



Train2Sustain – developing capacity to teach sustainability in VET

Unit 7

Sustainability, Circular Economy and Lean in Education

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Glossary

Glossary for Units 1 – 7 ALPHABETIC ORDER

Artificial intelligence	Artificial intelligence (AI) is intelligence —perceiving, synthesizing, and inferring information—demonstrated by machines , as opposed to intelligence displayed by non-human animals and humans . Example tasks in which this is done include speech recognition, computer vision, translation between (natural) languages, as well as other mappings of inputs.
Biocapacity	The biocapacity or biological capacity of an ecosystem is an estimate of its production of certain biological materials such as natural resources , and its absorption and filtering of other materials such as carbon dioxide from the atmosphere
Biodiversity	Biodiversity or biological diversity is the variety and variability of life on Earth . Biodiversity is a measure of variation at the genetic (genetic variability), species (species diversity), and ecosystem (ecosystem diversity) level.
Carbon footprint	A carbon footprint is the total greenhouse gas (GHG) emissions caused by an individual, event, organization, service, place or product, expressed as carbon dioxide equivalent (CO ₂ e)
Carbon handprint	A carbon handprint is the opposite of a footprint . It recognises the actions you take to have a positive impact on the climate, over and above reducing your own carbon footprint if you do enough of these, they might even outweigh the size of your carbon footprint.
Circular economy	A circular economy is a model of production and consumption , which involves sharing , leasing, reusing , repairing, refurbishing, and recycling existing materials and products as long as possible
Decarbonization	The term decarbonization literally means the reduction of carbon . Precisely meant is the conversion to an economic system that sustainably reduces and compensates the emissions of carbon dioxide (CO ₂)
Deforestation	Deforestation or forest clearance is the removal of a forest or stand of trees from land that is then converted to non-forest use. ^[3] Deforestation can involve conversion of forest land to farms , ranches ,

	<p>or urban use. The most concentrated deforestation occurs in tropical rainforests</p>
Eco-design	<p>Ecological design or ecodesign is an approach to designing products and services that gives special consideration to the environmental impacts of a product over its entire lifecycle</p>
Ecological footprint	<p>The ecological footprint is a method promoted by the Global Footprint Network to measure human demand on natural capital, i.e. the quantity of nature it takes to support people and their economies.</p>
Energy-efficient	<p>Energy efficiency is the use of less energy to perform the same task or produce the same result. Energy-efficient homes and buildings use less energy to heat, cool, and run appliances and electronics, and energy-efficient manufacturing facilities use less energy to produce goods.</p>
Environmentally friendly	<p>Environment friendly processes, or environmental-friendly processes (also referred to as eco-friendly, nature-friendly, and green), are sustainability and marketing terms referring to goods and services, laws, guidelines and policies that claim reduced, minimal, or no harm upon ecosystems or the environment.</p>
European circular economy action plan	<p>The EU's Circular Economy Action Plan (CEAP) was a comprehensive body of legislative and non-legislative actions adopted in 2015, which aimed to transition the European economy from a linear to a circular model. The Action Plan mapped out 54 actions, as well as four legislative proposals on waste.</p>
Fertilisers	<p>Fertiliser is any material of natural or synthetic origin that is applied to soil or to plant tissues to supply plant nutrients.</p>
Fossil fuels	<p>A fossil fuel is a hydrocarbon-containing material formed naturally in the Earth's crust from the remains of dead plants and animals that is extracted and burned as a fuel. The main fossil fuels are coal, oil, and natural gas.</p>
Greenhouse emission	<p>Greenhouse gas emissions from human activities strengthen the greenhouse effect, contributing to climate change. Most is carbon dioxide from burning fossil fuels: coal, oil, and natural gas. The largest emitters include coal in China and large oil and gas companies.</p>
Greenwashing	<p>is a form of advertising or marketing spin in which green PR and green marketing are deceptively used to persuade</p>

