

# TRAIN-SUSTAIN CURRICULUM FOR VET-TEACHERS AND VOLUNTEER TRAINERS WORKING WITH DISADVANTAGED GROUPS



[trainsustain.eu](https://trainsustain.eu)



## AUTHORS

Stig Christensen & Line Ravn Jensen, FO-Aarhus, Denmark

Bieke Suykerbuyk & Jolien Smits, DINAMO, Belgium

Golfo Kateva & Eirini Papageorgiou, Synthesis Center for Research & Educ., Cyprus

Louise Dufossé & Kenza Benohoud, Solution: Solidarité & Inclusion, France

Zigor Sagardui Mendieta & Leire Burgaña Revert , Gureak Lanean, Spain

Andreia Neves & João Paulo Pacheco, Proportional Message, Portugal



## EDITOR

Elisabeth Gregersen, FO-Aarhus, Denmark

João Paulo Pacheco, Proportional Message, Portugal



## Graphic & Lay-out

Stephanie Gillis & Jolien Smits, DINAMO, Belgium

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 the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

# TABLE OF CONTENTS

## PART 1: The social knowledge and competencies

1. The Target Group .....	11
2. The Trainer .....	17
3. Communication .....	21
4. The Relationship Between the Trainer and the Trainee ...	27
5. The Group and its Contexts .....	32
6. The Physical Space .....	37

## PART 2: Technical knowledge and competencies

I. Recycling and Upcycling Textile .....	46
II. Plastic Bottles and Containers .....	50
III. Glass Recycling .....	54
IV. Recycling and Upcycling of Office Chairs .....	58
V. Organizing a Repair Café and repairing .....	63
VI. How to start an Upcycling and Recycling business .....	66



# TRAIN-SUSTAIN CURRICULUM FOR VET-TEACHERS AND VOLUNTEER TRAINERS WORKING WITH DISADVANTAGED GROUPS

(TRAIN-SUSTAIN, KA22O-VET-2021-O18)

## TRAIN SUSTAIN PROJECT

The Train Sustain project arises from the need to train NGO workers/volunteers and other educators with new skills by enhancing the competencies of VET-trainers and volunteers who teach recycling/upcycling. This project will help equip disadvantaged groups with the knowledge, skills, and competencies to thrive in an evolving world regarding emerging green business opportunities.

The disadvantaged groups will be trained in order to increase their employability and help them gain better access to the job market.

## THE PARTNERSHIPS - COORDINATOR

Folke Oplysningsforbund – Aarhus (FO-Aarhus)  
Association for Adult Education, Denmark



FO-Aarhus is a non-government, non-profit organization established in 1973 to provide non-formal adult learning and counseling to the citizens of Aarhus. Its expertise lies in non-formal education and specialized programs that help disadvantaged groups – e.g. immigrants, unemployed people, people with learning disabilities, dyslectics, people with mental issues – to enhance their quality of life and to integrate (or re-integrate) into society and the workforce. In 2020, FO-Aarhus acquired the old Journalist College building, which is now being transformed into Kulturhus Bunkereren, a house for organizations helping citizens with disabilities, people with mental challenges and the unemployed. In this project, the Skejby Rangers, a project of FO-Aarhus is helping the local implementation by being in charge of transforming the old journalist college into a gathering place for citizens in the local community.

## THE PARTNERSHIPS - PROJECT PARTNERS



DINAMO (Dynamic Initiatives To Different Possibilities During the Day)  
vzw Stroom, Belgium

DINAMO is a volunteer organization, with its origin within the Cultural House de Warande. It organizes non-formal education for adults with volunteer teachers and experts. A professional team of 5 members directs volunteers, responsible for over 250 activities a year. About 180 volunteers are teachers and instructors, the others help with administration, reception, assistance for target groups. The average participant enrolls in about 2.3 activities a year, which means DINAMO counts about 6.000 registrations a year. DINAMO offers people a program of creative courses, language classes, cultural trips, and sports exercises. It is the largest provider of personal growth and development in the region of Turnhout and provides a sustainable source of volunteer work.



Synthesis Center for Research and Education, Cyprus

SYNTHESIS is a pioneering organization that initiates and implements projects in alignment with Agenda 2030 and focuses on social impact, with a focus on social inclusion and social cohesion. It is the leading organization in the country in social entrepreneurship and social innovation. It founded HUB NICOSIA, an educational center, and a community of organizations with cultural, environmental, and social aims, targeted at reducing inequalities and promoting quality education. As an accredited VET educational institution and adult education provider SYNTHESIS offers training and develops educational materials relevant to sustainable development goals (SDGs): quality education, environment, and climate change, sustainable agriculture, global education, including responsible production and consumption, sustainable cities, and communities.



Solution: Solidarité & Inclusion, France

Solution is an NGO based in Paris developing innovative actions to promote social cohesion through non-formal education. It aims to boost social inclusion among young people through activities that foster mutual acceptance, stimulate human interests by offering cross cutting activities, design educational programs to open people's minds, and strengthen fair dynamics between generations and cultures. Solution operates in a multicultural and socially complex environment: in the east of Paris, there are more than 70 different ethnic communities whose young people may face economic difficulties, as well as social and labor exclusion. Solution's mission is to deliver non-formal education, bringing together different publics and thus stimulates intercultural and intergenerational dialogue while promoting the acquisition of soft and hard skills useful for professional and social purposes.

## THE PARTNERSHIPS - PROJECT PARTNERS



### Proportional Message, Portugal

A non-government organization that supports people with disadvantaged backgrounds through the development of humanistic education values, representing a way of enhancing the integral development of the individual, both personally and collectively. It aims to contribute to the creation of educational environments, practices, and research where the social, emotional, and cognitive areas can be developed, to fulfill human potential. Its target groups are marginalized communities, elderly people, adults, and families, as well as people with disabilities. It develops activities aimed at meeting their needs, with a view to acquiring or deepening knowledge and skills.



### Gureak Lanean, Spain

Established in 1975, GUREAK's mission is to be competitive in all its business initiatives and programs focusing on the creation of sustainable job opportunities adapted to the limitations of disabled people. It is a not-for-profit special employment center, applying labor and job situations to disabled people and based on organizational structures like those of local trade and business environments. GUREAK operates in the industrial field through subcontracting (automotive, electronics, plastic injection) in five companies and twenty production plants and service sectors (direct advertising and promotional marketing, industrial cleaning and gardening, hotel and catering trade, petrol stations, vending or industrial laundry services). As part of the Gureak Group, Gureak Itinerary designs and develops pathways to employment for people with disabilities. It provides counseling, training, etc. Itinerary training is a training and development center providing training services in several specialties.



## INTRODUCTION

The Train-Sustain endeavours to encourage professional and specially volunteer trainers to share their passion in helping vulnerable groups as well as in sharing their knowledge to them.

The project has 3 sets of results. This current document is the first set of results, hereby called Project Result 1 (PR 1), and is presented in the form of a curriculum named “Curriculum for Trainers Helping Vulnerable Groups in Sustainable Jobs”. This document is designed to be easily used by VET trainers or volunteer trainers (Volunteer trainers can be seniors, retired teachers or trained craftsmen) in a VET-oriented institution or NGO and the content here presented should address the needs of these educators who train citizens with learning difficulties or mental challenges on how to repair, renovate or restore used items.

The ultimate goal of this document is to VET providers with tools on how to effectively train vulnerable groups so they can get jobs in sustainable/green businesses, particularly on recycling and upcycling and simultaneously promote green business opportunities. The curriculum should provide a good opportunity for vulnerable groups to learn new skills for the 21st century providing them better chances to enter or re-enter the labour market.



## Objective

This curriculum was created to support teachers and volunteers to train disadvantaged citizens. It is indeed a challenge to train people with learning disabilities. Many times, these people suffer from long-term stress or long-term unemployment which makes it even harder for them to be hired or maintain their current job. Besides unemployment, another problem usually associated with disadvantaged groups, is the hard skills that they usually have. Most of the time, traditional learning methods do not consider their characteristics such as intellectual limitations. When teaching/training, trainers must focus not only on the technical skills, but more importantly, on the flexibility of the curriculum, the learning styles, and the time needed for a skill to be learned. The curriculum takes these aspects into consideration, thus becoming a teaching material with higher adaptation potential regarding the needs of the trainees.

This curriculum will provide trainers with new knowledge and competencies that are useful when teaching vulnerable groups. They will acquire an awareness of learning not only as a one-dimensional process but changeable and dependent on the recipient.

## Type of document

The present document consists of text-based material to support teachers and volunteers that train/teach disadvantaged groups about the following topics: repair, recycling and/or upcycling of furniture, clothes, appliances, etc.





## Structure of the document

This curriculum aims at helping the previously mentioned trainers improve their skills in two different, but interconnected, topics: social interaction and technical knowledge. To achieve this goal, we divided the curriculum into two parts:

The first part, hereby called Part 1, is named “The social knowledge and competencies” and was designed to help trainers gain an understanding and insight into the target group and how to interact with them efficiently. To do so, trainers must know (among other topics that will be later discussed):

- how to create the best teaching environment for groups with participants who are challenged by a mental vulnerability or learning disability;
- the importance of communication during training;
- how to create and promote an accessible safe space;

Part 1 will also address the complexity of the relationship between the trainer and the trainee.

Part 1 is divided into a set of modules that should tackle all the above-mentioned topics.

Each module starts with a brief presentation of the objectives of the particular modules, the learning outcomes that should be achieved with the module followed by the content of the module.

The second part of the document, or Part 2, is named “Technical knowledge and competencies” and was designed to provide a background knowledge of recycling and upcycling for a teaching environment. In the second part trainers will learn about what and how to repair, reuse and upcycle and what are the professional benefits for the trainee from learning to become an employee in a recycling/upcycling workshop or business.

The second part of the document starts with a brief introduction to Recycling and upcycling followed by a set of selected modules.

Each module starts with a brief presentation of the objectives of the particular modules, the learning outcomes that should be achieved with the module followed by the content of the module.

This document should be used by Trainers and/or volunteers to support them when teaching/training disadvantaged groups about repairing, Recycling and Upcycling of different types of materials/products.

## PART 1

# THE SOCIAL KNOWLEDGE AND COMPETENCIES



## I. THE TARGET GROUP

This module will provide the trainer with an understanding of the target group and give additional tools to support the trainer when dealing with different challenges. This will provide the trainer an insight on the special needs of trainees with learning, mental and physical challenges.



### Objectives

In this module, the learner will acquire the following skills:

- gain knowledge on the concept of vulnerability: what characterizes and defines the concept,
- gain insight into the different challenges that vulnerable participants deal with in their everyday lives; and
- acquire an understanding of the target group and how this knowledge can contribute to the planning of a training course that actively involves participants.

### Learning outcomes

At the end of this module, the learner would have:

- acquired the tools needed to organize a training course for people facing a difficult life situation,
- increase one's awareness of the concept of vulnerability regarding trainees,
- improve one's perspectives and reflected on how to plan a training course with participants who are challenged by learning disabilities or psychological vulnerability to an extent that affects the chances of obtaining employment;
- learned the peer-to-peer approach as a tool to initiate the participants' use of each other's experiences to create hope and motivation

## Content

Often, our target group may find it challenging to enter or re-enter the labour market due to learning difficulties or mental vulnerabilities. Therefore, it can be necessary for the individual participant to get help, support, or guidance to change his perspective and discover his/her personal skills and qualifications, to be able to find a job. It is necessary for one to learn and master his/her situation as a jobseeker while still having a personal life in spite of the challenges they face.

Disability still has a lot of negative connotations in our society. It is important to know how to talk about disability to help to share knowledge and break prejudices. Often, people avoid talking about disability for fear of saying the wrong things. So, they say nothing.

There are many sources on starting difficult conversations with groups where participants live with a disability. One good source is the [Drive website](#) (Gender diversity E-zine on Enterprise).

### What is vulnerability

A significant proportion of the European population can be considered at risk of poverty and social exclusion.

A vulnerable person is one who needs special care, support, or protection because of age, disability, risk of abuse or neglect. (From: All Ouro Health: personalized care and population health)

Many factors can influence vulnerability:

- Experiences of vulnerability in childhood may have a negative impact later in life; and
- It can have a decisive importance if one has protective factors in place, such as a supportive family or a stable household income.
- A person's life situation can be influenced and changed, which also means that the scale of the challenge that the vulnerability of a person entails will always be complex and changeable.
- The European Commission presented its Disability Rights Strategy for the period 2021-2030.
- The strategy aims to achieve further progress in enabling effortless participation for persons with disabilities.

It guides the efforts of EU Member States and EU institutions to work together to find solutions to the challenges that people with disabilities may face in their everyday lives.

The strategy must also contribute to gender equality and social rights.

It aims to ensure that persons with disabilities in Europe, irrespective of gender, racial or ethnic origin, religion or belief, age or sexual orientation are safeguarded their rights:

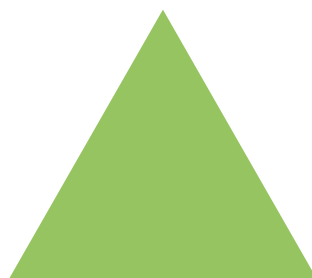
- Human rights
- Equal opportunities
- The same access to participate in society as others.
- Right to decide where, how and with whom they live
- Freedom of movement in the EU regardless of support needs
- No to discrimination.

### A Pedagogical Approach

The definition of self-efficacy was developed by Albert Bandura, a well-known Canadian-American psychologist who had contributed to the field of education and to several fields of psychology. He is the originator of, among others, the social learning theory and the theoretical construct of self-efficacy.

He said that if a person is lacking in self-efficacy, the person concerned needs to deal with this issue. It will be helpful to be aware in your training that it is essential that the trainees believe in one's own abilities to handle their life situation in order to have a good life and master whatever affects it. You must, first and foremost, have confidence in your own abilities in order to succeed in the labour market:

A learning disability or mental vulnerability,  
which affects belief in one's own abilities



The Labor Market

The Participant

## Tips

- You can support the trainees towards achieving greater faith in their own abilities and help them to gain trust in their ability to handle a difficult life situation by guiding the participants towards:
  - Success experiences;
  - Being role models for each other in the group – the participants put their experiences into play;
  - Experience verbal acquisition – mirroring and feedback (achieved in the relationship between trainer and trainee); and
  - Understanding one's own reactions – instructions for action (obtained in the relationship between trainer and trainee).

When a person gets a sense of one's own “self-efficacy” it reflects confidence in the ability to exert control over one's own motivation, behavior and awareness in a social cohesion e.g., a workplace. It also enables a person to act in situations that affect their life.

It may be good to know:

The participants' previous life history and experiences can influence the participants' ability to collaborate with others and be part of a group dynamic.

The narrative that dominates society's understanding of how a person with mental vulnerability or learning difficulties live their life can have a major impact on the self-image they have and influence the person in a negative direction in their ability and opportunity to connect with others.

