://www.ibm.com/topics/triple-bottom-line

Green Entrepreneurship:
Global Green Growth Institute: https://l24.im/9vqZ3
OECD: https://www.oecd.org/en/topics/sub-issues/greening-smes/green-entrepreneurship.html

Some courses on green entrepreneurship: https://www.learningfornature.org/en/courses/green-entrepreneurship-2022/
https://l24.im/7onD

3.4. Classroom activities

REVERSE BRAINSTORMING

Activity duration: 30 minutes – 1 hour

Number of activity participants: 2-30

Participation type: Group

Short description: Have students generate ideas on a related topic area with reverse brainstorming.

Stages:

1-Instead, choose a topic that can be brainstormed on (e.g. generating a green business idea). When choosing the topic, consider the knowledge levels and interests of the target audience.

2-Conduct a reverse brainstorming session of at least 15 minutes.

3-Discuss the brainstorming activity and generate a new solution idea.

4-Give the group or groups 15 minutes to turn their ideas into a presentation.

5-Have a presentation of no more than three minutes and discuss the presentations.

3.5. Further ice-breaker games and activities

None.

4. Module 4

4.1. Syllabus

<table>
<tr><td>Module 4: Basics for Green Idea Development</td><td>Workload in hours: 1.5</td></tr>
<tr><td colspan="2">Module 4 will support students in generating and refining environmentally sustainable business ideas. This module will explore the principles, methodologies, and techniques essential for creating innovative solutions that address pressing environmental challenges while also meeting market demands. The ability to develop compelling green business ideas is a crucial skill for aspiring entrepreneurs and all professionals. Such ideas can range from creating state-of-the-art innovations to introducing a new sustainable approach to the existing working method. The module will teach learners how to think critically, ask the right questions, and brainstorm effectively to generate promising green business concepts.</td></tr>
<tr><td colspan="2">Goal of the module

● To explain the process of problem-framing and identifying challenges.
● To introduce tools and methods that support problem-framing.
● To introduce tools and methods that support finding solutions to challenges and introducing sustainability methods and approaches.
● To highlight the necessity to explore the complexity of an idea.
● To highlight the importance of evaluating the ideas.
● To explain the role and elements of the implementation/action plans connected to the ideas.
● To raise awareness of the importance of networking.</td></tr>
<tr><td colspan="2">Learning outcomes in terms of knowledge and skills</td></tr>
<tr><td>Knowledge

● The process of problem-framing and identifying challenges (e.g. design thinking).
● Practical knowledge of tools and methods that support problem-framing. (e.g. problem tree, SWOT analysis)
● Practical knowledge of tools and methods that support finding solutions to challenges and introducing sustainability methods and approaches. (e.g. Sustainable Business Model Canvas)
● Complex evaluation methods and tools of the idea.
● Elements of the implementation/action plans connected to the ideas.</td><td>Skills

1) Identify challenges and problems related to sustainability and climate.
2) Use tools and methods to frame a problem and find solutions for it.
3) Demonstrate an understanding of the process of design thinking.
4) Evaluate the ideas in a complex and multidisciplinary way.
5) Draft an implementation/action plan.
6) Acknowledge the benefits of networking with local businesses, community, voluntary groups and professionals.</td></tr>
</table>

4.2. Further information related to the slides

None.

4.3 Further readings and materials to the module topics

- Program for Rural Entrepreneurship (business model examples): https://erasmus-plus.ec.europa.eu/projects/search/details/2016-1-MK01-KA202-021686
- Business Plan course and examples: https://www.bplans.com/
- Training for managerial competences in VET for the small businesses of the crafts sector project - StarCraft market training tool: https://startcraft.erasmus.site/market-training-tool/
- Project outputs of Marketing Initiative of Students for Professional Orientation and Progress project: https://erasmus-plus.ec.europa.eu/projects/search/details/2014-1-MK01-KA202-000252
- ENTRANCE Business plan toolkit: https://ec.europa.eu/programmes/erasmus-plus/project-result-content/6ddc42fe-4ee1-49ed-8dae-a4c64c91ee4d/ENTRANCE_BUSINESSPLANTOOLKIT_FINAL.pdf
- EMPOWERING GREEN ENTREPRENEURSHIP GUIDE - Chapter 12: Green Business Plan: https://ec.europa.eu/programmes/erasmus-plus/project-result-content/c11eacae-7d65-44e9-887a-06160e853b8c/Result_Output_1._Green_Guide_new.pdf
- Motion Blog (2023): Plan of Action Examples: How to Master Action Plans: https://www.usemotion.com/blog/plan-of-action-example
- Startups.com courses on business planning: https://www.startups.com/courses

4.4. Classroom activities

None.