	<p>the public that an organization's products, aims and <u>policies</u> are <u>environmentally friendly</u>.</p>
Holistic process	<p>relating to or concerned with wholes or with complete systems rather than with the individual parts.</p>
Innovation	<p>Innovation is the practical implementation of <u>ideas</u> that result in the introduction of new <u>goods</u> or <u>services</u> or improvement in offering goods or services</p>
Lean management	<p>Lean manufacturing is a <u>production method</u> aimed primarily at reducing times within the <u>production system</u> as well as response times from suppliers and to <u>customers</u>.</p>
Lean principles	<p>The five principles are considered a recipe for improving workplace efficiency and include: 1) defining value, 2) mapping the value stream, 3) creating flow, 4) using a pull system, and 5) pursuing perfection.</p>
Linear economy	<p>The traditional model where raw materials are collected and transformed into products that consumers use until discarding them as waste, with no concern for their ecological footprint and consequences.</p>
Muda, Mura, Muri	<p>Muda, mura and muri are three types of wasteful actions that negatively impact workflow, productivity and ultimately, customer satisfaction.</p>
Organic farming	<p>Organic farming, also known as ecological farming or biological farming, is an agricultural system that uses fertilizers of organic origin such as compost <u>manure</u>, <u>green manure</u>, and <u>bone meal</u> and places emphasis on techniques such as <u>crop rotation</u> and <u>companion planting</u>.</p>
Pesticides	<p>In general, a pesticide is a chemical (such as <u>carbamate</u>) or <u>biological agent</u> (such as a <u>virus</u>, <u>bacterium</u>, or <u>fungus</u>) that deters, incapacitates, kills, or otherwise discourages pests</p>
Product Life cycle	<p>Product life-cycle management is the succession of strategies by business management as a product goes through its life cycle. The conditions in which a product is sold changes over time and must be managed as it moves through its succession of stages.</p>
Product-as-a-service	<p>Product as a service is the concept of selling the services and outcomes a product can provide rather than the product itself.</p>
Pull production	<p>A method of production control in which downstream activities signal their needs to upstream activities. Pull</p>

	<p>production strives to eliminate overproduction and is one of the three major components of a complete just-in-time production system.</p>
Recycling	<p>Recycling is the process of converting <u>waste</u> materials into new materials and objects. The <u>recovery of energy from waste materials</u> is often included in this concept. The recyclability of a material depends on its ability to reacquire the properties it had in its original state</p>
Renewable energy	<p>Renewable energy is energy that is collected from <u>renewable resources</u> that are naturally replenished on a <u>human timescale</u>.¹ It includes sources such as <u>sunlight</u>, <u>wind</u>, the movement of <u>water</u>, and <u>geothermal heat</u></p>
Sustainability	<p>Sustainability is a societal goal that relates to the ability of people to safely co-exist on <u>Earth</u> over a long time.</p>
Sustainable household	<p>A sustainable home is one that is built or retrofitted in a way that conserves resources, optimizes energy and water use and that will last longer with quality systems. A sustainable house is built with low-impact, high-performance materials. They are efficient in terms of manufacturing, shipping, and installing.</p>
Sustainable label	<p>Eco labels set minimum environmental and health standards and verify products that meet the criteria. They're designed to inform consumers, brands, and manufacturers that labelled products are more environmentally friendly than most.</p>
Sway	<p>Sway is a digital storytelling app that helps you create professional, interactive designs for your images, text, videos, and other media in minutes.</p>
The 5s	<p>5S stands for the 5 steps of this methodology: Sort, Set in Order, Shine, Standardize, Sustain. These steps involve going through everything in a space, deciding what's necessary and what isn't, putting things in order, cleaning, and setting up procedures for performing these tasks on a regular basis.</p>
The European action Plan	<p>It aims to: Re-orient capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth; Manage financial risks stemming from climate change, natural disasters, environmental degradation and social issues; and. Foster transparency and long-termism in financial and economic activity.</p>

Value chain	A value chain is a progression of activities that a firm operating in a specific industry performs in order to deliver a valuable <u>product</u> (i.e., <u>good</u> and/or <u>service</u>) to the end <u>customer</u> .
Value stream	A value stream is the set of actions that take place to add value to a customer from the initial request through realization of value by the customer. The value stream begins with the initial concept, moves through various stages of development and on through delivery and support. A value stream always begins and ends with a customer.
Waste management	Waste management or waste disposal includes the processes and actions required to manage <u>waste</u> from its inception to its final disposal. This includes the <u>collection</u> , transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process and waste-related <u>laws</u> , technologies, economic mechanisms.