The learner may have experiences of being met by other people with low expectations for their future, not experiencing equal opportunities to carry in the labour market and some may even be close to giving up on finding their way in life.

As a result, you may experience different reactions from participants in the group e.g:

- Frustration
- Grief
- Powerlessness

Through a training course, a focus on success, experiences and receiving recognition can help your student change their way of understanding themselves and begin to believe in obtaining a place in the labour market or in employment.

Organizing peer-to-peer learning in your training can help the learner achieve increased self-awareness and allow the trainees to be role models for each other.

You can implement the approach in your teaching in many different contexts during a training course. It will support the learners in learning new things but through each other and not you. It's a way of planning your teaching that causes interns to have inequality in teaching each other.

You can use this strategy when you want to encourage collaboration among learners to share their knowledge or experiences with each other.

The benefits of peer-to-peer learning in teaching groups:

- When a person is part of a group where the other participants have the same life experience, an equal relationship contributes to the participants learning from each other and it sparks the participants' reflection and provides the opportunity to look at their own situation and abilities from and through the reaction of others.
- Hope and motivation may arise in the meeting with others in the same situation.
- By using this approach, a student may go from not being able to have a dream of a job at all to suddenly daring to dream of being self-supporting and having a job to get up for in the morning.
- Studies show that the peer-to-peer approach can support a recovery process wherein one gains faith in his/her own abilities to act on what one has to do something about and handle the demands that they face in life.

## Conclusion

This module provides the trainer with a better understanding of what you can expect in meeting with the participants in your group who are in a difficult life situation or are challenged by a learning disability. This module presents different approaches that a trainer can advantageously include when planning a training course or a course by a group where the participants have psychological challenges or have learning disabilities.

You have now gained insight into what can affect the participants' ability to receive learning and how you can handle that challenge when teaching a training course.

## Other relevant issues

- Our society needs to look at sustainability as an investment that may be seen as cost for the short run, but makes a lot of job openings and money in the long run.
- Shelter employment is a possibility to be on the labour market with compensatory aids and schemes. People with disabilities can get help in different ways to be able to get attachment or be on the labour market with limitations due their disability.





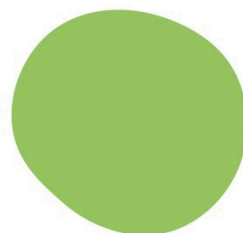
## 2. THE TRAINER

In this part of the curriculum, we will provide some tools for the trainer to create the most ideal learning context. The behavior of the trainer has a big impact on the learner and his ability to learn. This part will give insight to the trainer on how to read the learners and their ability to learn.

### Objectives

This section will enable the trainer to:

- Challenge his/her prejudices;
- Be aware his/her blind spots;
- “Read the room”; and
- Focus on the group first and then on the content



### Learning outcomes

- The trainer will learn ways to tailor the content to the needs of the participants.
- The trainer will learn insights that having a mental vulnerability, or a learning disability can affect the effect of learning in a learning situation and gain different approaches, and thereby better support the learning of the person to be trained.

### Content

“Good instructors start where the students are and not where we’d like them to be.” - Dylan William, a Welsh educator, and Emeritus professor of educational assessment at the UCL Institute of Education.

Working with special groups where the participants are challenged somehow means that the trainer must be conscious of the starting position for each participant because it will be different for each one.

The trainees in the group have varying needs: they learn at different rates and in various ways across the whole learning process on the training course. Therefore, the most effective way to support the participants is through:

- Flexibility on the methods
- Togetherness and trust between each other in the group
- Management
- Invest time in empowerment with the individuals in the group.

## Tips for the trainer

It can be helpful to examine or just be attentive to the starting position of every learner in your group. It is important for the learning outcome of the training course that the trainee is able to learn in a way that is adjusted for the person. Learning is effective if participants experience and becomes conscious on changes in their daily life by using the insights, new skills and new attitudes they have learned because when you can transfer what you have learned on the training course to your own daily life is a proof of learning.

The instructional approaches used by the trainer can have an impact on what the participants learn. A supportive coach, who supports and stimulates the learning process and helps the participants in coping with possible resistance in the process can make a difference.

The job as a trainer is diverse and includes the ability to change between being a teacher, a consultant, a supervisor or a guide in order to give the best opportunities to learn and increase social inclusion of citizens with learning disability and mental vulnerability.

The Zone of Proximal Development (ZPD) is a key construct in Lev Vygotsky's theory of learning and development.

It is defined as the space between what a learner can do without assistance and what a learner can do with guidance or in collaboration with more capable peers. In this space are skills located that are too difficult for the learner to get the hang of, but can be mastered with the guidance from a knowledgeable person. So as a teacher you must provide tasks that are just out of the ability range of the learners.





## Tips

When teaching another person, the trainer must be aware of the learners' starting position before the training. According to the zone of proximal development, it is important for the setup, when planning the training, to consider the participant's starting point for learning.

It can be helpful to gain access to where the individual participants can begin their learning and how the trainee can get the best result, when being approached by the trainer on the course.

A person with challenges such as psychological vulnerability or learning disability can have difficulties when they learn, needs to remember something or the person might also learn new things in different ways and it can therefore be helpful to e.g. watch a video, try things in practice and with their own hands or perhaps the trainer learns by using more creative methods such as drawing.

If a trainer experiences difficulties with reaching the learners in the group, it is often due to a lack of success in the past and some of the participants can be stagnated in a fixed mindset and have previous experiences that affect the learning process and their possibility to learn new things during the training.

If one is aware of this as a trainer, one can be more successful at making progress with the learners. They will benefit from understanding the concept of a growth mindset which means that the trainees are able to improve their abilities to learn new things, but it depends if it is on their level and tempo.

Example of a good practice:

DINAMO, a non-formal learning institution for adults in a culture house in Belgium, does not train its volunteers or repair café instructors. It works with whoever comes to find them and what they would like to bring into DINAMO of expertise and competencies.

That is DINAMO's starting point and that is where they start in cooperation with its volunteers. Often, their volunteers have a mental vulnerability, so in the approach, it is important to serve them a safe learning space, a place where they feel comfortable and accepted.

At DINAMO, citizens in a vulnerable situation work together with people without mental vulnerability who are often retired citizens. Everyone has his own reason to share their passion at DINAMO.

DINAMO is very conscious to not have demands e.g., volunteers do not have to continue to be a volunteer if they do not have the time for it. If a volunteer wants to develop their engagement as a volunteer at DINAMO, they are motivated and supported. If not, that's fine too. Also, this approach makes them free of pressure and that is helpful for some who are not on the labor market.

Positive support ➤ expressing our gratitude of what they are doing ➤ a low threshold

DINAMO endeavors to make the volunteer feel comfortable. It offers everyone a possibility to share.

## Conclusion

By learning some of the practices stated above, DINAMO will teach the trainer to learn a “bottom up” approach, not straight forward and is dependent on ever changing positions of the trainer.

The approach mentioned in this section might be a change of mindset for some trainers because it can help to work with their own boundaries, blind spots [1] and prejudices.

[1] A subject or area in which someone's ability to understand is weak or lacking. (<https://dictionary.cambridge.org/dictionary/english/blind-spot>)

### 3. COMMUNICATION

In this section of the curriculum, we'll empower you with the tools to enhance your communication prowess, whether you're training others or simply interacting in society. Our objectives are clear: first, we'll help you evaluate and improve your own communication skills. Then, we'll delve into the intricacies of becoming a more engaging trainer by identifying vocal factors that matter. Effective communication is a two-way street, ensuring that your message is not just conveyed but comprehended.

#### Objectives

This module aims to:

- Improve your communication skills and insight into useful methods that may be helpful to apply in your training of others, and you archive ways to assess your current communication skills;
- Teach you to learn to identify vocal factors that contribute to be a more engaging trainer.

(The process of information transmitted from one person to another, presented in a way to ensure that the receiver understands the ideas, thoughts, opinions, knowledge, or data. In exchange, the receiver gets the information with clarity and purpose so that the message is received and understood. When we communicate effectively, both the sender and receiver feel satisfied. Effective communication with others will help you gain insights into ways you can approach the participants in the group and support more effective communication.

- Teach you how to acquire strategies for effective communication in society.

#### Learning outcomes

- The ability to understand the communication process, which will be useful as a trainer.
- Possibility to identify the difference between verbal and non-verbal communication.
- Be able to communicate more effectively as a trainer.

## Content

It can be helpful to be aware of the social environment you are a part of and respond with more precision to any new stimulus whenever being in a direct or indirect social interaction. It can be defined as a soft skill when you have that advantage when you are in social context, which is an ideal attribute as a trainer.

It would be optimal if that was the primary form of communication when information was shared and acquired. It is the form of communication you often find in most interactions which take place in a classroom and teaching interaction.

## The communication process

Communication can be described as a two-way process, going back and forth between sender and receiver;

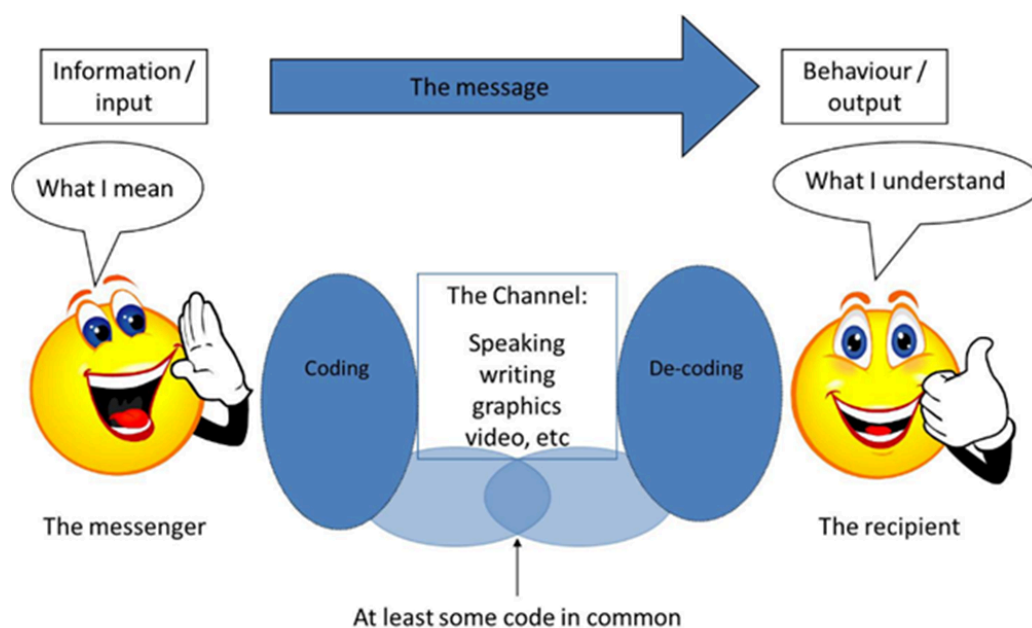
You send a message using your voice and nonverbal cues.



The other person (the recipient) listens, interprets, and personalizes the message. After which feedback is given verbally and nonverbally.



While the recipient responds, you (the sender) listen to the verbal feedback and process the non-verbal signals to assess how your message was received and to understand the recipient's response.



## Communication can take place verbally and non-verbally

Verbal communication covers spoken language

Often, there is an expectation that a trainer should be an effective communicator and be able to understand their students. This implies being able to provide clear explanations of the lesson topics, help students express their ideas and improve their own communication skills, having the ability to communicate with different levels of complexity according to students' needs, taking advantage of silences/pauses to encourage students to actively participate in learning. All with the help of clear and concise language.

Tips to use your voice more effectively:

- Use clear and concise language.
- Speak loud enough to be heard.
- Vary the pace of your presentation.
- Slow down on important points.
- Use the break.
- Avoid speaking in a monotonous voice.

Tips to engage your participants in a group:

- Do your best to understand the target group and who you are training.
- Pay attention to the nonverbal cues which are a part of communication.
- Listen carefully and repeat the message you hear to make sure you have received what is said correctly.
- Use questions in your communication with the participants in the group and allow time for answers.

Please note that there are open and closed questions you can ask

Open-ended questions:

- Lies up to more than one "yes" or "no" in response.
- Usually begins with "what", "how", "when" or "why".
- Helps to stimulate thinking and decision-making.
- Encourages discussion.

Closed and direct questions:

- Lies up to a simple "yes" or "no" answer and reaches a fact in response to a question,
- Often begins with "is", "may", "how many" or "does".
- These are questions that can be used if you want facts on the table in the conversation or if a discussion needs to stop.

Non-verbal communication is a transfer of information that takes place using body language (eye contact, facial expressions, gestures, etc.). It is information that can play an important role in supporting the message being conveyed. It is a channel through which we communicate, that gives us information about how the person (recipient or sender) feels and how the information is received.

It is therefore a form of communication which plays a role in the teacher's perception and adaptability in the individual lesson towards the learners and is often an important factor reflecting the learner's commitment to the lesson and to his relationship with the trainer. An example: A trainer, who in a teaching situation does not look the learners in the eye will most likely be perceived as less accessible as he is not present non-verbally in his communication with his student.

Adapting communication styles to the needs of the group/students

A trainer will benefit from being able to change how he addresses his students and thereby achieve greater impact from learning. You can do this by:

Considering that trainees learn at different rates and that different students have different academic backgrounds, these differences can lead to a specific need and the trainer needs to adapt to each learner. Some learners may be unable to quickly learn a subject as quickly as others. For the trainer to mitigate the difficulties that a student has, the trainer must develop different strategies/approaches to ensure that all students can learn the subjects and achieve the lesson goals.







Understand where groups with mental vulnerability and learning disabilities in particular may require different and adapted communication approaches.

Groups where there are participants who are not fluent in the language used in the teaching of the course may require the trainer to use concepts and points that can be divided into lighter segments without the use of very specific technical language. Some groups may require a more practical approach to be used in teaching the course content. It requires that you, as a coach, use different approaches in your communication of the lesson materials, e. g.:

- You can be aware of using inclusive language.

Communicate with respect:

- Do not yell at a person with hearing impairment.
- Try to identify yourself with people with visual impairments. For example, they may need audio description when a video is displayed.
- If the speech is unclear, it may be necessary to politely ask the person to repeat what she/he said.
- Place yourself at eye level with your student.

