We4Change: Girls and Women Connecting for Environmental Change

We4Change Changemakers Event Curriculum

Design Thinking workshop

Authors:
Stimmuli for Social Change, Greece
2022

Contents

About the module

This document includes a training module – including both a theoretical and a practical part – which is based on the pedagogical method of Design Thinking (DT). The DT module is part of WE4Change curriculum and particularly the 2nd workshop that will take place during each of 3 We4Change Changemaker events[1] during 2022.

Target groups and final recipients of the workshop: girls and young women from disadvantaged backgrounds, aged 15-25 years old.

Learning outcomes of this workshop: the overarching aim of DT module is to offer inspiration and useful guidance to trainers, youth workers as well as to the participants of the workshop to learn better the elements and practical application of DT method. Especially with regards to the participants, there are multiple benefits that girls and young women will gain through their engagement with DT activities (at each event), as follows:

- Following specific steps of DT process, girls and young women will enhance their creativity, empathy, teamwork spirit as also digital and critical thinking skills through five activities. They will be invited to be trained to issues related to mobility, sustainable consumption, and clean energy, depending on their preference and interest.
- They will improve their competence in creating prototypes or forming a new idea, under a collaborative approach.
- They will have the opportunity to reflect on their idea/ solution and test how this idea impacts the life of their users, in a creative and playful atmosphere.
- combine soft skills (e.g., empathy) with digital literacy to find a solution in a challenging common problem of their community, with the coordination of trainers who will be their facilitators and supporters.

In the following chapters, a theoretical part is followed that refers to the Social Innovation and to its connection with the DT method and relevant skills that are promoted by it. It also displays a definition about the DT approach and will briefly analyze its steps on which the workshop's activities will be based. Afterwards, the practical activities are displayed, which are the most substantial part of this module. Finally, some tips for facilitators and a helpful glossary on DT are presented, in order to introduce more easily all trainers in the "world" of design thinking terms and ideas. Apart from all

---

[1] **Brief note**: The We4Change Changemakers events are hackathon-like events, bringing together teen and adult women to provide them with the necessary knowledge, skills and resources and help them develop solutions tackling climate change issues.

information and resources provided in this document, a separate PowerPoint presentation for the practical activities will accompany this module, as an additional guide for the trainers to use it during the workshop of design thinking training, equipping them in the best possible way to efficiently put into practice the design thinking methodology in the proposed hands-on activities of each event.

Foreseen allocated time for the implementation of DT workshop: about 2 hours and 30 minutes, including the welcoming part and the practical activities. The workshop will be held in the first day of each Changemaking event.

Since the module and its respective workshop is dedicated to DT approach – a user-centered approach for creating innovation and a changemaking attitude to target groups of any kind of problem-solving activity – which can be applied in any activity and thematic area, it will function as a versatile and flexible tool to enable, and facilitate trainers, mentors and youth workers to help the final recipients of events (girls and young women) to reach their full potential for bringing positive social change in their local communities, by addressing together contemporary challenges and fostering their 21st century skills throughout the workshop.

Social Innovation, skills for change and Design Thinking approach (theoretical part)

Undoubtedly, our world is being currently impacted by critical issues such as climate change, rapid 6urbanization, scarcity of resources or increasing rates of inequality. These challenges are being experienced at global, national, and local level. Young people and in particular young women who are usually more vulnerable need to be empowered with competences that will enable them to implement innovative solutions in their lives, as well as within their communities, to address such challenges. The role of Social Innovation (SI) can play a substantial role to help young generation and the female population to generate positive change and develop sustainable solutions for their communities.

During the last decades the concept of SI has gained momentum and has been acknowledged for its multidisciplinary nature. Multiple definitions of SI have been already developed so far. According to the Center for Social Innovation at the Stanford Graduate School of Business, SI is described as "*a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals*".[2] Another definition of SI, given by Mulgan (2007), describes the concept as a blend of "*innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organisations whose primary purposes are social*".[3]

SI can take many forms: it can be a product, a production process, or even a principle, an idea, a piece of legislation, a social movement, an intervention, or a combination of them. SI contributes to a set of collective competences that are important for:

- identifying opportunities for social and collective value creation (such as empathy and responsible and critical thinking).
- creating collaborations and develop significant relations (such as collective and creative problem solving, embracing diversity).

[2] Phills J. A., Deiglmeier K., Dale T., and Miller D. T. (2008). Rediscovering Social Innovation. Stanford Social Innovation Review. Retrieved from:
https://ssir.org/articles/entry/rediscovering_social_innovation

[3] Mulgan, G. (2007). Social Innovation: What it is, why it matters and how it can be accelerated. Oxford, UK: Said Business School. Retrieved from:
https://www.researchgate.net/publication/277873357_Social_Innovation_What_It_Is_Why_It_Matters_and_How_It_Can_Be_Accelerated

- taking action and accomplishing collective outcomes for the benefit of society (such as collaborative planning and democratic decision making, collective efficacy).[4]

Under the prism of SI, another familiar term has emerged, specifically the Social Innovation Education (SIE), although it is in its infancy. SIE is defined as "***a collaborative and collective learning process for the empowerment and socio/political activation of students to drive social change no matter their professional pathways***". SIE builds students' competences to identify opportunities for social value creation as also to form collaborations and build social relationships for a more democratic and sustainable society.