4.5. Further ice-breaker games and activities

Identify challenges and problems related to sustainability and climate.

1. Challenges in creating a more sustainable and climate friendly product

DURATION: 60 - 90 Minutes

a) Divide the class into groups of between 4 and 6 people.

b) A mobile phone is the product in question.

c) Each group will need internet access to complete the task.

d) For the purposes of the discussion - Challenges in creating a more sustainable and climate friendly product - the following phone particulars are to be considered:

Battery
Includes lithium, cobalt, nickel and manganese.

Screen
Includes rare earth elements, indium, tantalum and silicon.

Casing
May include plastics, aluminium and stainless steel.

Circuitry
Mined metals: gold, cobalt, tin, copper, tungsten, lithium, and aluminium.

Manufacture Costs
Cheapest in China, Vietnam and India.

e) Each group should examine the challenges of making a truly sustainable mobile phone. Quickly research the various elements essential to a phone's manufacture and use a table like the one below to document the Sustainability and Climate obstacles for each. An example entry for Lithium has been included.

ELEMENT	SUSTAINABILITY CONCERN	CLIMATE CONCERN
Lithium	Extraction from brine sources can reduce and pollute local water supplies, harming ecosystems and communities.	Mining activities can cause deforestation and habitat destruction, which reduce the ability of natural landscapes to absorb carbon.

f) On completion, the teacher can lead a discussion on the findings, allowing each group to contribute.

g) Invite each group to visit https://www.fairphone.com/ to see how some of the problems identified are being addressed.

Use tools and methods to frame a problem and find solutions for it.

2. 6 Thinking Hats

DURATION: 30 – 60 Minutes

a) Make sure students understand the 6 Thinking Hats technique. Use this tutorial and example if necessary: https://www.youtube.com/watch?v=uYBaSZYZ3sI

b) The teacher can adopt the blue hat (control/conductor) if the group number is less than 10. Otherwise, divide the class into groups of between 6 and 10 people and designate a blue hat person for each group.

c) Propose the following Green Idea Development topic: "Establishing a Community Garden Programme in an Urban Setting"

d) The blue hat person should lead the group through each hat stage, documenting proposals as the process proceeds.

e) Have each group summarise their findings at the end.

3. 5 Whys

DURATION: 30 – 45 Minutes

a) This video can act as a reminder about the 5 Whys: https://www.youtube.com/watch?v=_56GhHgGU2U

b) Divide the class into groups of between 6 and 10 people.

c) Using the 5 Whys technique, each is to investigate the following:

"Single-use plastics are still prevalent"

OR

"It is difficult to develop a new product where only recycled plastic is used for its plastic components"

d) Identify a root cause for this problem.

e) Have each group summarise their findings at the end.

Demonstrate an understanding of the process of design thinking.

4. Prototyping

DURATION: 60 - 90 Minutes

a) Divide the class into groups of between 4 and 6 people.

b) Provide each group with prototyping materials: cardboard, paper, scissors, sticky tape, glue stick, colouring markers, craft wire, etc.

c) Instruct the group to tackle the idea of a Solar-Powered Phone Charger.

Prototyping should include a cardboard model of a phone, along with a representation of the solar-powered charger.

You don't have to say whether the charger will be part of the phone itself, or a separate product.

d) Have each group present their result, along with a brief description of their decision-making process.

Evaluate the ideas in a complex and multidisciplinary way.

5. Sustainable Business Model Canvas

Sustainable Business Model Innovation Game (based on SBMC):

https://www.threebility.com/sustainable-business-model-game

Draft an implementation/action plan.

6. Draft an action plan

DURATION: 60 – 90 Minutes

a) Divide the class into groups of between 4 and 6 people.

b) Use

i. the completed prototype from Activity 4

OR

ii. The group's impression of the solar-powered phone charger in the image below

https://commons.wikimedia.org/wiki/File:Mobile_Battery_Solar_Charger.jpg

c) Each group should create an action plan for this product by following the steps listed below.

1) **Set Goals**

- The primary goal can either be to create the product, or to promote the product.