Strategies for better communication with participants from different cultural backgrounds:

- Try to approach your students with interest and openness.
- Speak slowly and clearly.
- If necessary, ask students to repeat their question and make sure that you understand clearly the question

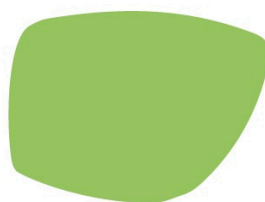
## Conclusion

When you communicate more effectively with the trainees in the group, it means that you communicate with all the participants in the group that is following the training course. The group can include:

- People of different ages and cultural backgrounds;
- People with access requirements to be able to participate and functional needs that must be taken into account, e.g.: disabilities affecting hearing, vision, speech, cognitive processing and mobility; limited language skills, literacy limitations and learning difficulties;

Understand your participants' NEEDS:

- It is necessary to familiarize yourself with the target group of the training course in your group of participants.
- Become aware of the variety of participants with different languages, ways to communicate and traditions.
- Facilitate discussions, and conversations and guide to decisions being made through conscious questioning techniques
- Successful communication is complex!
- Structure your presentation of your teaching materials to your participants, as it enables you to express yourself concisely.
- Clarity in your form of communication, both verbally and non-verbal, is a crucial factor for successful communication. You can leave unnecessary details and use of jargon, sayings and acronyms.
- You can choose to convey your message across different media.



## 4. THE RELATIONSHIP BETWEEN THE TRAINER AND THE TRAINEES

This module will provide the trainer with concrete tools to support his role as a teacher in his relationship with the trainees and gain an understanding of what is a large part of a successful training. It will help the trainer to become aware of his role as a coach and the many expectations that may be placed on his position.

### Objectives

- Establish positive rapport and relationship between trainer and learners.
- Establish a foundation for meaningful interaction between trainer and learners
- Create a supportive learning environment
- Enhance understanding of needs and perspectives.
- Promote confidence and safe learning, by providing an environment where learners feel comfortable expressing their thoughts and ideas.

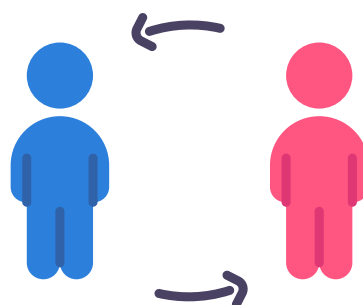
### Learning outcomes

- New knowledge and skills in relation to your role as a coach
- You will learn what helps structure a training course in order for you to more safely complete a training course
- What you can do to complete an active workshop.

### Content

Deepening the concept of learning in this curriculum:

## WHAT IS TRAINING ?



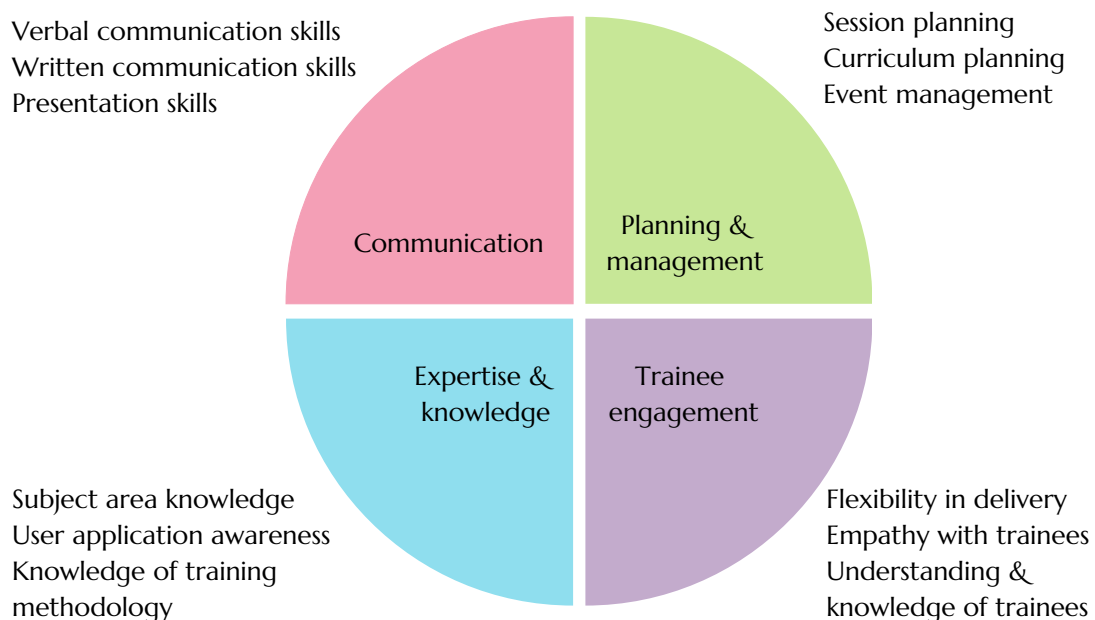
the transmission of knowledge and information, through speech, writing or other methods of demonstration, in order to develop the skills and competences of the learner.

Effective training can be distinguished by the fact that it:

- Allows participants to complete the assigned learning objectives for the teaching.
- Is engaging
- Is well designed
- An effective trainer supports a good workshop when he/she manages to:
  - Make learning easier and fun!
  - Set clear learning goals for the person to be trained
  - Be supportive and empathetic
  - Be available verbally and non-verbally

The Global Organisation for Bioinformatics Learning, Education and Training (GOBLET) has compiled a matrix of the competencies required of a teacher in order for him or her to complete a good teaching:

### Skills matrix



Source: Global Organisation for Bioinformatics Learning, Education and Training (GOBLET)

An important point in what constitutes good teaching and what is of great importance to your role as a coach:

As the transfer of knowledge and ensuring that learners acquire new skills is one of the main purposes of education, according to the matrix above, this means that you, as a trainer, need to have access to relevant teaching material, but you must first and foremost keep interpersonal relationships in mind!



### 01 Evolve your trainer's posture



In order to place the human element at the heart of training, it is important to adopt a facilitator's posture in addition to the role of mere expert. A trainer must ensure that each learner feels stimulated and has the opportunity to express him/herself, exchange and collaborate with his/her peers during the learning process.



### 02 Build cohesion within the group



Offer an icebreaker in each session, particularly at the beginning of a training session, in order to create links between participants and give them the opportunity to get to know each other.

Include collaborative exercises to enable participants to collaborate, be proactive and enrich their experience. This will help create a sense of group and belonging.



### 03 Fostering the relationship with learners



It is essential to remain available to learners throughout the course. You must be available to answer learners' questions during both face-to-face and distance learning sessions.



### 04 Being a good listener



Trainers need to be attentive to learners' comments, whether they are addressed to each other or to the trainer. All comments and criticisms can be used to improve the training as well as to enhance human relations in the training.

Tips to complete a successful workshop:

If possible, let the person learning get into action and physical movement, as this can help anchor learning and stimulate attention.

It has been proven that we learn better while having fun than when we experiment.

Therefore, it is relevant to include approaches in the learning that involve the participants through activities and workshops in order to succeed with the learning on a course.

There are two methods that may be useful to know about:

The demonstrative method: You present a process and explain the steps necessary to achieve it, detail what to do, how to do it and why. Students apply and repeat the steps with the same techniques as the trainer to experience the process.

It is a method often used in tutorials, as it requires a demonstration to be used in a teaching situation. It is an affirmative method with 3 steps:

- Show what the learner has to do.
- Get the one who is going to learn to do the activity and thus experience it.
- Have the learner say something about the activity so that the learner can put into words what the person has experienced by completing the activity.

The "discovery method": You start with the person who will learn in this methodological approach and you create the framework, give instructions, accompany, guide and encourage. The active method approach significantly changes the roles of the trainer and the learners, and it goes against many of the existing teaching approaches, which often view learning as a path from the teacher to the one who has to learn, for example, classroom teaching at a blackboard.



It is a methodological approach that is constructed on the basis that knowledge is built up along the way in a learning context and not something that is predetermined. Learning is established through action that is activated by the trainer and the learner. When the opportunity for action is established by the coach, the learner is given the opportunity to engage in the reflection that follows the activity.

During a training course, when the active approach is used, e.g. in the form of case studies, role-playing or group projects. The approach does not rest on the teacher or volunteer necessarily disputing all knowledge and often takes it upon himself to act only as a guide or instructor. The teacher's intervention in the learning process is limited, as the role is to guide the learner towards acquiring knowledge by allowing the learner to make mistakes and by trial and error.

## Conclusion

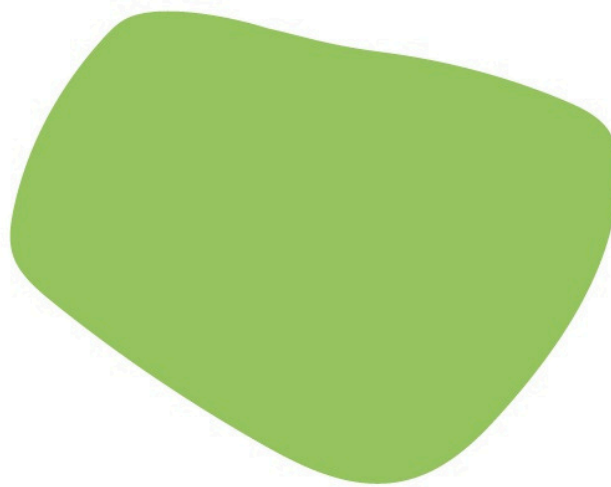
To organize a successful teaching, several requirements must be met, which are important for both the teacher and the learner.

Knowledge and skills can be gained in three different ways if the student is:

- Self-motivated in the process. This is called "intrinsic motivation for learning" and means that students are motivated because they are content to do so, not because of a reward or any other external factor that may affect them;
- Involved in collaborative or collaborative learning;
- Engaged in a process of action experience and can test and validate or invalidate his hypotheses in real time or by discussing them with the other students.

When planning a training course, it is important for the teacher to:

- Ensure a good learning environment in advance to the extent possible;
- Focus on the content of the training depending on the participants' current needs and challenges;
- Apply approaches to build on participants' knowledge and experience;
- Try to make teaching flexible and leave room for changes along the way.



## 5. THE GROUP AND ITS CONTEXTS

This module will provide the trainer with an understanding of the group and its context. In this way, it is intended to offer a global vision to be able to face the different possible challenges.

### Objectives

- To identify the tools can be used to recognize possible approaches in participants with different either physical or mental disabilities.
- To identify what should be taken into account when planning a training course aimed at a group.
- To learn why the (learning) environment has a significance during a training session.

### Learning outcomes

- Knowledge is acquired on the need for the teacher to relate to considerations that may be to be taken in a group context
- Access to tips with approaches you can use to support an optimal (learning) environment and good atmosphere.



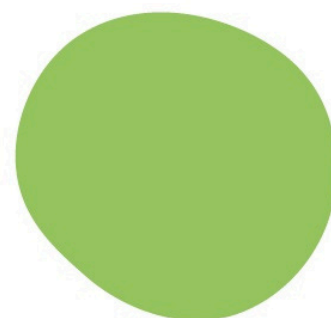


## Content

As a trainer, how can you work with groups consisting of participants with either mental or physical disabilities?

Here are some characteristics and tips that can be taken into account when you need to consider your approach as a trainer in a group with participants who have either a physical or mental disability:

- Make yourself aware of how you are in contact with the participant in the class and meet the person with respect and dignity. You will have prejudices and predetermined attitudes, so try to be curious about those of participants to understand the person's situation. Read more under the topic communication.
- It matters how you speak-- verbally and non-verbally-- to the person who is a participant in the group. A participant can bring his or her companion on the training course and if this is the case, remember that this person is the participant's helper and it is therefore not the companion you should turn to, but the participant on the training course.
- Remember that the person with a challenge is always the best person to inform about their own needs and any sparing considerations or help in a given situation.
- Therefore, ask the participant instead of thinking that you, as a coach, have the answer.
- Please note that each participant is an individual, and even if they have the same physical or mental disability, it entails consideration at different functional levels and in different situations, depending on the person you meet.
- Look in the handbook and get help with activities that belong to the topic of the target group to focus on the person's possibilities and not on his or her limitations. It could also help to increase participants' self-esteem for the benefit of their ability to enter the labour market. Practical activities focused on their personal development will help to promote and encourage them to express their own views and teach participants that their opinion, abilities and participation in society have value!



Improved self-esteem offers the prospect of being included as a person with a physical or mental disability in society



Resulting in greater courage/will/responsibility/resilience/self-awareness



The participant's opportunity to obtain a place in the labour market is increased

Tips to ensure a good (learning) environment; Physical and mental:

### Physical

The room to be used for the training course must be accessible to people with mobility problems due to a mobility disability, the size of the room must accommodate the number of participants and contain the necessary measures that can ensure the physical safety of the participants and thus prevent occupational injuries during the training.

### Psychic

The participants' well-being is crucial for the learner's ability to concentrate, understand, interact with others and manage emotion regulation.

It can affect the ability to reflect and make good decisions, reduce motivation for participation and involvement in the training process and the ability to take responsibility for one's own learning. Here, as a trainer, you can help ensure a trusting and safe environment. Read more about positions you can take in the group to support a good (learning) environment under the topic of positioning as trainer.

Your responsibilities as a trainer:

Unfortunately, it is not possible to identify when a (learning) environment is optimal, even when it is facilitated by professionals. However, there is a central characteristic that recurs when smart people research and investigate what elements are needed to establish a good teaching and that is that you possess the ability to be caring in your approach, as a trainer in a training course and thus can establish an authentic relationship with the participant.

It cannot, therefore, be mentioned too little: Be curious about the participant's history and cultural background. Feel free to ask questions and show empathy to the extent you can!

It may also benefit you to be aware of the following when you want to establish a good (learning) environment:

Make yourself aware of the planning of the training course and prepare, if it is possible, for the phases in the teaching process that the trainees will go through along the way, because you will benefit from being careful in all the steps and decisions you take before the training course, but still be aware of the need for changes in the process.

Conflict management may need to be handled and you can be given the role of conflict solver between two participants.

It is your responsibility to ensure a safe space. Read more about this in section 5 and 6.



## Conclusion

When it comes to the (learning) environment, it concerns everything that surrounds us physically as well as mentally. There is therefore a lot that must come together to establish a good (learning) environment, as it is a space where interaction takes place between the participants and there is therefore both theoretical learning and personal development present in the room at the same time. It can create conflicts.

Our options for interacting with it and adapting our lives depend on how it is configured. It is the main regulator of our skills or competence gaps.

A good (learning) environment can help the participant learn more optimally or vice versa if it is not optimal, the learner is significantly restricted. Now that it has been made clear to you that the (learning) environment consists of everything that is physically and mentally present in a room, it can also be articulated more as the tangible being in the form of; things, like furniture, blackboard, a wheelchair and people; and the intangible: cultural background, level of education, thoughts, norms, legislation, social relations.

People's capacities and limitations increase or decrease depending on the (learning) environment they find themselves in.

Inclusion of people with a physical or mental disability in society is a difficult challenge. A start to improving the incubation of people with physical or mental disabilities may be to become better at building accessible (learning) environments for people with physical and mental disabilities.