The main design principles of SIE are: i) student at the centre; ii) co-creation and ii) transformative social action. All these elements are strongly related to the empowerment and sociopolitical activation of students assumed to lead to the cultivation of social innovation competences. Regarding the concept of co-creation, it is strongly related to students' commitment, engagement and participation as it indicates a process where students become **co-creators of their learning experience** on a new basis of collective problem-solving towards tackling issues that matter to them.[5] It is a process of Intergenerational interaction, equal participation, mutual decision making and collaborative problem solving towards a common goal[6], empowering at the same time the students and young learners by making their voice heard and valued.

Design thinking (DT) is one of the most common concepts related to both co-creation and social innovation and is actually a method for co-creating SI solutions. Initially, it was applied in the business sector as a means to increase innovation and competitiveness. However, due to its human centred approach, it has been transferred and applied in the SI domain. In more detail, design thinking is about understanding human needs and motivations. It is a collaborative, experimental and iterative approach that requires teamwork, while the process itself is also deeply human.

Design Thinking is about understanding human needs and motivations. It is a collaborative, experimental and iterative approach that requires teamwork and reflection. The focus is not only on solutions that are human centered, but the process itself is also deeply human. There are various interpretations given by different theorists and researchers about the

---

[4] Kalemaki, I. et. al. (2019). Towards a learning framework for social innovation education, 2019 EMES Selected Conference Papers. Retrieved from:
https://www.researchgate.net/publication/337415281_Towards_a_learning_framework_for_social_innovation_education_2019_EMES_Selected_Conference_Papers

[5] Hart, R. (2008). Stepping Back from "The Ladder": Reflections on a Model of Participatory Work with Children. In A. Reid, B. Jensen, J. Nikel, & V. Simovska, Participation and Learning. Perspectives on Education and the Environment, Health and Sustainability (pp. 19-31). New York: Springer.

[6] Jones, K. R., & Perkins, D. F. (2005). Determining the quality of youth-adult relationships within community-based youth programs. Journal of Extension, 43(5), 1-10.

definition of Design Thinking. According to Plattner et al. (2011), DT is "***a human-centric methodology that combines or involves several academic disciplines, such as engineering, social sciences, and business, in order to produce innovative products, services, procedures, and solutions"***.[7] Another definition describes DT as a *"non-linear, iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test"*.[8]

Most important benefits for delivering a DT workshop[9]:

- Design Thinking can be applied to **all areas and fields**, so a Design Thinking workshop can therefore be useful for everyone

- DT teaches people **how to problem-solve**:

"Problem solving is a key skill that everyone should master. A Design Thinking workshop teaches problem solving in action giving participants a tool which can be applied to almost any challenge and in any examined area".

- **Foster innovation and teamwork**: The very essence of Design Thinking lies in its collaborative vision and "outside the box" thinking

What are the characteristics of a design thinker?

According to Brown and Wyatt (2010)[10], the person who acts as a design thinker is characterized by:

- **Empathy**: They use their insights to offer solutions with a "people-first" approach.
- **Integrative thinking**: They have strong analytical skills and examine all the aspects of a situation and every scenario of possible outcomes.
- **Optimism**: They do not feel disappointed even though they might face challenges and failures.
- **Experimentalism**: They ask always questions and explore limitations with creativity.

---

[7] Plattner et al. (2011). Design Thinking; Understand – Improve – Apply. Heidelberg: Springer-Verlag Berlin Heidelberg. doi:10.1007/978-3-642-13757-0. Available at: https://www.springer.com/gp/book/9783642137563

[8] International Design Foundation. (2021). Design Thinking. Retrieved from: https://www.interaction-design.org/literature/topics/design-thinking

[9]Stevens, E. (2021). How To Run an Awesome Design Thinking Workshop. Retrieved from: **https://careerfoundry.com/en/blog/ux-design/design-thinking-workshop/**

[10] Brown, T.& Wyatt., J. (2010). Design Thinking for Social Innovation. Stanford Social Innovation Review. Retrieved from: https://myweb.uiowa.edu/dlgould/plugin/documents/Design_Thinking_for_Social_Innovation.pdf

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

• **Collaboration**: another significant characteristic of a design thinker, who is considered to have the capacity and the disposition for collaboration across disciplines.