1 Sustainability, Circular Economy and Lean in Education

The Topic

Sustainability is an issue that affects every single person. Therefore, it is enormously important to integrate this topic into the education sector and thus support as many people as possible in thinking and living more sustainably.

Sustainability in education can be considered at different levels:

- Sustainable behaviour in teaching
- Use of sustainable teaching and learning materials
- Teaching sustainable topics

In order to ensure holistically sustainable education, it is important that teachers or educational institutions focus on all three areas.



Therefore, in this content unit you will learn more about the importance of integrating sustainability into the education sector. You will learn how to create sustainable framework conditions in your teaching and how to create a sustainable learning environment. You will also receive some tips on how to work with sustainable learning materials. Since digitalization has a major impact on education, you will also see how it affects sustainability – both positively and negatively. Finally, you will receive some ideas on how sustainability, circular economy and Lean can be included in existing courses and what should be considered in this context. All these aspects should help learners to develop a sense of responsibility towards sustainability.

2 Creating sustainable Framework Conditions

We only have this one earth, and we have an obligation to protect it and make it livable for future generations. This applies not only to our private lives, but rather to all areas of life, including our profession.

It is not enough for a few individuals or companies to act more sustainably. We all have to work together, which also means that companies and employees must **act sustainably in their professions** – not only in certain industries, but across different industries. If all companies or professions contribute to increased sustainability, this has a **positive impact** on the following areas:

- **Environmental** benefits by saving resources and energy, preventing emissions, and preserving natural habitats
- Benefits for **people**, as fair pay, ergonomic and safe working conditions, and co-determination rights lead to increased motivation
- Benefits for the **company** itself, as costs can be saved, reputation increased, and customers and skilled workers can be won

Indicator

The term "profession" includes not only activities that are carried out in a company, but also other activities such as health care for relatives, housework, or social and political commitment.

Sustainable action in the company has numerous additional positive effects on the workplaces:

- Raising awareness of how easy sustainable action can be
- Promoting sustainable practices among employees
- Generating ideas for the implementation of sustainable actions in other areas of life
- Increased motivation through meaningful work

Especially **educational institutions** must focus on and promote sustainability, as they are seen as important multipliers and **role models for people**. They can prepare their learners for sustainable action and thinking, which is the key to their professional future as well as to social, economic, and ecological coexistence.

Digression

If you want to find out more about the competences a person should have in relation to sustainability, you can read about this in the **GreenComp**, which is a **European Sustainability Competence Framework**:

<https://op.europa.eu/en/publication-detail/-/publication/bc83061d-74ec-11ec-9136-01aa75ed71a1/language-en>

It is important that not only young people get in touch with the topic in school, but that also older generations get some insight into it. Because they have often not dealt with the topic and therefore do not always know how to act sustainably. Therefore, it is **important that we all continue to further educate ourselves** so that we develop the necessary skills to protect our planet.

Remember

Education for Sustainable Development has already been implemented in different European countries. The aim of this concept is to equip people with the necessary skills to contribute to economic growth on the one hand and to the protection of nature on the other. People should exchange ideas with each other and work together to develop sustainable solutions for the future on the basis of different perspectives.

The aim of education in the field of sustainability is that people develop the **competency to shape future**, i.e. the ability to recognize unsustainable developments and to apply their knowledge effectively for sustainable developments. In this way, joint sustainable solutions have to be implemented in the future.



To convince your learners to act sustainably, it is important that you as a teacher also act sustainably and that the materials used and the lessons themselves are designed to be sustainable. As soon as your learners get used to behave sustainably at school or deal with the topic itself, there is a high probability that they will implement these habits also in other areas of life and pass them on to their environment. This is especially important in **vocational schools**, where students learn how to behave in their professional future.

Remember

As a **teacher**, you are regarded as a **role model for your students!** Therefore, act as you would like your learners to behave.