## 6. THE PHYSICAL SPACE

The overall aim of this module is to introduce volunteer trainers to the concept of accessibility of the physical space and what this concept entails. It focuses on presenting what a physical space is as well as its characteristics. It moves further to the concept of accessibility as a space-related issue followed by analysis of what exactly is important and why. Also, recommendations are provided on how to achieve accessibility.

### Objectives

- To understand the concept of accessibility and what it means to have accessibility in physical space.
- To acquire an overview of opportunities that are in physical space when you organize a face-to-face training session/workshop for it to be accessible to all participants, including people with disabilities.
- You will gain awareness on the different aspects of accessibility that exist when conducting a training session/workshop. You will get tips and concrete examples to better organize an inclusive training session/workshop.

### Learning outcomes

- Learn to recognize and recall opportunities for accessibility in physical space.
- Tools to define the significant parameters of a room that must be taken into account in order to achieve full accessibility in the room where the training course will be held.
- Gain knowledge about useful ways to orient, sign, present, prevent acoustic problems or develop a usable teaching material that is compatible with your students' needs when designing an accessible training session/workshop.



## Content

### MAKE A TRAINING COURSE ACCESSIBLE



#### WHY DOES IT MATTER?

The layout of the physical space for a training session / workshop is very important, as it can help to influence the participants' learning experience and opportunity for learning. The trainer can therefore advantageously prepare the layout of the physical environment of the training session / workshop, so that the students can enjoy the learning process and focus on the content of the training session / workshop rather than using their resources on solving problems that reduce their ability to concentrate. The evaluation of the workshop may usefully include an assessment of the availability of physical space when organizing the training session/workshop to learn from the participants.

#### WHAT CAN YOU DO?

For all participants to be accessible, it is important not only to take into account the facilities that the building must be able to offer, but also to what instructions on how to find and get to the place where the training session / workshop will take place.

When giving instructions, keep in mind that it may be necessary to consider in what way the content will be available to all participants in terms of the content and how it will be communicated. Therefore, when designing the guide, you may want to include visual elements and try to be as specific as possible (e.g. take the other way to the right. Walk 50 steps and then turn left on the road).

If possible, you can provide a link on Google Maps. Remember that you can provide other valuable details, such as parking options outside the building or near the building. So be very specific in your guidelines whenever you can.

## WHAT IS IMPORTANT?

When you make the training site available to the participants, it is not only about the facilities that the building should be able to offer, but also about the directions on how to get to the place where the training session/workshop will take place.

Make sure that the route to the venue entrance is free of obstacles or with good signage so that participants find it easy to avoid them. If there are transparent glass surfaces at the building's door, you can place markings so that people with visual impairments can see that there is a window pane and thus avoid potential injuries. Review the route from the main entrance of the building to the main areas that participants should be able to find, such as the room where the training session/workshop will take place, the toilets and the coffee break area. Make sure the route is free of obstacles. Use high-contrast markings and large signs for the routes and stairs that participants will use. It can be beneficial to give participants a description of how they find their way inside the building, e.g. using a map.

If possible, you can accompany the participants to, for example, the break area.

In the classroom, you can pay attention to, for example, the whiteboard and mark it with a colored frame around it so that participants can more easily look at it if it is placed on a white wall. The markers you have access to you can also slate out to create a contrast to the board so participants can read the letters. Light reflections can also affect visibility on the whiteboard.

Allow participants to choose their seat according to their vision or hearing needs. Be careful where the coach stands in the room, as facial expressions are crucial for people with hearing impairments. The coach should avoid standing in front of windows because participants may not easily see their faces.

Room lighting is also an important factor. Make sure there is even lighting. Also take into account the changes in lighting conditions during the day (morning, afternoon, evening).

As far as noise is concerned, make sure there is no background noise, participants using reading/audio interpreting aids have headphones, so they don't disturb others, and if the room is large, use microphones and speakers.

When developing training materials, consider providing them to participants in different formats (print, large print, audio, Braille) to meet their different needs. You can investigate this in advance when registering for the training course / workshop.

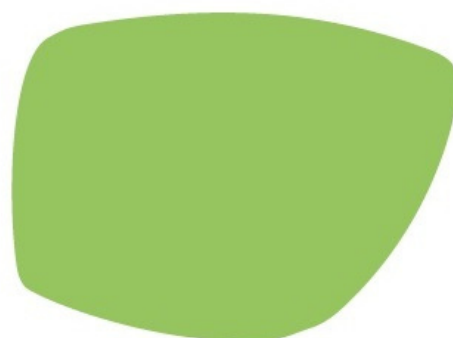
Most participants with visual impairment can read printed text on paper if the contrast is good, if the size of the letters is large, and the font used is Sans-serif. Some programs can read scanned texts (not an image of a text). Use black and white color for your texts, avoid italics and capital letters, and pay attention to the distance between the lines. If your text is in digital format, it is a great help for those who use screen reading and that you therefore structure the text well and use content tables and headings. For online texts, you can use fonts such as Verdana, Tahoma and Trebuchet MS, which are specially designed for reading on a screen.

Allow each participant to choose their own seat due to their visual or hearing loss.

Pay attention to where you, as a trainer, place yourself in the room, as facial expressions and reading can be of great importance to a participant with hearing or visual impairment.

You're doing attendees a big favor by avoiding standing in front of a window, because it can make it difficult for attendees to see and read your face.

During the workshop, it is a great help if you have the opportunity to use the participants' names so that they know who you are referring to. Spend some time together and make name tags to have on the table or for the blouse. That way, a participant with a visual impairment will understand more quickly that you are addressing them. A useful strategy for conducting training for participants with disabilities is to read aloud what you write on the board so that blind people, for example, can follow along and be aware of using prepositions so that a participant with blindness can understand where you are pointing or directing them to the board





## Conclusion

You have now become able to recognize the opportunities to increase accessibility in the physical space and assess useful actions that can be initiated to make the training session/workshop more accessible to the participant with a disability. You are now also able to apply approaches that are compatible with participants' needs, in a way that can ensure that you can prepare practical and attractive personal training courses/workshops.

## Other relevant topics

Preparation before the training course / workshop:

- Familiarize yourself with the room where the training session/workshop will take place, as well as its needs to increase accessibility for participants (e.g. stairs/elevators, lighting conditions, etc.).



PART 2

# TECHNICAL KNOWLEDGE AND COMPETENCIES



## An Introduction to Recycling and Upcycling

When recycling objects are transformed into basic materials (for example melting metals) and then those materials are used to make either the same products (such as a can for beverages) or other products from the same material (such as a product made of plastic). Some materials can be 100% recyclable, while others decompose in the process.

Upcycling is an activity where items such as furniture, clothes and others are created by using used materials that have lost their value. Upcycling involves giving a new/renewed purpose to a used item, either by using it for a different purpose than originally intended or by reusing it after some changes (in the case of furniture e.g. by sanding/repainting it).

The main difference is in the process:

Recycling requires materials to be converted back into raw materials and only then recycled (also known as downcycling). Upcycling involves giving objects a new purpose without the need to “destroy” it into its basic components.



The following table shows the difference between the two processes:

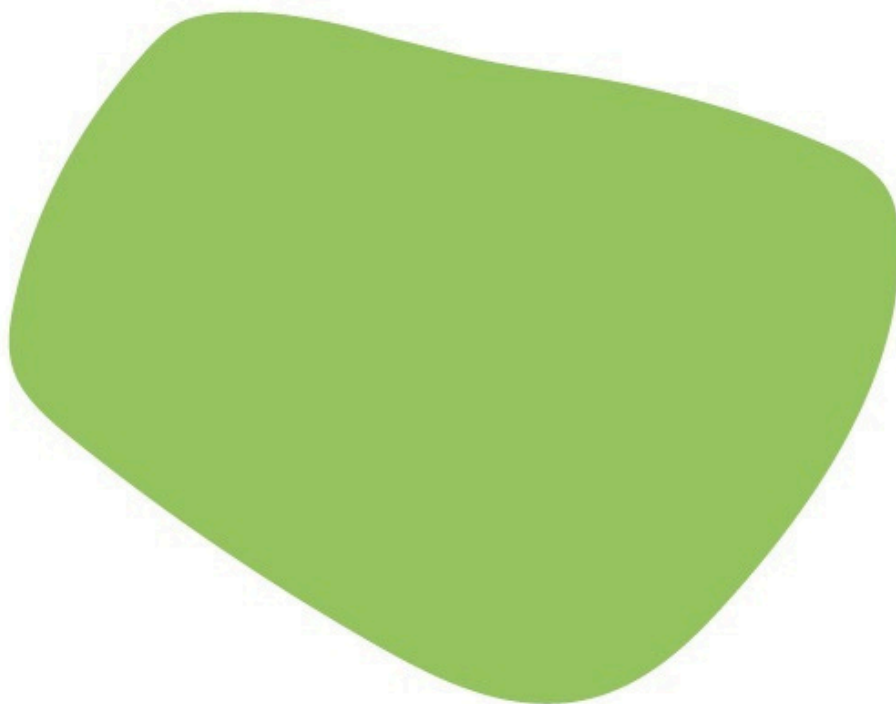
RECYCLING	UPCYCLING
<p>Recycling consumes a relatively large amount of energy in its process due to activities such as transportation, cleaning, sorting, melting, purification, granulation, and extruding.</p>	<p>Upcycling consumes relatively little energy as the processes involved usually include only cleaning and assembly/disassembly of parts.</p>
<p>Recycled products, like plastics, are usually of lower quality than products that use virgin materials due to contamination and inefficient separation.</p>	<p>Upcycled products are usually of similar or higher quality than products that use virgin materials.</p>
<p>An aspect of recycling is energy recovery which can produce toxic waste.</p>	<p>Upcycling produces significantly less amount of toxic waste.</p>
<p>The process of recycling is relatively straightforward.</p>	<p>The process of upcycling can be very complicated due to the extremely varied and dissimilar nature of the waste materials.</p>
<p>Recycling can be applied to a broader range of materials such as plastics, metals, and paper since waste materials can be broken down into simpler forms.</p>	<p>Upcycling is limited in its scope of application since the waste materials must be considered “as is” rather than as the materials from which they are made.</p>
<p>Recycling can be done on a large scale as it has an established infrastructure to collect, break down and reuse recycled materials.</p>	<p>Upcycling is still in an underdeveloped stage and has a long way to go in terms of the supply chain, networking, and bulk manufacture.</p>
<p>Much of the process of recycling can be automated.</p>	<p>Upcycling is difficult to automate because the new products are often unique.</p>
<p>There is a readymade market for recycled products.</p>	<p>Upcycled products are not as viable for commercial production as recycled products.</p>

Remember:

Because there are so many advantages to recycling or/and upcycling, there is no reason to choose one over the other.

However, just keep in mind that not all items can be recycled. Depending on your creativity, you may find it difficult to think of new ways to recycle certain items you no longer need. When that happens, instead of throwing the item out in the trash you can try and turn to upcycling and use the item in a different way. Creative people can, for example, turn a useless chair into a gem that someone will love and appreciate.

Upcycling is also popular and people are taking advantage of this new phenomenon. It allows people to learn and preserve their favorite household items and turn them into treasures either for themselves or to profit. As this new activity becomes more prevalent, the real benefit is that it cuts down on pollution and waste as well as restores life in usable materials while lowering the amount of waste entering landfills.



# I. RECYCLING AND UPCYCLING TEXTILE

## Objectives

- Understand the concept of “waste” and “textile waste”
- Identify what types of clothing can be upcycled.
- Identify the stages that an article of clothing can go through
- Develop skills to recycle clothing.
- To learn why recycling clothing is important for the environment and its benefits.
- Understand why upcycling clothes is the next big thing in sustainable fashion and business.

## Learning outcomes

It is expected that you will be able to:

- Understand the importance of upcycled clothing.
- Identify the benefits of textile recycling and upcycling clothes.
- Be able to recognize the importance of upcycling clothes.

## Content

What is upcycled clothing?

Fast Fashion has been the catalyst for a problem that has been brewing for a long time in the textile industry.

Due to a rise in per capita sales in developed nations and a global expansion in the middle-class population over the past 15 years, the production of clothes roughly doubled.

Clothes upcycling is a strategy to stop the cycle of waste and environmental harm. Upcycled garments can consist of sprucing up a garment and giving it a new flair. Additionally, it can refer to combining several textiles to make an altogether new outfit.

For instance, an old pair of jeans may be painted to create an upcycled pair, or they could be taken apart and reassembled into a denim quilt. If you're interested in learning how to launch an upcycling business, there are numerous opportunities for you.

For instance, you could reassemble an antique garment to form a duffel bag or paint or embroider it to create an updated version of the original. New clothing is made from old ones. Dresses are converted into shirts, slacks into scarves, and simple cotton t-shirts are made into stylish tops.

Even some repurposed trinkets, tools, or trash are used to create certain upcycled fashion items. With so many alternatives, it's not difficult to imagine a tiny business that just sells upcycled clothing. A talented person in the upcycling industry could even launch their own brand.

What is recycled textiles?

In recent years, global textile production has been steadily increasing. The growth of the world's population and improved living standards have led to an increase in demand for textile products, driven by fundamental needs.

However, this has also led to overconsumption due to the prevalence of fast fashion trends. According to a study conducted by the World Bank, a 70% increase in municipal solid waste is expected in the world by 2025. This indicates that the volume of waste is expected to increase from the current 1.3 billion tons per year to 2.2 billion tons per year.

In response to this growing concern, textile recycling, also known as textile reuse or textile recycling, has gained importance. This process involves the recovery and reuse of garments, accessories and various textile products, giving them a second life rather than depositing them in landfills. Specifically, this approach serves to mitigate the environmental impact generated by the fashion industry and advocates the advancement of a more circular economy.

Therefore, it is important to work on the theoretical content of waste, understand where the problem begins, work on the theoretical concepts and, finally, learn in a playful way what the clothing cycle is like.

In short, from an academic perspective, it is pertinent to highlight the importance of developing skills in the field of recycling/recycling and sustainable fashion. Understand the appropriate techniques and processes to promote more sustainable practices in the textile industry.



**Benefits:**

- Upcycling your old clothes can help you save some money.
- You can contribute to the waste problem of the fashion industry as in upcycling, clothes are reused in some way and are not turned into waste and pollution.
- You can customize your own dress, shirt, bag, or anything that you wish to create and start a business.
- Recycling clothes reduces pollution and environmental harm.
- Recycling clothes saves landfill space.
- Save up on water consumption.
- Reduces Greenhouse Gases.
- Creating a circular economy with clothing generates a ton of work, and some of it is high-tech.
- Saves Petroleum. Saves the Ocean.
- Promote a more sustainable fashion industry.
- Take care of biodiversity.





## Tips for upcycling:

Look at where the seams are, how heavy the stitching is, and other elements of the garment that will make it easier or harder to take it apart and refashion it.