The DT workshop of WE4Change Changemaker events will build on the methodological skeleton developed by the Design department of Stanford University[11] which proposes five phases for implementing a DT process: **Empathize, Define, Iterate, Prototype, and Test.** These steps are displayed in the following image:
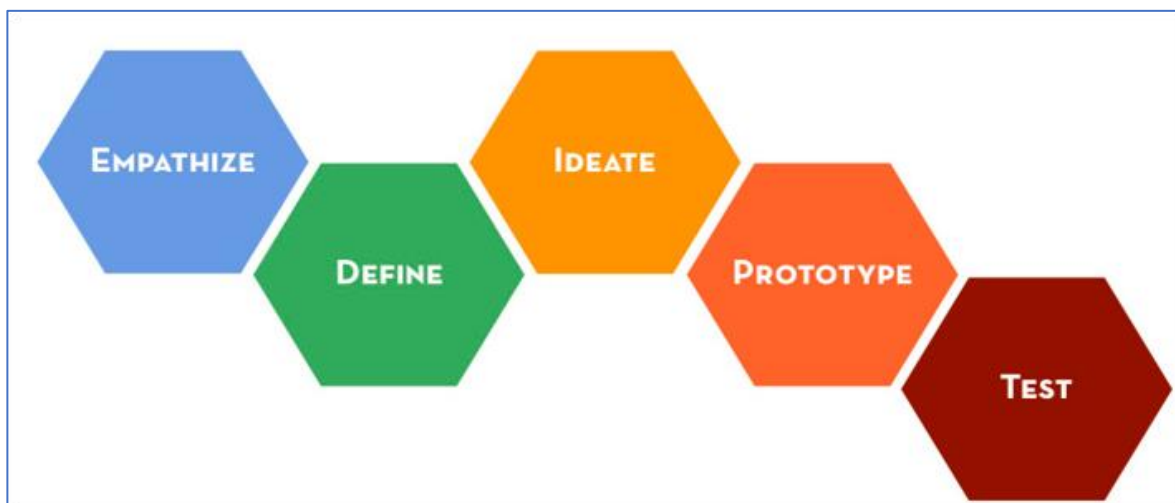
The five DT phases displayed in the image above can be further explained, as follows:

➤ **Empathize:** Empathy is the **cornerstone** of design thinking method. Inspired by traditional qualitative ethnographic methods, the empathy phase usually involves interviews, observations as well as immersion in the field and social setting under examination. The goal of empathy is **to identify the individual needs** associated with any challenge and to uncover insights to guide the design process. After initial interviews and observations, the project team intentionally selects a specific target user group to investigate in more depth. The Empathize step is the step that girls and young women of Changemakers events will first undertake to understand people, within the context of their design challenge. It is their effort to understand the way their examined user-agent does things and why, their unfulfilled physical and emotional needs, how they think about,

---

interpret, and make sense of their world, what is meaningful to them and what are the challenges they face under the examined topic.

➢ **Define:** The 'Define' phase follows empathy and focuses on **synthesizing findings to identify and articulate an approach to the challenge**. This synthesis is an opportunity for teams to shed new light on a complex challenge. After gaining empathy for the person they are designing for, this stage is about making sense of the widespread information they have gathered. In other words, the goal of this phase is to **create a meaningful and actionable problem statement** – this is what is usually called as a "point-of-view" (POV). The girls and young women' POV is the clear expression of the problem they will struggle to address. Essentially, this step can be understood as the synthesis of participants' empathy work as also an endeavor to synthesize their scattered findings into powerful insights.

➢ **Ideate:** The "Ideate" step is the mode of the design process by which the participants concentrate on idea generation. Mentally speaking, it represents a process of "*going wide*" in terms of generating concepts and outcomes. Ideation provides both the "fuel" and also the "source material" for building prototypes and finding out innovative solutions that will be leveraged by the design thinker's user. This step is the transition from identifying problems to creating solutions for the design thinker's users. Ideation is the girls and young women' chance to combine the understanding they have of the problem and people they are designing for with their imagination to generate solution concepts. Early in a design project, ideation is about pushing for the widest possible range of ideas from which they can select, not simply finding a single, "best" solution. The determination of the best solution is usually discovered later, through user testing and feedback.

➢ **Prototype:** The 'Prototype' phase is the iterative generation of artifacts intended to answer questions that get participants closer to their final solution. During the early stages, participants who use the DT process should create low-resolution prototypes that are **quick** and **cheap** to make but can elicit useful feedback from users and colleagues. In later stages, both their prototype and examined thematic area can be better refined. **A prototype can be anything** that a user can interact with – be it a wall of post-it notes, a gadget you put together, a role-playing activity, or even a storyboard.

> **Test:** The Test phase is when participants ask for feedback about the prototypes they have created from their users. Asking feedback gives participants another opportunity to gain empathy for the people they are designing for. Testing is another opportunity to understand our user, but unlike our initial "empathy mode", the participant has now likely done more framing of the problem and may have created prototypes to test. The most important reasons to the test phase are the following:

>   o **To refine prototypes and solutions:** Testing regards the next iterations of prototypes. Sometimes this means going back to the drawing phase.
>   o **To learn more about the user**: Testing is another opportunity to build empathy through observation and engagement — it often yields unexpected insights.
>   o **To refine your point of view**: Sometimes testing proves that not only participants did not get the solution right, but they also failed to frame the problem correctly.[12]

---

[12] Plattner, H. (2010). An introduction to design thinking: PROCESS GUIDE. Institute of Design at Stanford. Retrieved from: https://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

Activities for the DT workshop (practical part)

The proposed activities are broken down in the five phases of Empathize, Define, Iterate, Prototype, and Test. Even though the phases are not necessarily linear, and a certain degree of iteration is at least encouraged, the steps for this workshop are presented and analysed in a sequential way for reasons of simplicity.

Total duration of the practical activities: 125 minutes (25 minutes per activity/ DT step).