2) **Identify Tasks**

- Break goals into smaller tasks.

3) **Assign Responsibilities**

- Determine who will be responsible for each task.

4) **Set Deadlines**

- Specify target dates for the completion of each task.

5) **Allocate Resources**

- Estimate the resources needed (e.g., time, money, personnel) to accomplish each task.

6) **Create a Timeline**

- Outline when each task will be completed.

7) **Monitor Progress**

- Specify stages when task progression will be checked.

<u>The remaining steps will not form part of the fictional scenario but should be acknowledged</u>

8) **Address Challenges**

- Allow for obstacles/challenges to arise.

9) **Celebrate Success**

- Identify milestones and celebrate their achievement.

10) **Evaluate Results**

- Assess the effectiveness of the action plan based on outcome and feedback.

d) Have each group present their action plan.

Acknowledge the benefits of networking with local businesses, community, voluntary groups and professionals.

7. Field Trip

a) Arrange a field trip to a sustainability focused local business.

b) In advance of the trip, get students to contribute to a list of questions that will be asked during the visit. These could include questions about:

- Environmental Practices.
- Supply Chain Sustainability.
- Renewable Energy Usage.
- Product Lifecycle.
- Community Engagement.

c) A follow-on discussion should form part of the activity.

5. Module 5

5.1. Syllabus

<table>
<tr><td>Module 5: Preparation for Greenathons</td><td>Workload in hours: 1.5</td></tr>
<tr><td colspan="2">Module 5 will provide a step-by-step guideline to help students prepare for green ideathons. The practical tips will cover the main principles of these competitions, the possible tools to use to pitch an idea and also the soft skills students will need for their successful participation. With this module, students will be able to formulate and present an idea for the green ideathon, and also in the future in a real ideathon or working environment.</td></tr>
<tr><td colspan="2">Goal of the module
● To introduce the concept of green ideathons.
● To explain the principles of presenting green business ideas.
● To introduce digital tools and further methods that can support their presentation.
● To highlight the significance of the appearance and visualisations of their presentations.
● To raise awareness of soft skills important for participating successfully in the green ideathons.
● To highlight the importance of creativity, presentation and teamwork skills.</td></tr>
<tr><td colspan="2">Learning outcomes in terms of knowledge and skills</td></tr>
<tr><td>Knowledge
● The concept of green ideathons.
● Principles of a successful idea presentation.
● Practical knowledge of tools and methods that support the presentation of their ideas. (including story-telling methods)
● Complex evaluation methods and tools of the idea.</td><td>Skills
1) Create an idea pitch.
2) Use efficiently tools and methods for presenting an idea.
3) Make a presentation to introduce an idea.</td></tr>
</table>

5.2. Further information related to the slides

Slide 22

Egg Drop Challenge

After you have gone through the second chapter, “Team roles at work” with your students, try to check if they are objective in evaluating their own role within a team. The Egg drop challenge activity is meant for the teacher to observe students’ behaviour while working in a team. Split the class in 3-5 teams, as convenient. Observe each team while building the landing craft.

Pay attention to details such:

- How long it takes each team to plan vs how long it takes them to do the actual building
- How much they communicate among themselves
- Which member takes up the role of leader
- Which member is the engineer of the group
- Which member is the practical one, who starts building
- How much each member is involved in the activity

After dropping all the eggs, take a little time for feedback. Which team's egg survived? What might be the explanation for their success? Are they the team that planned more before starting to build? Are they the team that cooperated more? What happened if just part of the team members worked?

Slide 24

Methods used to generate business ideas

Mind/concept map

This method improves the way a person generates creative business ideas. The use of mind mapping determines the capitalization of the ability to think logically, as well as the capitalization of students' creativity. Mind maps allow making connections between a key notion and other secondary notions, being useful for: concentrating essential information; organizing information from various sources; presenting information in such a way as to show the overall structure of a subject.