Colours! Look for old clothes that are in colours you will actually want to wear. Even if all you are doing is turning an old t-shirt into a headband you want it to be in the colour that you will actually enjoy wearing.

Some vintage clothing might also be more desirable than you think and you don't want to take apart something that might be valuable to someone else. If it is in your closet and you bought it last year, you don't need to worry about it, but if you have scored loads of old clothes from your parents or grandparents do just have a quick google to make sure they aren't super rare and valuable before you cut into them!

A very easy way to upcycle clothes is by transforming t-shirts and other upper body clothes into bags. You can learn the entire process to transform clothes into shopping bags reading the practical example at the handbook [clinging clothes](#).

In the handbook, we also provide additional links to give you more ideas. To learn more about textile waste, read the Annex II at the end of the document.



## II. PLASTIC BOTTLES AND CONTAINERS

### Objectives

- To introduce the trainers and the target group in properly sharing their knowledge on bottles and plastic containers;
- To raise awareness on the negative effects of the use of plastic on the environment and our bodies;
- To increase knowledge of the target group on the process of upcycling and recycling bottles and plastic containers;
- To identify the steps to upcycle a plastic object; and
- To encourage a more conscious and environmentally friendly means of consumption.

### Learning outcomes

- Understand why plastic has turned into a problem.
- Have an appreciation of the value of reducing plastic consumption and production.
- Differentiate between recycling, upcycling and downcycling.
- Select effective ways to integrate bottles and plastic containers in the circular economy.

### Content

What is the problem?

In the 1950s the use of plastic gained great popularity. Since then, we have used more than 650 million tons of plastic out of which one third is single use plastic containers and packaging. From all these plastic items, only 10% is recycled worldwide. This is because plastic cannot always be recycled. There are many cases where plastic is hidden or mixed with other materials like paper which makes it very expensive to separate the two materials and recycle them.

A negative aspect of plastic use is that it takes hundreds of years to decompose and in the process of decomposing it can be found in our food and eventually in our bodies. Microplastics have become a major health issue for humanity.

The reason behind the extreme increase of plastic production is, on one hand, its specific characteristics that make it attractive in many industries, since it is cheap, lightweight, and durable. On the other hand, it lies in our own overconsumption in the last decades.

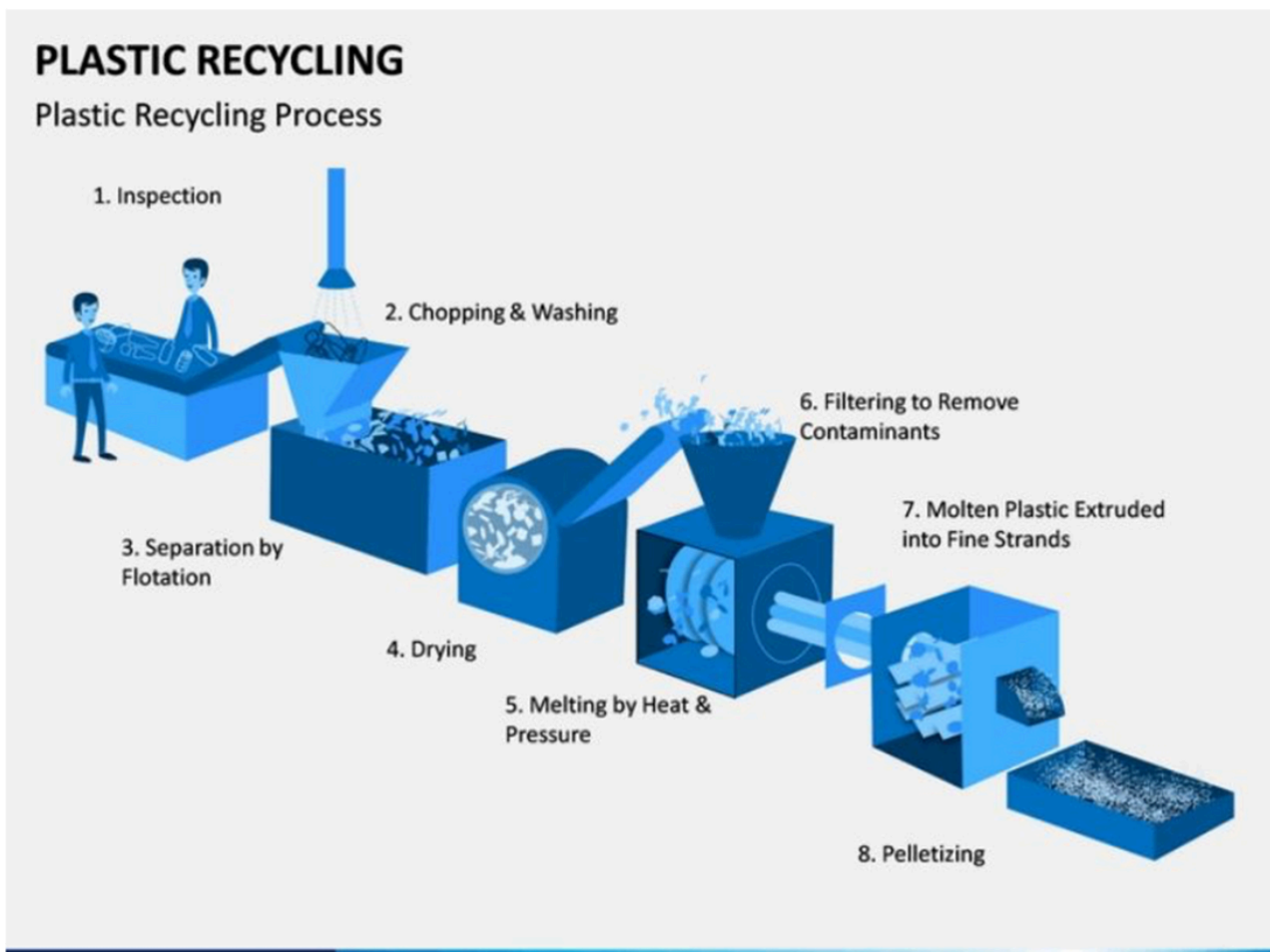
What can be done?

One of the ways to reduce plastic production is to reduce the use of plastic and control our behavior as consumers.



We can also reuse the plastic bottles and containers.

Another way to reduce plastic is to recycle it. Recycling is about processing the plastic waste to produce plastic of the same value and quality as the original plastic. Recycled plastic could be used for producing the same product. The most common procedure is the one shown in the picture below:



*The process of recycling (sketchbubble.com)*

However, recycling plastic is not the best way to reduce pollution, as in many cases plastic products do not or can not be recycled. The most efficient way is upcycling or downcycling plastic products by turning them into something new.

Upcycle is when waste materials are transformed into products that are better in quality of function. The composition of the material is not changed. Minimal physical changes are applied which makes it cost-efficient and does not require any technical training.

Downcycle is when waste materials are transformed into products that are of lesser quality of function. Downcycling recycles the material into a lower-quality substance, which is then used to create a lower-grade product. A common use of downcycled plastic is to convert it into fleece or carpeting products (fiber), plastic lumbers, car parts, or even textiles. Many of these products could not be recycled/downcycled again, but a few of them could be processed further into other downcycled products.

There are many social enterprises in Africa and India that are using plastic products as material for the creation of new products, even fabric fibers. This way, plastic products are becoming part of the circular economy instead of ending up in trash.

In a circular economy, the goal is to keep the material in circulation within society for as long as possible. This not only generates revenue for the people involved but also helps keep the consumption of virgin plastic to a minimum. So, the motto is: Consume Less - Reuse More - Keep Plastic in Circulation!

How to transform plastic?

An easy way to upcycle plastic bottles is by transforming them into ornamental objects, such as flower pots, lightings, or even art! (pictures provided)

Tips for upcycling:

- Be selective! Check how hard or soft the plastic is and select those plastic objects that are easy for you to handle.
- Collect the materials needed: pair of scissors, pencils, glue, rope etc.
- Be creative and experimental!



How to upcycle plastic?

You can learn the entire process to transform plastic bottles into a decorative ornament by taking a close look at this step-by-step video: <https://youtu.be/nsS3o9OvCz8>

You can learn the entire process to transform plastic bags into plastic cases and wallets by watching the following videos: (video 1, video 2, video 3)

To reuse plastic bottles and containers, please read this step-by-step article: <https://recyclops.com/7-creative-ways-to-recycle-plastic-bottles/> and this one too: <https://www.budgetdumpster.com/blog/diy-plastic-bottles-recycling/>

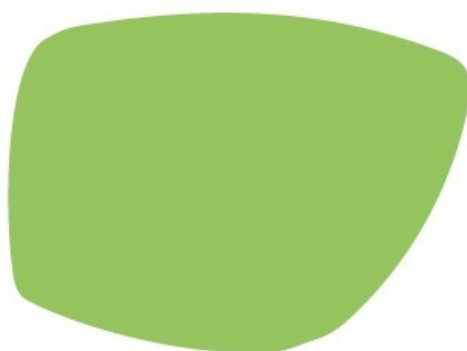
DO NOT FORGET!

Now that you have completed this Module, you should be able to understand why it is so important to reduce plastic consumption and production, as well as to differentiate between recycling, upcycling and downcycling, the latter ones being a more effective answer to the problem of plastic overuse. Moreover, you should be able to select effective ways to integrate bottles and plastic containers in the circular economy.

If combined with a shift in our consuming habits, it could make a difference in the environment and our health.

Other relevant topics:

- Preparation before the training course / workshop:
- Arrange a visit to a local company/social enterprise/NGO that is promoting the upcycling and downcycling of plastic products.
- Select good practices in the upcycling of plastic material to show to your trainees.
- Select activities for the course in alignment with the UDL method.



### III. GLASS RECYCLING

#### Objectives

- Understand the interest of recycling this material.
- Objective of the European Union.

#### Learning outcomes

- Identify the different types of glass.
- Know the possible recycling of glass.

#### Content

##### The interest of glass recycling

Glass is a material that has a potentially infinite life cycle.

Recycling glass is one of the simplest and most effective environmental actions you can take. Glass takes 3 or 4 millennia to decompose in nature (but we don't really know), and creating "new" glass from recycled glass uses much less energy: one ton of recycled glass saves half a ton of CO<sub>2</sub>.

In addition to being beneficial to the environment, glass recycling presents economic development opportunities for local communities. Glass processing centers create and maintain more jobs than landfill or incineration.

Also, more than 95% of the raw materials, cullet, sand, soda ash and limestone, are produced in Europe. Finally, the average distance between glass plants and their customers is only 300 km. The packaging industry is based on the principle of a circular, local and environmentally friendly economy.



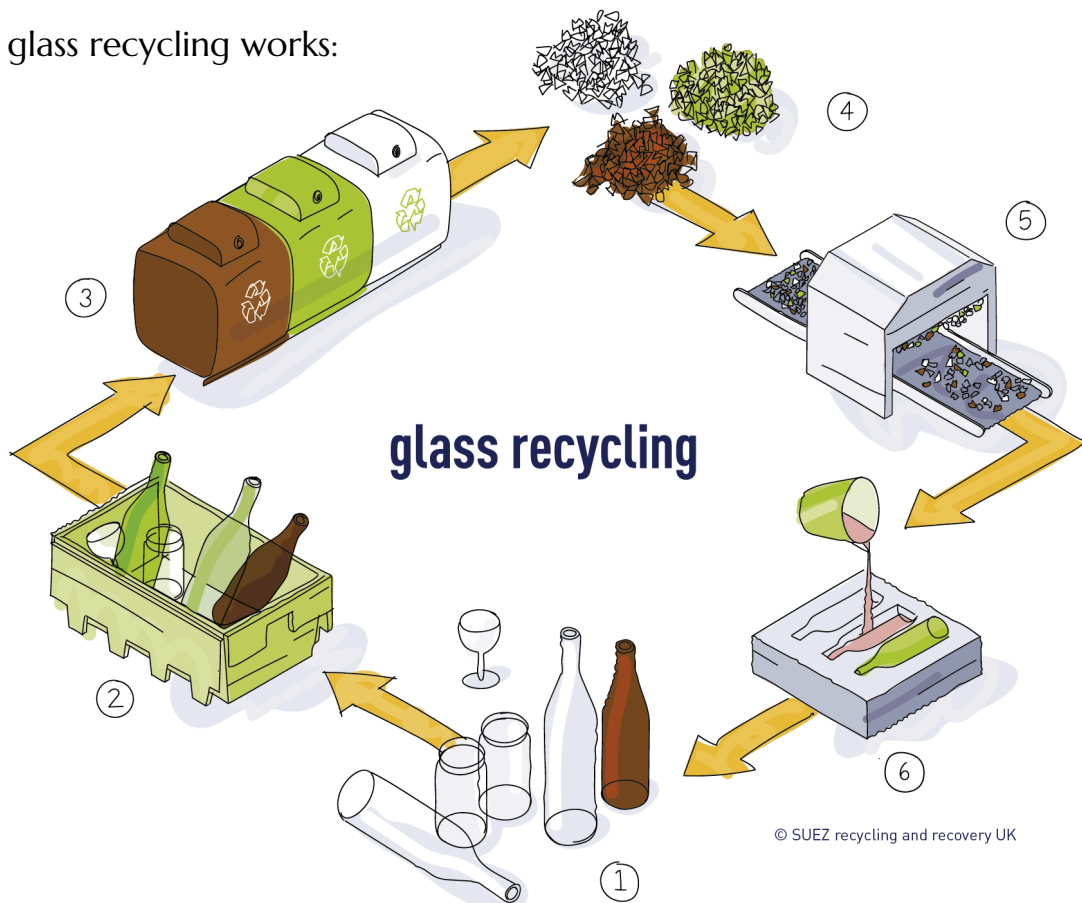
Source: Aleksandr Kadykov, 10/05/21, Unsplash.com

Can be recycled	Can't be recycled
Glass packaging: caps and lids must be removed (bottles, jars, flasks...)	Culinary glass: they should be disposed of in household waste (e.g, dishes)
Perfume bottles and cosmetic jars: they must be emptied and the atomizer must be removed and disposed of in the household waste	Special glass: they must be taken to specific collection points (windshields, TV screens, light bulbs...)
Pharmaceutical bottles: they should be emptied	

The culinary glass used for dishes or transparent dishes is not recyclable. These objects melt at a higher melting temperature than glass and therefore risk forming defects in new bottles made from recycled glass.

Thus, because of its composition, broken glass must be disposed of in the household waste bin. Also, it could injure the sorting agents in charge of receiving the waste.