Step 1: Empathize

Activity title: **Understand the users and their needs**	
Objectives and learning outcomes	In the first, icebreaking step of the Design Thinking workshop, the aim is to navigate participants to understand the users' needs and personal perspectives within the context of their design challenge. Participants should become able to empathize with their users and comprehend their emotional and physical needs.
	Keep in mind that these needs will naturally differ across the three thematic areas of clean energy, smart cities/mobility, and sustainable consumption. For instance, in the case of smart mobility, participants may detect that in a case of a rural community, the solution of carpooling could work better due to the pre-existing community bonds and high levels of trust among users, whereas in an urban context the same solution could not apply. Therefore, getting a deep insight of the users' world is substantial to devise later proper solutions. On another note, participants who are able to empathize with the cultural background of the users of their communities will be able to find solutions for sustainable dietary habits that fit to the tradition of these communities. These are indicative examples that demonstrate how important is to put ourselves in the users' shoes.
	Another aspiration is that the trainers and participants of the workshop will start building a sense of **community belonging** and break out from their comfort zone at the end of Step 1.

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

Preparation & materials: what do you need?	• Division of participants in small groups • Papers and pens for collecting ideas through brainstorming • Internet connection to perform online research
Recommended time	25 minutes
Practical instructions	Participants will first be divided into small groups of roughly 5 persons each. The aim is to perform small brainstorming sessions or break-out rooms (can fit also in case of a virtual workshop) among participants, during which they will be asked to discuss with each other and contemplate on the needs of their community. To exercise the virtue of empathy, it is recommended to create groups with participants with as different profiles as possible, so as to enable them to get in contact with different persons and understand their perspectives. During the initial discussions, participants can write down in the paper the characteristics and needs of their communities that differentiate them. Given that fieldwork activities, such as direct interviews or observations, which are the most common element of the Empathy step, cannot be performed in a workshop session, **the participants may use internet sources as an alternative way to collect information about their communities' needs.** This would entail screening and collecting information from social media platforms or local sites.
Tips & recommendations	As a general tip for the 'Empathize' step, participants need to feel comfortable to express themselves. Some necessary tips to achieve this: • **Encourage engagement of all participants:** During the discussion rounds, the trainer should facilitate the discussion so as to allow everyone to have an equal voice. • **Make participants to carefully watch and listen their peers:** Putting ourselves to the other's shoes is the essence of empathy. Ask girls and young women to respect the opinion of their group peers and

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

	encourage them to follow up with questions if something is unclear.
	• **Ask participants to take advantage of online sources to observe users and their perspectives**: this can be done by observing comments and personal statements in online fora/social media platforms, or by collecting information in internet articles.
	• **Collect and visualize all the information:** At the end of the session, ask participants to put together all the information from their empathize activities to create a bigger picture about the views, needs and concerns of their communities. This will help establish connections between the collected information and will enable the transition to Step 2. To visualize the information, participants can either use paper and pencils or, in the case of virtual workshop, the [Jamboard platform](#) or the [miro](#) collaborative whiteboard platform.

Step 2: Define

Title: **Collectively discover the true problem**	
Objectives and learning outcome	The objective of "Define" phase, which follows empathy, involves in principle synthesizing findings in order to identify and articulate an approach to the challenge.
	The learning outcome: to help girls and young women to move on to the following steps: 1) to develop an understanding of the type of person they are going to design for – their **USER;** 2) to synthesize and select a limited set of **NEEDS** that they consider important to fulfill; 3) to express **INSIGHTS** they developed through the synthesis of information they have gathered through the 'Empathize" step.
	This exercise can be applied in all selected thematic fields. For instance, when examining collectively the needs of their local community's stakeholders about the transition to clean energy or about sustainable consumption,

	participants should be able to collect the different perspectives of stakeholders, understand them, synthesize them and merge them to produce a single and holistic challenge that must be addressed. The main idea for this step is to articulate a point-of-view, by combining the three above suggested elements: user, need, and insight. **Narrowing down and making sense of the information collected through the empathy phase is the key goal here**.
Preparation & materials: what do you need?	● Find a space without much noise in order for the participants to be able to concentrate without external interruptions. ● Next, the trainer can keep the same groups (from the previous phase), as it will make more sense for the members of the same team to collectively process, map, discuss, categorize, reflect on, and make sense of the data they accumulated in the previous phase. ● **Useful materials for this step**: A4 papers (for taking notes and collect all the information accumulated in the empathy stage), a whiteboard with sticky notes, marker pens, post-it notes. In the case of a virtual workshop, the same handy platform, such as Jamboard, can be deployed.
Recommended time	25 minutes
Practical instructions	A useful tool for moving on with the problem definition is the "POV statement", which serves for reframing a challenge into an actionable statement. In simple words, it includes the three elements that are displayed in the previous lines: user, needs and insight. The activity: the participants will be asked to think about and write down in a white paper or a virtual panel their thoughts and insights about the following: 1) **User**: Who are you designing for? 2) **Need:** What does this user need? 3) **Insight:** What surprised you about this user? What do you notice that nobody else notices? Participants will be given around 10 minutes to write down and express their ideas. Then, another 15-minute

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

	brainstorming session will follow where the core ideas will be discussed and merged into a **single problem statement**. **Note:** The trainer can help all participants and mainly the most inexperienced, to develop and think of their user's real emotional needs. This means that it is not necessary from now to jump to proper solutions, but mostly grasp the essence of the problem.
Tips & recommen dations	• **Pay attention to individual expression**: Some participants may be shy in expressing their ideas in group discussion. Encourage them to write down freely their ideas in the paper, and then discuss them collectively. • **Remind participants to be specific**: Abstract ideas may be useful, but in this step, participants should be reminded that the problem statement should be targeted (For instance: instead of talking in general about smart mobility, participants should come up with a particular problem, such as the fact that in the community of investigation people overuse their private cars for mobility reasons because they believe that this is related to social status).