But how can you ensure that the **materials you use in the classroom** are sustainable? In the following, you can find some tips:

- Instead of buying notebooks, copy paper, etc. made of wood, you should buy recycled products because paper can be reused more often without problems:

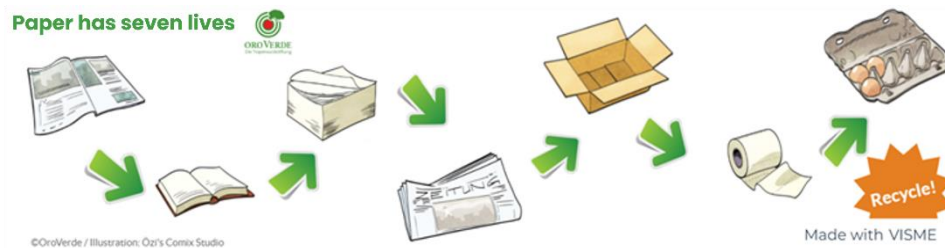


Figure 1. Paper's seven lives

- There are also environmentally friendly alternatives for folders. So, folders made of ecological materials should be preferred to folders made of plastic.
- You probably know the situation where your ballpoint pen is empty and you need a new one. Here it would be advisable to use refillable pens to save waste.
- Correction rollers and adhesives should not contain solvents.
- To be able to identify sustainable products from the huge amount of offers, it is advisable to pay attention to sustainability labels. Examples are:



Figure 2. Different sustainability labels

- Reuse paper that you no longer need as a scratch paper instead of throwing it away.

To make learners aware that the teaching and learning materials used are sustainable, this should also be communicated to them. You should also communicate to your learners that they should pay attention to notebooks, notepads, etc. that are sustainable when doing the shopping.

Practice

Many learners often do not know how to recognize if they are using sustainable products or not. To support your students in that issue, you could, for example, provide them with a checklist for their shopping. You could also analyze together with them in class which products they brought with them are sustainable and how this can be recognized.

In the context of creating framework conditions for sustainable teaching, it is also advisable to establish certain **rules for learners** so that mindful behaviour can be promoted. In this relation, you could consider the following aspects:

- It should be possible to implement these rules in the classroom without major problems.
- It should be rules that can followed by all participants.
- Provide your students with the necessary framework conditions so that the rules can be implemented (e.g. provision of different bins for proper waste separation).
- At the beginning of a course, explain the rules so that they are understood by everyone.
- Let your learners sign these rules – so they are more likely to feel obliged to comply with them.

- If rules are broken, this should be discussed immediately with the entire group.
- Of course, this set of rules applies not only to the learners, but also to you as teacher!

You can create the rules on the basis of the explanations in chapter 1.3 "How to teach in a sustainable way".

All in all, it is important that you create a **learning environment** that is **sustainable from a holistic point of view**. This starts with the provision of teaching materials and the establishment of certain rules regarding sustainable behaviour and extends to living sustainability in the classroom altogether. It is important that the learning environment is not designed in such a way that your students are afraid of doing something wrong or feel too much pressure. Rather, a learning environment should be created in which learners **feel comfortable, can work productively and can act sustainably**. Everyone should support each other and thus make an important contribution to a more sustainable planet.

3 How to teach in a sustainable Way

You have already read a lot about how sustainable framework conditions can be created in the classroom. However, it is important that not only lessons are prepared with sustainability aspects in mind, but also **the entire teaching learning process itself should be sustainable**.

This concerns, for example, the design of learning materials and teaching units. With regard to learning materials, you could, for example, increasingly rely on digital textbooks and avoid printing additional sheets. Especially in practice-related subjects, where computers are often used, it is questionable if instructions or other documents always have to be printed. For example, in a practice firm or in education for people working in an office, invoices could be digitally stored in order to avoid an immense number of printouts.

Interaction

How could a course be designed to be as sustainable as possible? Can you think of some examples?

When planning a teaching setting, the following aspects can be taken into account:

- Try to hit the senses and emotions of learners with your lessons. If you mention examples of sustainability that directly affect your learners, they will be more open to the topic.
- Bring future orientation into the classroom. Include questions about how certain actions will affect the learners' own future.
- Plan learning methods where your learners can become active themselves and, for example, find solutions to certain problems independently.
- Include the topic of sustainability into various subjects. Thus, the importance of sustainability is repeatedly recalled to the memory of the learners and can be viewed from different perspectives.
- Try to include authentic practical exercises into your lessons.
- Also schedule some time for reflection in your lessons. Learners should be given the opportunity to reflect on their own actions.