How glass recycling works:



Source: SUEZ recycling and recovery UK, <https://www.suez.co.uk/en-gb/our-offering/communities-and-individuals/education-tools-and-resources/what-happens-to-waste/recycling/glass>

After being collected, the glass containers are sent to a processing plant where several successive operations are carried out:

Sorting of glass containers: sorting is done manually and then automatically to remove unwanted objects;

Glass crushing: the glass is transformed into cullet, i.e. broken glass, and sent to the glass factories;

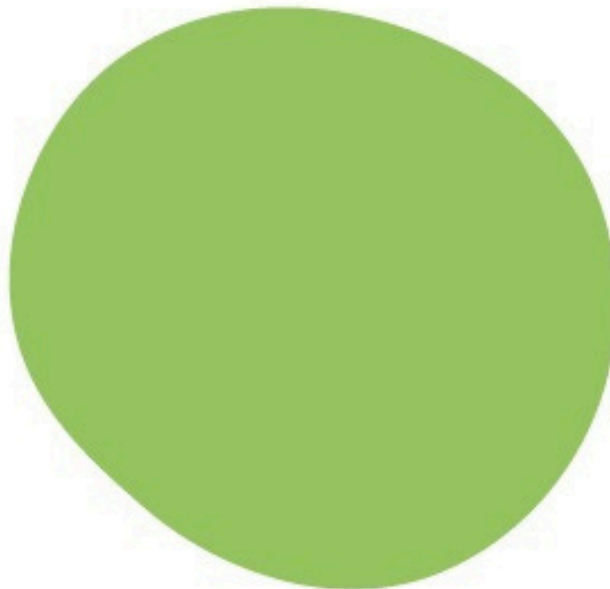
Melting of cullet: the cullet is melted in a furnace at a temperature of 1400°C and becomes a glass paste;

Cooling and moulding: this glass paste is passed through a mould, blown and then cooled to be transformed into new models of bottles, jars and jars.

After a collection and processing phase, the recycled glass is ready to be used. It can thus take various forms for equally different uses:

- Glass containers.
- Glass wool.
- Bricks.
- Countertops and floors.
- Road surfacing.

Glass has been collected since the early 1970s and is a pioneer in recoverable waste. The ecological chain formed by the actors of glass recycling allows to revalue glass and to give it a second life.





## DO NOT FORGET!

Despite all the improvements in the waste management and recovery processes, there are still some challenges that need to be addressed; some examples include:

Lack of incentive to recycle when it is not practical.

Increasing costs of material recovery facilities and pressure from the waste management sector have led some municipalities to remove glass from curbside recycling.

Lack of capacity in some areas hinders the ability to meet market demand and reduces the incentive to invest in material recovery facilities.

Virgin materials are often cheaper than cullet, sometimes by as much as 20%.

The European container glass industry, known as FEVE (The European Container Glass Federation), is mobilizing to achieve a 90% recycling rate in Europe by 2030 through a program called "Close The Glass Loop".



Through this program, the FEVE wants to definitively place the glass industry in a closed loop logic (bottle to bottle) and hoist this industry as an example of a circular economy. At the end of 2019, the glass recycling rate reached 76% in the European Union according to FEVE.

And production methods continue to evolve. Bottles have become much lighter over the past 20 years, with some being up to 30% lighter than before. Lighter weight means less material is used and overall supply chain emissions can be reduced by 10-30%.



## IV. RECYCLING AND UPCYCLING OF OFFICE CHAIRS

### Objectives

- You get knowledge about the importance of recycling and upcycling office chairs and what the benefits are, when you do.
- What is the process in producing materials for an office chair.
- What is the impact on the planet to upcycle and recycle furnitures
- You will learn what is necessary, when you upcycle or recycle office chairs
- To give the teachers/volunteers knowhow on the topic
- To identify office chairs that can be used for upcycling or recycling
- You will get an introduction on what skills and materials you need to upcycle or recycle office chairs.

### Learning outcomes

Upon completion of this unit, it is expected that you will gain

- Knowledge on the benefits on recycling and upcycling office chairs
- Learning, as a trainer, what is needed before you get involved with upcycling and recycling of office chairs.
- Gaining different ways, in which to tell and show the trainees the benefits of recycling and upcycling office chairs.

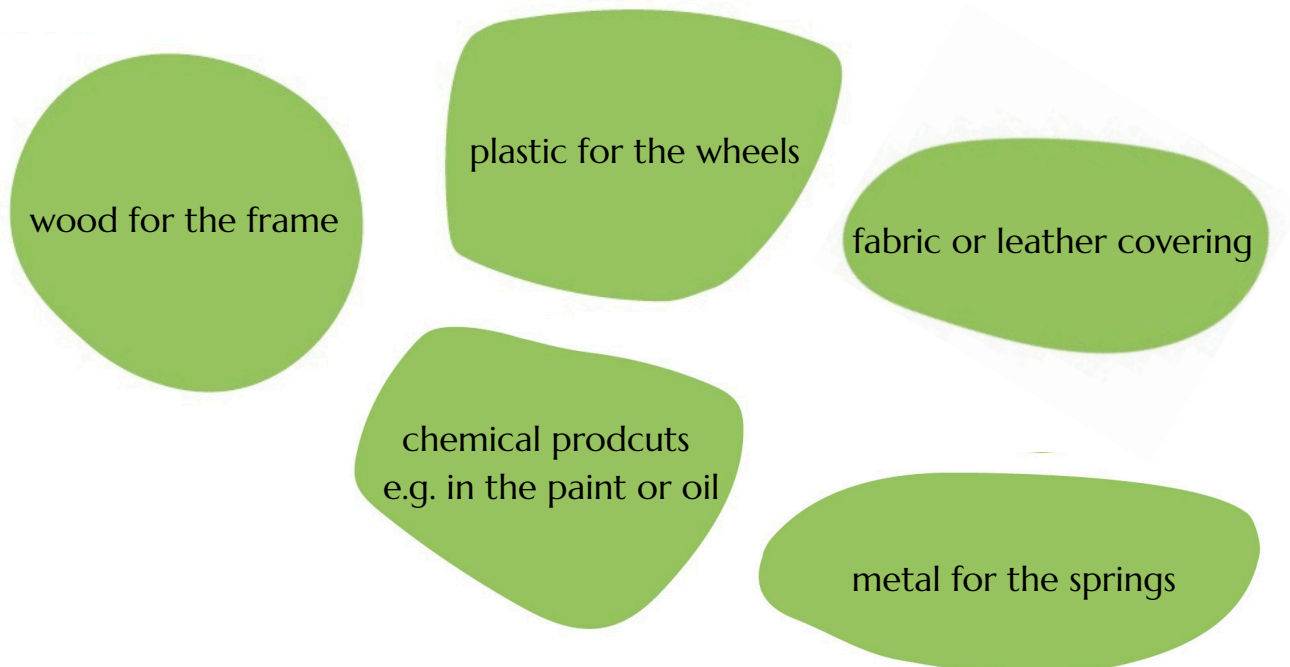


## Content

The world is gradually embracing green, eco-friendly (sustainable) products which means that the awareness of environmental pollution and of society's well being is on the highest priority ever. On that note, the following will guide you in what to know, when you want to teach in recycling and upcycling of office chairs.

What determines if a piece of furniture is sustainable?

The environmental impact of the material used in the production is a very important factor! A piece of furniture is often made up of various materials. For instance, an office chair may be made of:



Factors that determine the sustainability of a furniture:

- The wood used in the making of the furniture: Question if it is recycled or reclaimed from sources and from forests that are certified to be well managed or from an established plantation known not to cause deforestation.
- The durability of the furniture is important: No matter the good impact on the environment in manufacturing the piece of furniture the conclusion will be; the longer it lasts, the less impact it has over time. Therefore the office chair has to be repaired in ways for it to last a long time before needing replacement.

Important to know in the recycling or upcycling process:

- In many cases, some parts of a piece of furniture might not be recyclable, but other components are.
- Dismantle the furniture into recyclable parts, such as ferrous and non-ferrous metals, which possess great value for recycling due to their nature.
- Refurbish your current piece. Most furniture, such as sofas and chairs, can be very durable, yet the fabrics can start to show signs of wear quickly.
- In some cases, reupholstering is an environmentally-friendly alternative to buying new furniture

What to know about what can be done with an office chair in the upcycling process:

### Upcycling Furniture

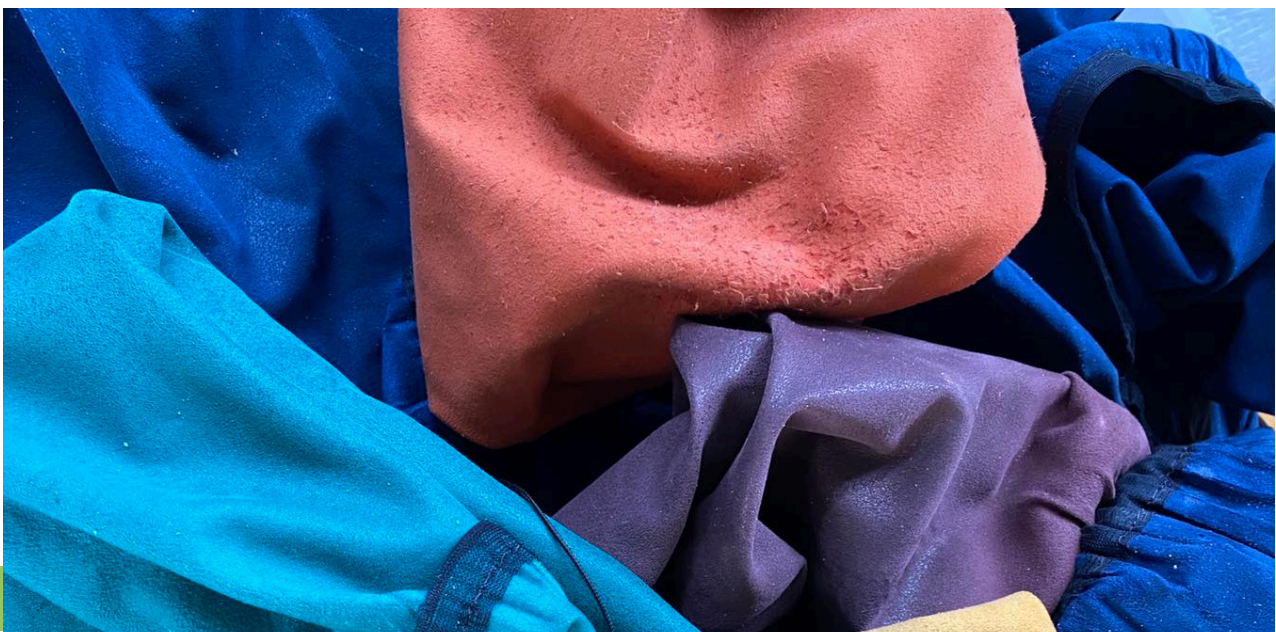
It is about taking old, wasted, or broken furniture and repurposing it. From broken cabinets whose shelves can be screwed into an old door entry, a door that will work as a decoration piece, or putting some feet support in a one-side opened bathtub and turning into a sofa: there are no limits to the power of creativity in upcycling furniture and other household items.

Is the office chair in need to be repolished?

Learning what materials can be used for reupholstering office chairs e.g The fabric must be durable in the long run.

Wheels to replace? Identify tools to use in the process.

Is any wood in need to be treated and e.g painted, sanded or oiled?



DONT FORGET!

As the world population is increasing, the demands for different things are also increasing. Today, there is an increasing demand for green furniture as it is eco-friendly which means the furniture is made out of environmentally friendly materials like bamboo, organic cotton, plywood and faux leather, More people than ever wants the paint applied, the power used in manufacturing and the fuel used in the machinery, to be safe for the ecology.

Recycled and upcycled chairs can get a new life and can be designed to be used again in modern facilities such as in a company office or a private living room.

The biggest challenge today, when you recycle or upcycle and would like to be a business is to be competitive with the market. Today, the market is swamped with new and cheaper products such as IKEA furniture.

Society needs to look at sustainability as an investment that is a cost for on the the short term, but creates jobs openings in the long run.

Benefits for the environment and the planet's resources:

There is so much to gain when environmentally conscious principles are considered in the manufacture and disposal of furniture.

You are helping the environment by saving resources and not adding pressure to landfills. Recycling saves the environment from being destroyed, hence, is eco-friendly.

It reduces the need to extract new, raw materials. Both metal extraction and deforestation are detrimental to our environment and also reduces the level of harmful substances that are released, when making furniture from new wood. It helps to conserve our limited raw materials and protects natural habitats for the future, because it saves the need for raw materials when upcycling the old ones instead of buying new. it will stop causing the destruction of plants and trees. Cutting of trees causes acid rain, loss of rainforest and puts many species in danger of extinction.

It contributes towards dealing with global warming and reduces the greenhouse effect.

The social benefits:

Recycling furniture opens up new green jobs for people. Several companies have started up to take on the task of e.g recycling and organisations are giving training to people to learn how to recycle things.

The economics:

It saves companies up to \$93 to \$100 million in disposal costs per year for trying to get rid of the used and old furniture, because new ones have been ordered to the office in the company before trying to see if it is possible to upcycle the already used.

It takes time to dispose of furniture and the making of furniture from new woods takes a lot of time and time costs money!

These reasons above are a good justification for repurposing or upcycling. It is one of the best options you can consider for your business.

Some more relevant issues:

Are there more social enterprises in the future that can accommodate and manage a workplace with people in vulnerable life situations due to a mental diagnosis or reduced learning ability?

As a substitute to shelter employment, why should it not be the labour market that adjusts and gets able to hire employees with e.g. a psychological challenge?

## Conclusion

Hopefully you know now what it takes to recycle and upcycle furniture that lasts longer for the benefit of the environment.

You have gained an awareness of the needed craftsmanship skills acquired in upcycling and recycling office chairs to be able to train in recycling and upcycling of office chairs.

You now know the important and crucial impact upcycling and recycling have on the planet and why, there are reasons to practice it to secure our future planet.

# V. ORGANIZING A REPAIR CAFÉ AND REPAIRING

## Objectives

- You know how to organise a Repair Café
- You know why you should organise a repair café and how to make it a success
- Knowing the concepts of repairing

## Learning outcomes

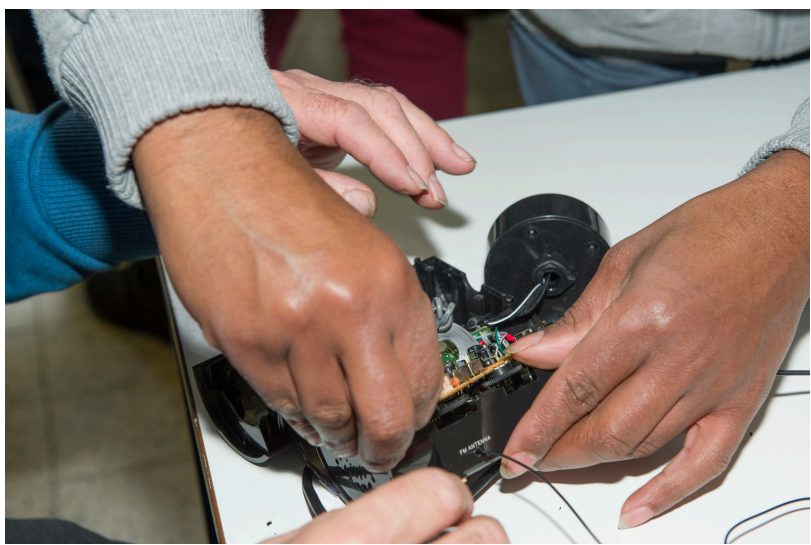
At the end of the topic, you will:

- Understand the benefits of a repair café
- Know how to start a repair café
- Be able to share the awareness and change people's behaviour
- Understand the concepts of repairing
- Identify the benefits of repairing and the difference between repairing and re- or upcycling.