Step 3: Ideate

Title: **Time for idea generation!**

Objectives and learning outcome	The goal of Ideation step is to encourage and support participating girls and young women to begin thinking of how to actually solve the problem they've researched and defined. In principle, the ideate phase is when team members start to focus on the generation of creative solutions. The objective here is the quantity and diversity of ideas, not sticking to a theoretically 'best' solution. **Important reminder**: All steps of design thinking process should be combined by creativity and teamworking, so exploring options and generating a **wide variety of ideas** is essential to arriving at a genuinely **creative solution**. Indicative example from a thematic area: when participants are brainstorming on finding solutions about more eco-friendly ways of mobility, no restrictions should be made regarding their fantasy. Both the unconscious and conscious mind should be activated to fuel the imagination needed for suggesting solutions. Solutions that may sound exaggerated such as massively planting trees on abandoned rooftops of buildings or installing sensors for automatic lighting in the streets during the night to save energy, should be embraced. The evaluation of these ideas based on their feasibility, suitability and cost-effectiveness will come later.
Preparation & materials: what do you need?	**Materials**: a **big board** is first needed. The overall size of the board is essential so as to add and display as many ideas as possible. **The ideas will be written down directly in the board with a pen or posted in sticky notes (post-it notes).** *In case the workshop is conducted virtually, a platform like Jamboard, Miro or Mural can easily be used as alternative to the whiteboard. It is advisable that participants be kept in the same groups so as to ensure continuity with the previous steps, and they can also form a cycle in order that everyone has an equal voice. For the evaluation phase of the suggested ideas, a simple pen is needed to write down on the board the results.

Recommended time	25 minutes
Practical instructions	In the beginning, participants will be asked by the trainer to start brainstorming and suggest each as many creative ideas as they can think. The whole process should take approximately 10'. This is the creativity phase, where participants must feel unconstrained and just express freely themselves. The trainer should note down all the ideas on the board, allowing participants to get inspired simultaneously by the ideas of their peers, while trying to think their own. Upon completion of the brainstorming, participants will evaluate each idea according to following criteria: (i) **feasibility of idea**, (ii) **cost-effectiveness of idea**, and (iii) **how rational the idea is**, (iv**) originality of idea**. This is the stage where ideas are carefully reconsidered collectively. For each idea, participants can assign points for each criterion, through a process of open voting: **1 if the idea scores very poor** for that criterion, **and 5 if it scores very well**. This method will facilitate the process and produce clear quantitative results, showcasing which idea(s) should become prototyped solutions (15 minutes).
Tips & recommendations	●**Use probes to encourage participants**. You can start the brainstorming with a question in the format. A typical question is: "How might we...?" This narrows the focus of the brainstorm. Use your work from the define phase to create "How might we...?" questions. ●**Encourage unconventional ideas**. An idea from a girl might seem weird or unusual, but when her peers start building on it, the idea may become brilliant. ●**Visualize the ideas.** Apart from writing down the idea in sticky notes, try to make simple sketches in the board, or ask participants to do so.

Step 4: Prototype

Title: **The moment for the solution's prototype!**	
Objectives and	The central objective of the prototype phase is to start creating draft and low-resolution prototypes of the selected solution(s) that have been ideated and voted for

learning outcome	during the previous step. The outcome is to give substance to the suggested solutions through a creative process where girls and young women use simple materials to embody the ideas. A prototype is nothing more than an artifact that serves as draft miniature of the solution. This stage is more demanding in terms of preparation and materials. Participants are not just asked to theoretically brainstorm and produce ideas, but they must in fact use with their hands tangible materials to create a draft product of the idea. The artifact helps the participants to reflect again on the idea suggested in Step 3 (ideation) through an iterative process, and to adjust some elements of their ideas (if needed). Prototyping means creating fast and thus costless representations of solutions, usually with the goal of conveying the ideas to users and getting feedback of each other. **Example 1 – smart mobility**: Take the case of ideating for findings solutions in the thematic of smart mobility. During step 3, participants decided to design e-bikes and install a dedicated station for charging and storing the bikes near the central bus station in the city-centre. Before actually committing to creating such a station, which is an expensive project, participants will create a low-resolution prototype of this station, to show this to their peers and further discuss on the idea feasibility. **Example 2 – sustainable consumption**: Let's suppose that girls and women have ideated in Step 3 the creation of a smart shower in relation to the thematic area of sustainable consumption. The shower switches off automatically if you are in the shower for more than 5 minutes. Also, a person can shower only once every 24 hours. This conserves water and also the energy required to heat the water. Based on that, participants should try to sketch the shower, or even try to develop a simple maquette with any available materials.