Stages:

1. Placing the analyzed subject in the center of the map
2. Connecting the central topic, through lines/arrows, with related/associated concepts
3. Connecting the concepts found in step 2 with other related concepts
4. Writing some ideas/appreciations regarding the words found in point 3
5. Analysis of the obtained map
6. Reviewing and updating the "obtained map"

Brainstorming

This technique consists in generating a whole series of ideas from which the best one can be chosen. Brainstorming is a simple but effective four-step approach that can be used to generate business ideas:

1. Problem formulation

2. Identifying personal motivation

3. Proposal of ideas

4. Choosing the idea

The choice of the idea must be made taking into account the applicability, the existence of the necessary resources, the existence of risks and their acceptance. Hobbies can become business opportunities. For the brainstorming to take place well, some rules must be followed by the students:

- Do not judge the ideas of others. In a brainstorm, not all ideas are good, but all are welcome;
- Encourage crazy ideas. Crazy ideas are often innovative;
- Develops the ideas of others, replaces "yes, but" with "in addition";
- Do not stray from the subject;
- Take turns speaking;
- Quantity matters more than quality.

5.3. Further readings and materials to the module topics

Slide 44- The Pitch Challenge Toolkit is provided by Young Entrepreneur Institute, Hunting Valley, Ohio, USA

More educational resources can be found on their website

https://www.youngentrepreneurinstitute.org/yei-resources/

5.4. Classroom activities

The activities that can be found in the module slides are intended for students to practice or reflect upon during self study. For group activities during class presentations, you can use the following suggested activities:

Create an idea pitch.

Activity 1: Reverse Brainstorming

Activity duration: 30 minutes – 1 hour

Number of activity participants: 2-30

Participation type: Group

Short description: Have students generate ideas on a related topic area with reverse brainstorming.

Stages

1- Instead, choose a topic that can be brainstormed on (e.g. throwing garbage on the street, throwing recyclable waste into household waste bins). When choosing the topic, consider the knowledge levels and interests of the target audience.
2- Conduct a reverse brainstorming session of at least 15 minutes.
3- Discuss the brainstorming activity and generate a new solution idea.
4- Give the group or groups 15 minutes to turn their ideas into a presentation.
5- Have a presentation of no more than three minutes and discuss the presentations.

Activity 2: My problem and my solution

Activity duration: 1 hour – 2 hours

Number of activity participants: 2-30

Participation type: Individual or Group

Short description: It involves students generating a solution idea for a problem they experience in their own lives.

Stages

1- Ask students to come up with a problem individually or in groups. If it will be done as a group, it is important for students to choose a problem they have in common.
2- Have them create a problem tree regarding their problems.
3- Ask them to develop solution ideas for each problem through problem trees. Organize the developed ideas as a solution tree.
4- Ask them to determine the most effective solution through their solution trees.

5- Present the determined solution in three minutes at most and discuss the presentations.

Use efficiently tools and methods for presenting an idea.

Activity 3: My first business model canvas

Activity duration: 1 hour – 2 hours

Number of activity participants: 2-30

Participation type: Individual or Group

Short description: Allows students to fill out the business model canvas for their idea.

Stages

1- Have students come up with ideas as a group or individually. Giving a theme can make the process easier. If there is a previously determined idea, it can be progressed based on it.
2- Ask students to fill out the business model canvas for their idea. (Sample template: https://www.strategyzer.com/library/the-business-model-canvas)
3- Guide us through the process of filling out the canvas.
4- Ask the teams that complete the canvases to present the business model canvas in 5 minutes maximum.

Activity 4: Preparing a pitch deck.

Activity duration: 30 minutes – 1 hour

Number of activity participants: 2-30+

Participation type: Individual or Group

Short description: It allows students to prepare pitch decks with interactive web tools.

Stages

- Have students come up with ideas as a group or individually. Giving a theme can make the process easier. If there is a previously determined idea, it can be progressed based on it.

- Ask students to create a pitch deck about their ideas. Have them take help from the online interactive tools below during this preparation phase.
    - Canva (Templates: https://www.canva.com/presentations/templates/pitch-deck/)
    - Visme (Templates: https://www.visme.co/templates/presentations/pitch-deck/)
- Provide guidance in preparing the presentation.
- Ask them to present their effective presentation in 5 minutes maximum.

Make a presentation to introduce an idea.

Activity 5: Elevator Pitch

Activity duration: 30 minutes – 1 hour

Number of activity participants: 2-10

Participation type: Individual

Short description: It allows students to verbally convey the value of their ideas in 3 minutes.

Stages

1 - Place a table and chair in the environment.
2 - Invite students to take turns explaining the key points of their ideas in three minutes or less. (If possible, you can also listen as a group of educators.)
3 - Let other students watch as students present their ideas.
4 - Provide feedback to students when all presentations are completed.

5.5. Further ice-breaker games and activities

None.