## Content

We throw away vast amounts of stuff. Even things with almost nothing wrong, and which could get a new lease on life after a simple repair. The trouble is, lots of people have forgotten that they can repair things themselves. Especially younger generations who no longer know how to do that. Knowing how to make repairs is a skill quickly lost. This is a threat to a sustainable future and to the circular economy, in which raw materials can be reused again and again.

A Repair Café is a meeting between citizens who are determined not to throw away their objects anymore without trying to repair them. A Repair Café is you, us, getting together for a workshop to repair together.



## Benefits

### Environmental

The ecological impact of Repair Cafés' workshops is tangible and significant, resulting in more than 170 tons of waste avoided in 2019 in Brussels and Wallonia. Repair remains one of the shortest cycles in the circular economy, producing the least amount of waste and pollutants. Moreover, through the concrete action they embody, Repair Cafés have a direct effect on changing people's attitudes for a more sustainable world.

### Social

The Repair Café is an important place of social cohesion. It creates local connections and facilitates the meeting of people from the same neighborhood, who might never have met each other otherwise. At the same time, it also helps to reintegrate isolated or marginalised people, whether they are simple visitors or volunteer members. Finally, it enhances skills that are sometimes disparaged and it generates self-confidence on a technical, relational and communicational level.

### Formative

The Repair Café is a place for exchange, for sharing skills and knowledge. Volunteer repairers can improve their skills at each workshop while allowing the visitors to gradually become more competent in fixing their everyday objects. The goal is that everyone will one day be able to repair their own objects. It is also a perfect place to reduce the digital divide and learn to think more critically of the mechanisms behind planned obsolescence.

### Economic

Repair Cafés are an undeniable gear in the circular economy as they promote eco-design, reuse and a change in business model. They also establish links with the commercial sector, since visitors are frequently redirected to local spare parts suppliers and/or professional repair services. Furthermore, repairing skills increase the citizen's purchasing power : when an object is repaired, the user will not have to replace it. Finally, many repairers discover a professional vocation at the Repair Café, which makes it a springboard to future employment.





Types of materials to repair:

Most Repair Cafés offer repairs in the following areas:

- small household appliances
- sewing
- computers
- bicycles.

Other repairs are possible depending on the skills of the volunteers: sharpening, repairing jewelry or wooden objects, etc.

How to start:

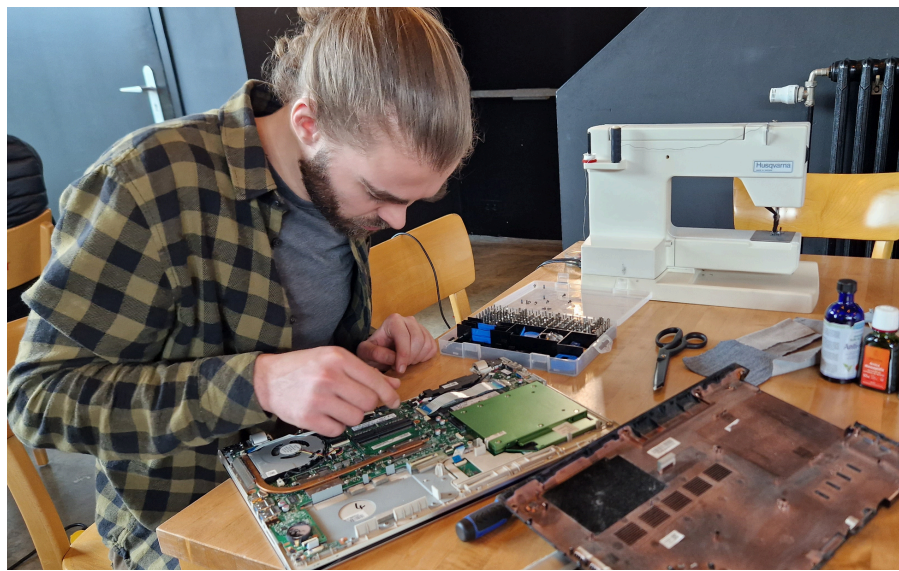
To create a Repair Café, you will first need to find a few volunteers, a venue and a date.

Different organizations provide starter's kits to help people with the organization of the first repair café. This online kit includes a practical fifteen-page guide as well as many useful documents. There are communication tools and a series of tips and tricks to help you get organized.

You'll be part of a network where you can get information, free access to repair manuals and videos to help the volunteers.

**DO NOT FORGET!**

The Repair Café movement offers free meeting places and are all run by volunteers. Repair Cafés form a worldwide movement that strives to preserve repair skills in society and to promote more repairable products. Besides the Netherlands, there are Repair Cafés in Belgium, Germany, France, the United Kingdom, the United States and in dozens of other countries around the world. Repair Café has even made its way to India and Japan.



## VI. HOW TO START AN UPCYCLING AND RECYCLING BUSINESS

### Objectives

- Develop a recycling and upcycling workshop or business.
- Understand the skills to improve in the creation of upcycling and recycling business.

### Learning outcomes

- Understand the steps to develop a workshop or a business in the recycling and upcycling field.
- Be aware of the need to organize and plan a workshop or business.

### Content

Many businesses today are trying to reduce and minimize the amount of waste going to landfill. When it comes to waste management and recycling, understanding waste streams and what recycling initiatives your company can take can be challenging. To do this, you need to develop planning, set-up, organizational and marketing skills.

### Benefits:

- You can contribute to the fashion industry's waste problem.
- Create a circular economy that creates jobs.



Tips for developing a workshop or business in the field of recycling or upcycling:

1-Conduct comprehensive market research: Undertake thorough market research to gain vital insights into your chosen sector. This research should encompass:

- Current market demand and sector size.
- Pertinent industry news, developments, and design trends.
- Identification of both major and minor competitors.
- Standard pricing within the sector.
- Your target audience and effective methods for reaching them.

This wealth of information will not only guide critical business decisions but also help you stand out in a competitive market and effectively target your ideal customer base.

2-Develop a distinctive business model: Establish a well-defined business model that will serve as your compass. This model should enable you to pinpoint a unique selling proposition that will attract customers. Ask yourself, "What can I offer that sets me apart from the competition?"

3-Profile your business:

- Determine the types of materials you plan to sell.
- Decide on your sales channels, such as opening a physical store or selling online via your website or a platform.
- Arrange storage solutions for your products and work in progress.
- Allocate a dedicated workspace equipped with the necessary tools and supplies for your upcycling and recycling processes.

4-Source your materials strategically:

- Explore options like antique shops, estate sales, or charity shops for material procurement.
- Utilize online resources to find suitable materials.
- Establish connections with friends who may have materials to offer.
- Promote your willingness to purchase used and damaged furniture or clothing items.

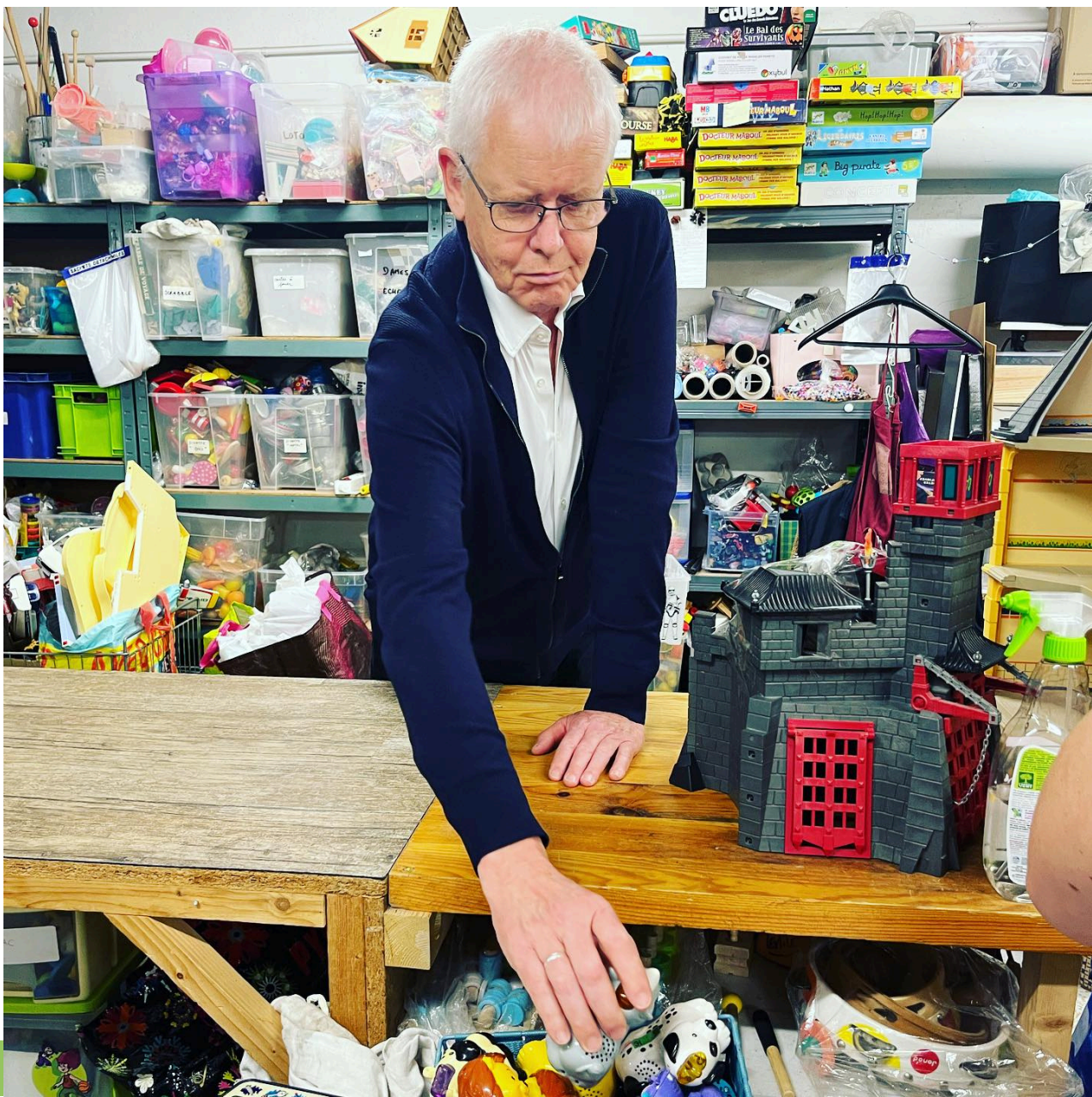
5-Cultivate a strong brand identity: Define your brand identity, encompassing tone, design aesthetics, and core values. Your brand identity is how you present yourself to the public.

6-Create an online presence: Develop a professional website that enables people to get to know your business better.

7-Leverage social media: Utilize social media platforms as effective tools for expanding your audience in the early stages of your upcycling or recycling venture. These platforms can help build your brand reputation and connect with potential customers interested in your products.

In summary, it's crucial to carefully plan your business or workshop in advance. This entails establishing a solid legal framework, preparing for tax obligations, organizing finances and daily tasks, and lastly, implementing effective marketing strategies to attract and retain customers.

In the handbook, we also provide more ideas.



ANNEX 1

# BIBLIOGRAPHY

# BIBLIOGRAPHY PART 1

## THE TARGET GROUP

- VIE. Increasing awareness of protective measures in Europe. URL: [https://www.notariesofeurope.eu/en/citizens/vulnerables-in-europe/?fbclid=IwAR3WBUX2UH7NtCMeqvyNHavYCrjpuv\\_\\_WC92GMpTL9VLZmuKQIGSgIP5SSI](https://www.notariesofeurope.eu/en/citizens/vulnerables-in-europe/?fbclid=IwAR3WBUX2UH7NtCMeqvyNHavYCrjpuv__WC92GMpTL9VLZmuKQIGSgIP5SSI), 2023
- HP. Peer to Peer Learning. URL: [https://helpfulprofessor.com/peer-learning/?fbclid=IwAR3raRDg8G3OB3nPUeCOCjYnl\\_I0h5sn7VxjNGu7d\\_NpJwZqLcrLi5VydnY](https://helpfulprofessor.com/peer-learning/?fbclid=IwAR3raRDg8G3OB3nPUeCOCjYnl_I0h5sn7VxjNGu7d_NpJwZqLcrLi5VydnY), 2023
- BAP. Peer Learning in Classrooms and Its Benefits. URL: [https://bap.deg.mybluehost.me/blog/2019/02/06/peer-learning-in-classrooms-and-its-benefits/?fbclid=IwARiKILbpPOi4GwinTqeAfklaAiy5\\_f5VUxalfO58dYsZJCTcbqoJc5vdhqO](https://bap.deg.mybluehost.me/blog/2019/02/06/peer-learning-in-classrooms-and-its-benefits/?fbclid=IwARiKILbpPOi4GwinTqeAfklaAiy5_f5VUxalfO58dYsZJCTcbqoJc5vdhqO), 2019
- Bandura, A. (1997). Self-Efficacy: The Exercise of Control. Freeman

## THE TRAINER

- Appreciative volunteer policy at DINAMO. URL: <https://dinamo.warande.be/pQoDCw/vrijwilligers/informatie>, 2023.
- Organizing Engagement. Appreciative Inquiry. URL: <https://organizingengagement.org/models/appreciative-inquiry/>, 2022.
- Carol Dweck. Growth Mindset. URL: [https://www.youtube.com/watch?v=wPHuDO9DB\\_w&t=73s](https://www.youtube.com/watch?v=wPHuDO9DB_w&t=73s), 2016.

## COMMUNICATION

- Najafi T. & Rahmanzade A. The relationship between communication skills and educational effectiveness of teachers of girls of Valiasr Technical College in Tehran. Journal of Media Studies. 2013;8( 4): 193-206.
- Bambaeroo, F., Shokprour, N. (2017). The impact of teachers' nonverbal communication on success in teaching. Journal of Advances in Medical Education and Professionalism, 5(2), 51-59.
- Fujishin, R. (2009). Creating communication: exploring and expanding your basic communication skills. 2nd ed. Lanham, Md., Rowman & Littlefield Publishers.