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

Preparation & materials: what do you need?	In Prototype step, due preparation as also provision of basic materials to participants for the artifact (or a sketch) is of outmost importance. However, the process in this workshop (given the suggested timeframe) can be kept simple and will have been considered to be in advance budget-friendly. In the case of physical workshop, **the following materials are suggested**: Cardboard/paperboard, scissor, markers, sticky tapes, plasticine, lego bricks, glue stick, colored construction papers, pens, big table(s) and anything else that is considered necessary for carrying out the phase. In the case of online workshop, the following materials are suggested: **PowerPoint programme**, **Mural**, **Microsoft paint programme.**
Recommended time	25 minutes
Practical instructions	Given the complexity of the Prototype Step (comparing to the other first two steps), it is highly recommended to keep the process as straightforward as possible. First, participants will be divided in two or three groups (depending on the number of participants in the workshop). Each group will be responsible to create a prototype of the most popular ideas that have been selected in Step 3. It is estimated that a maximum number of two or three prototypes are the optimal case due to the time limit. Each group will be given a maximum of 25 minutes to design and create its prototype. In case of a physical meeting, each group will work on its own table, and groups should be distanced from each other for better concentration. In the case of virtual meeting, participants can be divided into break-out rooms (e.g., in zoom) and work on a virtual collaborative platform. During the creation of prototypes, the trainer will monitor the groups and make interventions when and where needed. **Note**: If the choice of creating a model or an artifact seems to be too much complex or challenging given the specific timeframe that is given for this phase, there are useful and

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

	equally smart alternatives of achieving the expected outcome instead of a model's creation: 1) **Create a visual diagram** (through a virtual whiteboard**!**): The participants can map out the structure, network, journey or process of their idea and try different versions. 2) **Create a mock-up**: Build mock-ups of digital tools and websites with simple sketches of screens on paper. Paste the paper mock-up to an actual computer screen or mobile phone when demonstrating it. 3) **Create a storyboard**: i) Visualize the complete experience of your idea gradually through a series of images, sketches, cartoons or even just text blocks; ii) Use Post-it Notes or individual sheets of paper to create the storyboard so you can rearrange their order.[13]
Tips & recommendations	● **Remind participants that the prototype should solve the problem of the user**. This means that when designing a prototype, the latter should not be necessarily attractive or intelligent, but rather practical for the user. ● **Make sure everyone is contributing.** When working in groups, some participants may dominate over others in using the materials. Monitor constantly how groups work and ensure equal participation from group members. ● Advice kindly the participants that prototyping is not about "getting it right the first time": **the best prototypes change significantly over time**. For this reason, urge them with the best possible way to challenge themselves to come up with at least two different versions of their idea to test multiple aspects of the possible solutions.

Step 5: Test

---

[13] IDEO. (2013). Design Thinking for Educators.
https://f.hubspotusercontent30.net/hubfs/6474038/Design%20for%20Learning/IDEO_DTEdu_v2_toolkit+workbook.pdf

Title: **The testing phase: another chance to understand the user!**	
Objectives and learning outcome	The Testing phase is the solicitation of feedback about the prototypes that participants have created. There is another chance to **understand the user**, but unlike the initial empathy mode, in this phase the design thinker has already experienced framing and reflection moments about the examined issue.

The three most important objectives of the Testing phase are: (i) to refine prototypes and solutions, (ii) to learn more about their user, (iii) to refine their point of view.

A rule of thumb: the final stage of design thinking is not necessarily the last thing designers will do. Remember: design thinking is an **iterative process**, where designers are expected to go through a series of changes, edits, and refinements. For this reason, it's not uncommon for the testing phase to "**restart**" some other design thinking processes, as newly discovered ideas might spark additional potential solutions that require an entirely fresh approach[14]. This means that results from the testing phase may reveal some new insights about the desired users, which in turn may lead to another brainstorming session for previous phases (e.g., Ideate step) or the development of new prototypes (e.g., Prototype step)[15].

In simple words, the testing phase is all about critically examining the prototypes developed during the previous phase and refine them. For instance, let's take the previous example of the shower that switches off automatically if you are in the shower for more than 5 minutes. In theory, this could be a brilliant example of sustainable consumption. However, upon critical reflection, gaps may be revealed: for instance, the shower may be impractical, or the users may live in a community which cannot sustain that solution from an energy perspective. As such, participants should seek another alternative prototype (going back to the prototype or ideate phase). |

[14] Springboard. (2021). What Are the 5 Stages of Design Thinking? Retrieved from:
https://www.springboard.com/library/ui-ux-design/design-thinking-stages/#design-thinking-stage-5-test
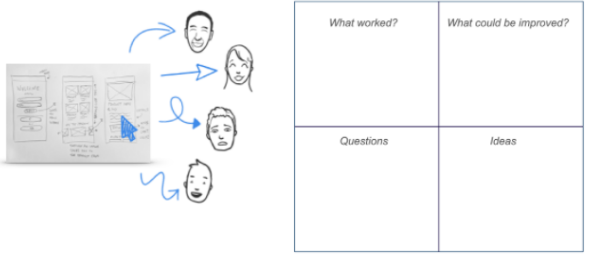[15] Interaction Design Foundation. (2021). 5 Stages in the Design Thinking Process. Retrieved from:
https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