Even during every day's teaching, there are various aspects that should not be ignored:

- **Printing:** Only print what is really needed; misprints can still be used as scratch paper
- **Don't overload learners:** Give them time and space to perform their tasks sustainably
- **Use of sustainable materials:** Use and recommend e.g. recycled printer paper, notebooks made of recycled paper, refillable pens and highlighters, unpainted crayons, etc.
- **Energy saving:** Turn off the lights and any devices you don't need at the moment
- **Proper ventilation:** Open the windows completely at regular intervals instead of just tilting them – so you can save heating costs
- **Waste separation:** Show your learners how to separate waste and let them do it during all lessons

- **Equality:** Treat all learners equally, no one should be favoured or discriminated against (this includes also gendering when talking to or about your learners)

Example

As you already know, there is also a social dimension of sustainability that has to be considered. It is important to treat all your students in the same way, to promote social inclusion and to show that everybody can benefit from diversity. But how can you foster inclusion in your classes?

Here you find some examples:

- Through discussions and debates, students get to know different points of view and learn to understand others better.
- Teambuilding activities bring your learners together and foster team spirit in a playful way.
- By including group activities into the teaching and learning process, this team spirit can even be increased. Important: If there is a problem with discrimination in your class, it would be better if you form the groups instead of letting your students choose. Think carefully about what people to put together, so that inclusion can be fostered.
- Talk to your students, be there for everyone and give them the feeling that they are appreciated and respected.

But not only the behavior in the classroom itself should be sustainable. Rather, you should act sustainably in all areas in order to be a role model for your learners and also the other employees:

- Go to work by a sustainable mode of transport, e.g. by bike, on foot or by public transport
- For your daily coffee or tea, use cups or thermos cups that are reusable. You can also bring your own cup with you if you want to buy a hot drink at a café.
- Pay attention to what you throw away. Maybe these items could be reused or at least used for other things like crafting.
- If you have something to throw away, separate your garbage according to the applicable guidelines.
- Bring a regional organic snack with you to your workplace. Tip: Even if you buy your snack in a supermarket, you can bring your own package to avoid packaging material.
- Avoid using plastic as much as possible – get a cloth or leather bag for your teaching materials, use a glass for drinking, use sustainable pens, etc.
- Place plants in your class or workplace to increase your own satisfaction as well as that of others.
- When choosing your clothes, make sure that they have been produced sustainably. Focus on quality instead of quantity when buying clothes.
- Try to convince your staff and learners to live sustainably – the more people who act sustainably, the better!

In recent years, **digitalization** has increasingly found its way into our everyday teaching routine and has had a significant influence on it.

Interaction

To what extent has your teaching been influenced by digitalization? What examples come to your mind? Did this issue also have an impact on sustainability in your teaching?



Digitalisation has already brought **numerous benefits for educational institutions** as well as for learners. These also relate to the sustainability aspect. Due to the fact that lessons can often be followed from home, for example, resources can be used more sparingly. In this way, room planning can take place more effectively, for example in terms of electricity consumption and heating, and fewer emissions are emitted due to reduced transport of learners and staff.

In addition, a wide variety of learning materials can be accessed digitally. Worksheets or scripts no longer need to be printed, but learners can view them digitally. Furthermore, the opportunities for knowledge and competence acquisition are enormously expanded. Learners have access to numerous online resources. By using various games and other apps or artificial intelligence, learners can be introduced to the topic of sustainability in a more realistic way and thus interactively learn what sustainable action can look like.

Example

Here you can find some games and simulations that you can use to bring the topic of sustainability closer to your learners: <https://www.herole.de/blog/digitalisierung-nachhaltigkeit-unterrichtstipps/#linksammlung>

Also the social aspect of sustainability can be supported by digitalization: Through the use of new media, intercultural learning experiences can be promoted. In addition, the large online range of learning materials and courses gives numerous people access to further training who would otherwise not be able to pay the costs for it.