## THE RELATIONSHIP BETWEEN THE TRAINER AND THE TRAINEES

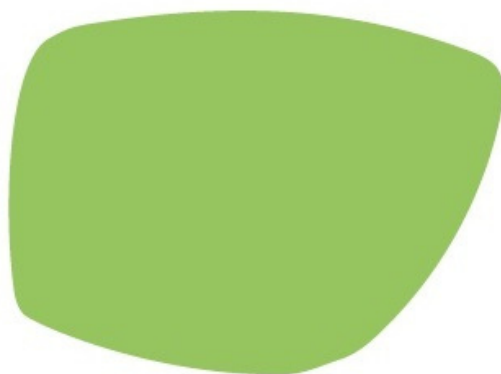
- Humblot, J., & Humblot, J. (2021). Training : the different teaching methods. Glowbl Blog. <https://www.glowbl.com/blog/en/training-the-different-teaching-methods/>
- Ltd, O. T. T. (2001, 1 avril). What makes a good training course. <https://www.ott.co.uk/news/archive/2001-04-01-what-makes-a-good-training-course.html>
- Chand, S. (2014, 2 avril). Training : Meaning, definition and Types of training. Your Article Library. <https://www.yourarticlelibrary.com/human-resource-development/training-meaning-definition-and-types-of-training/32374>
- Galaxy Training Network. (2023, 14 juin). Galaxy Training : Training techniques to enhance learner participation and . . . . [https://training.galaxyproject.org/training-material/topics/teaching/tutorials/learner\\_participation\\_engagement/tutorial.html#practices-and-behaviors-to-improve-delivery-and-learning](https://training.galaxyproject.org/training-material/topics/teaching/tutorials/learner_participation_engagement/tutorial.html#practices-and-behaviors-to-improve-delivery-and-learning)
- Systematic approach to training. (s. d.). <https://www.managementstudyguide.com/systematic-approach-to-training.htm>

## THE GROUP AND ITS CONTEXT

- Díaz, M. G., & García, M. J. (2018). Emotional intelligence, resilience and self-esteem in disabled and non-disabled people. *Enfermería Glob*, 17, 263-273.
- BuzzFeedVideo. (30th May 2018). Things People With Disabilities Wish You Knew [Video]. Youtube. [https://www.youtube.com/watch?v=\\_b7k6pEnyQ4](https://www.youtube.com/watch?v=_b7k6pEnyQ4)
- CHANGEpeoplevideo. (6th Oct 2016) How can I communicate better with people with learning disabilities. [Video]. Youtube. <https://www.youtube.com/watch?v=wuLAQOHFn2U>

## THE PHYSICAL SPACE

- Entelis+ project. Entelis+ Manual for Trainers, URL: <https://entelisplus.entelis.net/results>, 2016.
- CAST. Universal Design for Learning Guidelines version 2.2. URL: <http://udlguidelines.cast.org>, 2018
- Understood for All, Inc. Getting started with Universal Design for Learning (UDL). URL: [https://assets.ctfassets.net/pOqf7jO48iOq/3vzjvQAnt6xjOIO8OyVqXg/6e51e59eOb5b5eadd5elc4Oedl35facd/Getting\\_started\\_with\\_universal\\_design\\_for\\_learning\\_\\_UDL\\_\\_Understood\\_\\_1\\_.pdf](https://assets.ctfassets.net/pOqf7jO48iOq/3vzjvQAnt6xjOIO8OyVqXg/6e51e59eOb5b5eadd5elc4Oedl35facd/Getting_started_with_universal_design_for_learning__UDL__Understood__1_.pdf), 2019
- DTU Skylab. Playbook for Universal Design. URL: <https://universaldesignguide.com/>, 2022
- TrainSustain project. The importance of physical space-Making a training accessible and inclusive. URL: [https://drive.google.com/file/d/1KnxgxR38ezfTJgZLIWuethHxAauv\\_Dp3/view?usp=share\\_link](https://drive.google.com/file/d/1KnxgxR38ezfTJgZLIWuethHxAauv_Dp3/view?usp=share_link), 2023





## BIBLIOGRAPHY PART II

### AN INTRODUCTION TO RECYCLING AND UPCYCLING

- Ravenhall, L. May 2020. What is the difference between recycling and upcycling? <https://www.forgerecycling.co.uk/blog/what-is-the-difference-between-recycling-and-upcycling/>
- Lusiardi, F. 2022. Design: Recycling vs Upcycling. What's the difference? <https://www.inexhibit.com/case-studies/design-recycling-vs-upcycling-whats-the-difference/>
- The benefits of Upcycling. <https://www.futurelearn.com/info/courses/upcycling-for-change-from-green-ideas-to-startup-businesses/O/steps/67684>
- 7 benefits of recycling March 2018. Friends of the Earth. <https://friendsoftheearth.uk/sustainable-living/7-benefits-recycling>

### UPCYCLING OF CLOTHES

- Ekstrom, M., Salomonson. N. (August 2014). Journal of Macromarketing. Reuse and Recycling of clothing and textiles – A Network Approach.
- Hailstone, J. (February 2017). Environment Journal. The upside of Upcycling.
- Assoune, A. Why is Upcycling Clothing Important for the Environment.
- Le. (March 2022). Is Upcycling Clothing worth it? – Upcycling's true impact on the environment.
- Branded Joy Editorial Staff. (February 2022). How to upcycle clothes: Creative ways to transform your wardrobe.
- Brooking, F. (March 2022). Upcycle your clothes: 5 ways for beginners.

### PLASTIC BOTTLES AND CONTAINERS

- EARTH5R. Plastic Processing: Upcycling, Recycling, Downcycling And More, URL: <https://earth5r.org/plastic-and-what-to-do-with-it/>, 2020.
- Recyclops. 7 Creative Ways to Recycle Plastic Bottles. URL: <https://recyclops.com/7-creative-ways-to-recycle-plastic-bottles/>, 2023
- Budget Dumpster. Plastic Bottles Recycling Ideas. URL: <https://www.budgetdumpster.com/blog/diy-plastic-bottles-recycling/>, 2021
- TrainSustain project. UseLess Plastic-Upcycling, Downcycling, Recycling. URL: [https://drive.google.com/file/d/1J6uZILA0mOIHYOle9W5Dqcl4-xvJk4df/view?usp=share\\_link](https://drive.google.com/file/d/1J6uZILA0mOIHYOle9W5Dqcl4-xvJk4df/view?usp=share_link), 2023

## RECYCLING TEXTILE WASTE

- AA, V. (2008). Reciclado y tratamiento de residuos. Editorial UNED. Clothing recycling: How to recycle old clothing? (2022, 25 enero). Selectra.
- Contenidos, M. (2021, 16 April). All the benefits of recycling your clothes. How are textiles recycled? (2020, 8 September). London Recycles.
- Islam, S., & Bhat, G. (2019). Environmentally-friendly thermal and acoustic insulation materials from recycled textiles. *Journal of environmental management*, 251, 109536.
- Moolberry. Pansupa, N. (2020). Recycling of end-of-life clothes. In *Sustainable Technologies for Fashion and Textiles* (pp. 251-309). Woodhead Publishing.
- Sawrey, G. (2022, 4 octubre). 8 Benefits of Recycling Clothes (and Textiles!). Ecavo Ütebay, B., Çelik, P., & Çay, A. (2020). Textile wastes: Status and perspectives. *Waste in textile and leather sectors*, 39-52.
- Wang, Y. (Ed.). (2006). *Recycling in textiles*. Woodhead publishing.
- Yalcin-Enis, I., Kucukali-Ozturk, M., & Sezgin, H. (2019). Risks and management of textile waste. *Nanoscience and biotechnology for environmental applications*, 29-53.

## GLASS RECYCLING

- WHAT ARE THE BENEFITS OF GLASS IN A CIRCULAR ECONOMY, URL : <https://www.friendsofglass.com/ecology/circular-economy-benefits/>
- Glass Container Recycling Loop, URL : <https://www.gpi.org/glass-recycling-facts>, 2023
- Anaïs BADILLO, Le recyclage du verre : explications et consignes de tri, URL : <https://climate.selectra.com/fr/empreinte-carbone/recyclage/verre>, 2023
- Jean-Marie Boucher, Pourquoi et comment recycler le verre, URL : [https://www.consoglobe.com/recycler-verre-4321-cg#google\\_vignette](https://www.consoglobe.com/recycler-verre-4321-cg#google_vignette) , 2022

## RECYCLING AND UPCYCLING OF OFFICE CHAIRS

- “Sustainable business! written by Steffen Max Høgh
- Link for an useful platform for getting new materials in a eco-friendly production: Circle Bank is a project wanting to quantify the environmental & social value related to the circular economy within the construction sector. CB. Circle Bank. <https://circlebank.dk/>. March 2023
- KMP. KMP furniture. [https://www.kmpfurniture.com/designer-news/green-furniture-old-furniture-recycling-and-green-materials\\_117.html](https://www.kmpfurniture.com/designer-news/green-furniture-old-furniture-recycling-and-green-materials_117.html). March 2023
- E cycle. 5 benefits to Repurposing office furniture. <http://www.ecycleenvironmental.com/recycling-blog/5-benefits-repurposing-office-furniture>. March 2023

## REPAIR CAFÉ

- Repair Café. Repair Café in practice, URL: <https://www.repaircafe.org/en/about/>, 2015.
- Repair Together. Home Repair Together, URL: <https://repairtogether.be/en>, 2023.

## HOW TO START AN UPCYCLING AND RECYCLING BUSINESS

- Singh, J. Kyungeun, S. Cooper, T. West, K. (2019). Challenges and opportunities for scaling up upcycling business. ScienceDirect. <https://www.sciencedirect.com/science/article/pii/S0921344919303349?via%3Dihub>
- Hess, M. (10th june, 2020). 7 steps to develop an effective recycling program. Waste Advantage magazine. <https://wasteadvantagemag.com/7-steps-to-develop-an-effective-recycling-program/>
- CareerFuel. (28th of september, 2012). Small business success story: TerraCycle Recycling & Upcycling [video file]. [https://www.youtube.com/watch?v=5a\\_iCjBNS2k](https://www.youtube.com/watch?v=5a_iCjBNS2k)
- Eco snooki. (30th of december, 2020). Recycling businesses with high profit in future [video file]. <https://www.youtube.com/watch?v=cQqhKzchNag&t=1s>

## ANNEX II MORE INFORMATION

### RECYCLING TEXTILE WASTE:

Fiber recovery means that the garment is disintegrated into fibers, which can be processed into a yarn again. Continuing increase in energy consumption and environmental pollution are some of the main challenges of the 21st century. One of the approaches to overcome these challenges is to increase the use of recycled materials and environmentally friendly approaches to manufacturing.

The fast fashion era has skyrocketed the rate at which textile products are discarded, as "going-out-fashion" has become one of the main reasons for "not liking the product anymore". The implementation of a convenient recycling regime can turn these wastes into raw materials to be used in producing future, value-added products. This is the current aim for the ongoing development of textile waste management systems, which seek to produce value-added products through recycling.

The life cycle of clothing:

1. The production of raw materials: clothes are produced from raw materials such as polyester, cotton, silk or wool. Some of them are sourced from non-renewable resources.
2. The manufacture of the clothes: due to the substances it contains, the dye is toxic not only for the workers, who make the clothes, but also for the consumers and for the aquatic ecosystem that it pollutes.
3. Transportation of clothing: clothes are normally manufactured in developing countries, where production costs and wages are lower, and are transported to the UK and the rest of Europe by air or sea. However, the airplane is the most polluting means of transport.
4. The maintenance of clothes: there is an excessive use of water when washing clothes. In addition, a large number of contaminating microparticles are released.
5. Recycling clothes: this is a crucial step. Sorting your wardrobe and recycling certain used clothes helps to extend the useful life of clothes, thus avoiding unnecessary steps such as the production of raw materials, the manufacture of products or even transportation.

### Reasons why recycling is important:

- Economical reasons: recycling programs cost less than waste disposal programs. The high water, energy and manufacturing consumption makes it much cheaper to recycle than to produce some new textile products.
- Social reasons: recycling creates jobs. Recycling centers create four jobs for every one job in the waste disposal industry.
- Environmental reasons: recycling conserves natural resources such as water, oil and natural gas; saves energy as it requires less energy compared with manufacturing brand new products; produces less greenhouse gases; and prevents the destruction of natural habitats.

### Benefits of recycling clothes:

- Recycling clothes reduces pollution and environmental harm.
- Recycling clothes saves landfill space.
- Save up on water consumption.
- Reduces Greenhouse Gases.
- Creating a circular economy with clothing generates a ton of work, and some of it is high-tech.
- Saves Petroleum.
- Saves the Ocean.
- Promote a more sustainable fashion industry.
- Take care of biodiversity.

### Recycling processes

#### How natural textiles are recycled:

1. Natural textiles that are identified for recycling are sorted by colour and material. By segregating colours, the need for re-dyeing can be eliminated, which reduces the need for polluting chemicals.
2. Textiles are then pulled into fibres or shredded. Depending on the end use of the yarn, other fibres may be added into the mix.
3. The yarn is then cleaned and spun. Then the yarn is re-spun, ready for subsequent use in weaving or knitting.
4. Not all fibres will be spun. Some are compressed to be used for fillings, such as in mattresses.
5. Textiles which are sent to the flocking industry (this is when millions of synthetic or natural fibres are attached to a surface), are used to produce filling material for furniture padding, panel linings, loudspeaker cones, and car insulation.

How synthetic textiles are recycled:

The recycling process works differently for polyester-based materials.

1. Zippers and buttons are removed and the fabrics are cut into smaller pieces.
2. The shredded fabrics are granulated and shaped into pellets.
3. These are then melted and used to create fibers, which can be used to make new polyester fabrics!

**DO NOT FORGET!**

The over-consumption of clothing has led to a dramatic increase in the amount of textile waste. The state of the economy and consumer behavior is the main cause of the textile waste problem. The trend towards fast fashion encourages consumers to buy new clothes and to throw away old clothes, even if they are in good condition. Consequently, manufacturers respond to consumer demand by developing a large amount of low-durability clothing at a bargain price. As a result, a large amount of used clothing is discarded and accumulates in landfill. The current situation of textile waste has become critical for the environment worldwide. Textile waste management regulations have been adopted worldwide. However, promising technologies for the utilization of textile waste and ideas for recycling systems are needed.

Unfortunately, while the demand for textiles is increasing, raw materials are decreasing, it is a fact that recycled products are difficult to market. Moreover, even more bizarrely, the wide variety of innovative product and process developments available to utilise secondary textile raw materials remains undervalued."

Designers will always be constrained by budgets and the market, globalisation adds to economic thinking, ecology remains only one aspect of interest. However, textile recycling will continue to develop and the design of easy-to-recycle products will predominate.