Funded by the
Erasmus+ Programme
of the European Union

We4
Change

Girls and Women Connecting
for Environmental Change

Preparation & materials: what do you need?	It is recommended that this step is kept as simple as possible. The most important and necessary materials that should be used for reflecting on the prototypes are:
	- **Pens, pencils, and notebooks** for writing down thoughts
	- **Coloured post-in notes**
	Upon reflection, participants can return to a previous phase and use the same material that correspond to that phase.
Recommended time	25 minutes
Practical instructions	**The process will unfold as follows**:
	The trainer will ask the groups to present to each other their prototypes and critically provide feedback as if they were the users (under a hypothetical scenario). Essentially, participants in one group will take over the role of the design thinkers and the second group will act as the target group/users of the problem's solution. The designers' team will make a brief presentation of the prototypes(s) they prepared in the previous step (5 minutes).
	Upon presentation, the users' team will think of the proposed idea(s) and provide feedback either for the prototype or other aspects regarding the previous steps (5 minutes). Once the presenting group receives the feedback, they can devote around 15 minutes to reflect on them and refine as many suggestions as possible from what they have collected as feedback.
Tips & recommendations	• **Allow users to interpret the prototype themselves**. Clarify to the designers group that it is not necessary to explain everything when presenting their prototype in order to not influence the users. The most important after the presentation of prototype is to watch users how they perceive it and then listen to what they say about it.
	• **Organise the way of giving feedback**: To help the second group (who act as users) give their feedback in a clear way, a simple matrix can be used, as presented in the image below[16]:

---

[16] Stevens, E. (2021). How To Run an Awesome Design Thinking Workshop. Retrieved from:
https://careerfoundry.com/en/blog/ux-design/design-thinking-workshop/

- **Remind participants how valuable is feedback**: Time constrains stipulate that since testing and reception of feedback will happen only once, the process should be done wisely[17]. Giving feedback should be regarded as a critical and not a boring activity.

---

[17] Workshopper. (2021). Design Thinking Phase 5 - How to Test Effectively. Retrieved from:
https://www.workshopper.com/post/design-thinking-phase-5-how-to-test-effectively

General tips for facilitators

- **Remember that the Design Thinking process is iterative**

Iteration is a fundamental of an effective design process. Iterate both by cycling through the process multiple times, and also by iterating within a step—for example by creating multiple prototypes or trying variations of a brainstorming topics with multiple groups. Generally, as you take multiple cycles through the design process your scope narrows and you move from working on the broad concept to the nuanced details, but the process still supports this development.

For simplicity, the process is articulated here as a linear progression, but design challenges can be taken on by using the design modes in various orders; furthermore, there are an unlimited number of design frameworks with which to work. The process presented here is one suggestion of a framework; ultimately you will make the process your own and adapt it to your style and your work. Hone your own process that works for you. Most importantly, as you continue to practice innovation you take on a designedly mindset that permeates the way you work, regardless of what process you use.

- **Get prepared and have a plan, following this module and ppt presentation**

This guide suggests a basic structure for a social and professional empowerment workshop. However, as the interaction with the participants is a dynamic process, the facilitators may need to re-define some procedures or add more steps for a successful empowerment process. As a result, it is necessary to prepare yourself, creating alternatives for things that might go wrong or do not fit to the participants. You can also ask for help, inviting an expert as a speaker to the workshop, and it can be encouraging and really helpful in case of questions that participants may have and the facilitators will not be able to answer with certainty.

- **Create a warm atmosphere**

One of the most important points of an empowerment workshop is its environment and the feelings that creates to the participants. Thus, it is essential to create a positive atmosphere from the first minutes of the workshop and maintain it during the whole workshop. Make everyone feel comfortable and welcome create a positive attitude for every problem that may arise, like participants that came late, or participants that are very shy to talk in front of an audience. Encourage everyone, give them time and

always have a friendly approach. Only in this way, every participant will feel comfortable and trust the whole process so as to freely express themselves and reap the greatest possible benefits of the workshop.

Pre-workshop checklist[18]:

1. **Scope out the challenge and set workshop objective(s) in a piece of paper** (if you want to have your own notes)
2. **Find a suitable location** (it would be totally appropriate if you find a peaceful place without noise and other interruptions)
3. **Plan the agenda** (including time slots for each activity)
4. **Gather all necessary materials**: A part of the workshop, mainly the step 4 (Prototype) is dedicated to building low-fidelity prototypes, for which you will need a good selection of simple but useful materials. A list of everyday and easily manageable materials that everyone is familiar with are the following: — white copy paper, colored construction paper, sticky tape, marker pens, post-it notes, few notebooks, a whiteboard for helping the participants to collect or write down their ideas.

---

[18]Stevens, E. (2021). How To Run an Awesome Design Thinking Workshop. Available here: https://careerfoundry.com/en/blog/ux-design/design-thinking-workshop/

Glossary

- **Design Thinking**: Design thinking is a non-linear, iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test.[19]
- **2nd definition of Design Thinking**: Design Thinking is a **methodology that helps to solve complex problems** through tangible solutions that can make an impact on other people's lives. It can help to generate innovation and contribute to creating a better and more sustainable future.
- **Empathy**: It is the ability to understand people and see the world through people's eyes, and it is to step in people's shoes to feel what they feel.[20]
- **Define**: It is the synthesis of information you've gathered to determine a meaningful, actionable problem statement or point of view. [21]
- **Ideate**: According to the Nielsen Norman Group, ideation is defined as "*the process of generating a broad set of ideas on a given topic, with no attempt to judge or evaluate them*". In the ideation phase of Design Thinking process, the participants who act as designers explore and come up with as many ideas as possible.[22]
- **Prototype**: Prototyping is an experimental process where design teams implement ideas into tangible forms from paper to digital. [23]
  Follow-up definition: a **Prototype** is a **physica**l or **digital** artifact that can be built with materials of different kinds. It helps designers in general to make a solution tangible in order to test it and get feedback.
- **Test**: User testing is part of a user-centered design process which lets the participant gain empathy for the people they are designing for by testing the prototype with them directly and understanding how they feel about it. [24]
- **Facilitator** (who is the trainer): This is a person that guides the students/ participants during project-based activities. The facilitator