In this context, however, it is also important to note that digitalization not only brings advantages in terms of sustainability but **can also have a negative impact** on it. For example, home-based teaching contributes to the fact that, on the one hand, the heating and electricity consumption saved in educational institutions is instead incurred in private households, and on the other hand, this type of teaching-learning settings can lead to social exclusion, as many people do not have the appropriate technologies for participation.

In addition, many devices are purchased that break down relatively quickly and have to be disposed of. The entire digital network also contributes to enormous CO2 emissions. Therefore, it is all the more important that, on the one hand, educational institutions purchase devices that can be produced, used and disposed of in a resource-saving manner and whose production also takes social aspects into account. On the other hand, learners must be given a certain sustainable awareness in dealing with these devices. For example, they must be made aware of the appropriate use of this equipment and the possibilities after its use in terms of the circular economy.

Remember

In order for the advantages of digitalization to outweigh the benefits in terms of sustainability, it is essential that our population **is trained in the responsible use of digital media**.

In a teaching-learning setting, however, it is not only necessary to act sustainably, but also to ensure **sustainable learning**. It is important that what has been learned is not immediately forgotten after an exam, but that it can be **used in the long term**, i.e. for the future lives of the students. So, when planning and conducting your lessons, keep the following in mind:

- Align lessons as closely as possible to the learners' lives.
- Work with many examples that exist in the real world.
- Let your learners work on the content themselves, for example as part of project work or something similar.
- Show learners how they can apply what they have learned in the future.
- Try to stimulate learners' emotions with your methods.
- Don't let your learners memorize too much, but instead evaluate only the essential competences they have acquired.
- Include reflection tasks in your lessons – learners should critically engage with the topics as well as their own attitudes and feelings.

In this way, learners can be well prepared for their future professional and private lives.

4 Including Sustainability, Circular Economy and Lean in every day's Training

It is not only important to behave sustainably in the classroom, but the topic of sustainability should be integrated into the entire school day or into the entire further education process. For this, **the topic must be incorporated into a wide variety of subjects**. Here are some ideas on how you could do this:

- For example, you could invite an external person to give a short presentation on a sustainability topic.
- Take your students on an excursion to a sustainable company in the area.
- Plan a project work for your learners on one of the topics mentioned.
- Organize a short workshop as part of your lessons where your learners can independently work on certain sustainable topics.

Example

One possibility to make your students aware of sustainability issues is to organize a **Sustainable Week**. There could be one week full of workshops, excursions, discussions with experts, etc. about how to act more sustainably. The students can brainstorm together what they could change and a set of rules for the class or the whole school could be elaborated.

As sustainability, circular economy and Lean are such extensive subject areas, it is not that difficult to include them in your lessons. Of course, you don't always have to plan whole weeks or fill several lessons with the topics. Often it is sufficient to include only small aspects in one lesson.

Indicator

On the Internet, you can already find **numerous free teaching materials on sustainability, circular economy and Lean** that you can use as part of your lessons. Use e.g. the search function on Google and you will certainly find some materials on what you are looking for.

It is often particularly exciting for learners when they are confronted with the topic of sustainability in subjects in which they do not expect it, e.g. in mathematics or physical education. Let your creativity run wild when you plan your lessons – you will come up with many good ideas on how to incorporate the topics into your subjects!

Practice

You can also use the **exercises from the toolbox developed in this project** to incorporate sustainability, circular economy and Lean into your lessons. For example:

- You could organize a day or a lesson without electricity (A02).
- "My way to a more sustainable future" (A03) could be used for language learning or in subjects for personal development.
- Learners could calculate the ecological footprint of the entire class (A08) and this result could be used for further calculations in mathematics or statistics.
- The "Lean ballpoint pen game" (A11) could be played in economic subjects.

You can find the toolbox here: <https://www.train2sustain.eu/instructors/electronic-toolbox/>

But what should you consider when sharing information about sustainability, circular economy and Lean with your learners?

- Point out the importance of these topics.
- Create the right framework conditions for your learners.
- Plan enough situations in which learners will be confronted with the issues and will have to contribute to finding solutions.
- Support your learners in their work with these topics, because they might be a bit abstract for them.
- Pass on many ideas and suggestions to your learners.
- Make sure learners feel comfortable in classroom settings that deal with these topics of sustainability and thus associate positive emotions with them.
- Don't judge your learners if they're struggling to get involved. Instead, accompany them on their way, even if it takes a little longer.

If you decide to incorporate sustainability aspects more into your lessons, you are already making an important contribution to positively influencing our planet. But it is also important that you look at the whole thing **with a critical eye**. You need to be aware that your inputs that you pass on to your students won't stop climate change right away. In addition, the assumption of what is sustainable action and what is not may constantly change in the future. There will also always be learners who do not take your suggestions and ideas seriously and do not want to stick to your rules. Maybe some goals you set for yourself are not immediately achievable. And you may not always be able or willing to act sustainably. It is certainly not always easy to exemplify sustainability or to discuss the topic again and again. But don't give up on all your efforts – in the long run, your actions will have a visible impact and future generations will thank you.

In the explanations above, you have already received numerous tips on how to incorporate sustainability, circular economy and Lean into your lessons, as well as how you can design your lessons to promote the topics. Finally, for this learning unit, here are a few tips on how you can motivate your learners to behave sustainably:

- Design the lessons in such a way that learners have the opportunity to develop sustainable solutions.
- Include the topics in all your subjects so that learners see that they are interdisciplinary.
- Develop and strengthen a sustainable mindset in your learners.

- Communicate to your learners that they have room to experiment in your class and that mistakes are allowed in these settings.
- But the most important thing is: Set an example for your learners to behave sustainably!

Digression

If you want to find out more about how to make your educational institution or your teaching more sustainable, you can use this **guide from the United Nations Educational, Scientific and Cultural Organization and the UNESCO-UNEVOC International Centre for TVET**:

<https://unevoc.unesco.org/up/gtg.pdf>



5 Summary

Save knowledge

In order for all people to be able to recognize the need for sustainable actions and to carry them out, it is of enormous importance **to include sustainability in learning settings** and thus introduce people to the topic. This should be done at different levels: by creating sustainable framework conditions for learning environments, by making the teaching setting itself sustainable and by including sustainability, circular economy and Lean in different subjects.

In order to show learners how easy it is to act sustainably in a teaching-learning setting, **sustainable framework conditions** should be created. For example, sustainable teaching materials such as pens, pads, etc. should be used. In addition, it is advisable to set up a set of rules regarding sustainable behaviour for learners and to create a pleasant learning environment for the implementation of these, so that learners get used to the sustainable actions and carry them out also outside these settings.

In addition, it is **the teacher's duty to teach in a sustainable way**. This requires extensive planning of the teaching units. The behaviour of the teacher him-/herself during the lesson, but also in dealing with colleagues, should also be exemplary with regard to various sustainability aspects. Advancing digitalization can also contribute to more sustainable teaching-learning settings, as long as digital media are used responsibly.

However, it is not only important that the teaching setting is sustainable, but also a **wide variety of topics from the areas of sustainability, circular economy and Lean management should be integrated into existing courses**. This is possible within the framework of longer-term activities, such as project weeks, but also as a lecture or excursion. It is important to show learners that sustainability is an interdisciplinary topic and is important in various areas. Through the **ongoing reference to this topic, learners should be motivated to carry out actions that have a positive impact on our planet** in their further professional and private lives.

6 Resources

Creating sustainable framework conditions

<https://wb-web.de/dossiers/nachhaltigkeit/folge-2-nachhaltigkeit-in-einrichtungen-der-erwachsenenbildung/leben-was-wir-lehren.html>

https://www.bmbf.de/SharedDocs/Publikationen/de/bmbf/3/30964_Nachhaltigkeit_im_Berufsalltag.pdf?__blob=publicationFile&v=3

<https://unevoc.unesco.org/up/gtg.pdf>

<https://www.rnd.de/beruf-und-bildung/ein-job-mit-sinn-warum-nachhaltigkeit-auch-im-beruf-immer-wichtiger-wird-DRCJMLIDOJA6RNFFATC6JGBNTU.html>

<https://citizensustainable.com/de/nachhaltiges-arbeiten/>

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