---

[19] Interaction Design Foundation. (2021). Design Thinking. Retrieved from: https://www.interaction-design.org/literature/topics/design-thinking

[20] QED42. How Empathy Works in Design Thinking. Retrieved from: https://www.qed42.com/blog/how-empathy-works-in-design-thinking

[21] Stephanie Baseman. Design Thinking Process. Retrieved from: https://www.stephaniebaseman.com/design-thinking-process

[22] Career Foundry. (2021). What Is Ideation in Design Thinking? An Ideation Techniques Guide. Retrieved from: https://careerfoundry.com/en/blog/ux-design/what-is-ideation-in-design-thinking/

[23] Interaction Design Foundation. (2021). Prototyping. Retrieved from: https://www.interaction-design.org/literature/topics/prototyping

[24] Yukti. (2020). User Testing | A Beginners Guide to Stage 5 of Design Thinking Process. Retrieved from: https://www.yukti.io/stage-5-in-design-thinking-test-stage/

has the role to oversee the activities and help all participants progress through the creative process with a maieutic approach.

Bibliography – references

Brown, T.& Wyatt., J. (2010). Design Thinking for Social Innovation. Stanford Social Innovation Review. Retrieved from: https://myweb.uiowa.edu/dlgould/plugin/documents/Design_Thinking_for_Social_Innovation.pdf

Career Foundry. (2021). What Is Ideation in Design Thinking? An Ideation Techniques Guide. Retrieved from: https://careerfoundry.com/en/blog/ux-design/what-is-ideation-in-design-thinking/

d.school. (2010). An Introduction to Design Thinking: PROCESS GUIDE. Retrieved from: https://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf

Hart, R. (2008). Stepping Back from "The Ladder": Reflections on a Model of Participatory Work with Children. In A. Reid, B. Jensen, J. Nikel, & V. Simovska, Participation and Learning. Perspectives on Education and the Environment, Health and Sustainability (pp. 19-31). New York: Springer.

IDEO. (2013). Design Thinking for Educators. https://f.hubspotusercontent30.net/hubfs/6474038/Design%20for%20Learning/IDEO_DTEdu_v2_toolkit+workbook.pdf

Interaction Design Foundation. (2021). 5 Stages in the Design Thinking Process. Retrieved from: https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

Interaction Design Foundation. (2021). Design Thinking. Retrieved from: https://www.interaction-design.org/literature/topics/design-thinking

Interaction Design Foundation. (2021). Prototyping. Retrieved from: https://www.interaction-design.org/literature/topics/prototyping

Jones, K. R., & Perkins, D. F. (2005). Determining the quality of youth-adult relationships within community-based youth programs. Journal of Extension, 43(5), 1-10.
Kalemaki, I. et. al. (2019). Towards a learning framework for social innovation education, 2019 EMES Selected Conference Papers. Retrieved from: https://www.researchgate.net/publication/337415281_Towards_a_learning_framework_for_social_innovation_education_2019_EMES_Selected_Conference_Papers

Mulgan, G. (2007). Social Innovation: What it is, why it matters and how it can be accelerated. Oxford, UK: Said Business School. Retrieved from: https://www.researchgate.net/publication/277873357_Social_Innovation_What_It_Is_Why_It_Matters_and_How_It_Can_Be_Accelerated

Phills J. A., Deiglmeier K., Dale T., and Miller D. T. (2008). Rediscovering Social Innovation. Stanford Social Innovation Review. Retrieved from: https://ssir.org/articles/entry/rediscovering_social_innovation

Plattner et al. (2011). Design Thinking; Understand – Improve – Apply. Heidelberg: Springer-Verlag Berlin Heidelberg. doi:10.1007/978-3-642-13757-0. Available at: https://www.springer.com/gp/book/9783642137563

Plattner, H. (2010). An introduction to design thinking: PROCESS GUIDE. Institute of Design at Stanford. Retrieved from: https://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf

QED42. How Empathy Works in Design Thinking. Retrieved from: https://www.qed42.com/blog/how-empathy-works-in-design-thinking

Springboard. (2021). What Are the 5 Stages of Design Thinking? Retrieved from: https://www.springboard.com/library/ui-ux-design/design-thinking-stages/#design-thinking-stage-5-test

Stephanie Baseman. Design Thinking Process. Retrieved from: https://www.stephaniebaseman.com/design-thinking-process

Stevens, E. (2021). How To Run an Awesome Design Thinking Workshop. Retrieved from: **https://careerfoundry.com/en/blog/ux-design/design-thinking-workshop/**

Workshopper. (2021). Design Thinking Phase 5 - How to Test Effectively. Retrieved from: https://www.workshopper.com/post/design-thinking-phase-5-how-to-test-effectively

Yukti. (2020). User Testing | A Beginners Guide to Stage 5 of Design Thinking Process. Retrieved from: https://www.yukti.io/stage-5-in-design-thinking-test-stage/