



DEVELOPING AND EVOLVING
IN MUSEUMS

Innovation Workbook

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Aboa Vetus & Ars Nova

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1

MUSEUMS AS A SOURCE OF INSPIRATION FOR INNOVATION

Museums are full of stories about both creativity and various problems and solutions, the innovations of their time. Can cultural heritage and art help to solve the problems faced by this time as well? How can museums support the processes of innovation?

This workbook introduces methods in which cultural heritage and art can act as inspiration, encouragement, and support for the development of new solutions. These methods have been developed in cooperation with museums, professionals in higher education and entrepreneurship education, as well as students in higher education. The methods selected in this workbook develop working-life skills, such as problem-solving capacity, teamwork skills, and creative thinking. They encourage critical thinking, identifying personal strengths, and they give the courage to act and influence.

Museums as an igniter and a learning environment

Museums vary from each other significantly in terms of size and content. Common amongst them, however, is that they collect, conserve, and research, as well as convey experiences and knowledge of the world, even over a long time span. The exhibits in the collections of museums are instruments for remembering and they form enormous data banks of materials open to endless interpretations. A museum's exhibits exist in the present, but they tell about the past and can help us to perceive the future. A museum's exhibits and art can be used to research the past, to examine the present moment, and to bring out the alternative realities and visions of the future.

The most common method of presentation for museums is an exhibition. Its storytelling and multi-sensory approach allow one to embrace knowledge through experience, creating insight and understanding. We associate our previous knowledge and experiences with the objects and works of art we encounter. These emerging associations and interpretations are therefore subjective. Museums are not only places to discover new things about the surrounding world, but about oneself as well.

Innovation is creative problem-solving, which, at the core, is combining things in new ways. Deviation from conventional environments can help one see and do things in new ways. The temporal perspective of museums offers a point of reference and helps to view the present from afar, opening perspectives that may not be seen in everyday life. Stories, objects, works of art, and multi-sensory exhibitions awaken the imagination and help to expand thinking and the discovery of new connections.

The development of new solutions is also learning and discovering. As a platform for innovation, museums are not only igniters for ideas, but are also learning environments. An equal and relatively neutral museum environment creates a good platform for collaboration and interaction. Movement in the space and a multi-sensory experience lighten up the work, break group roles, and allow for more relaxed interaction, thus making it easier to share one's own ideas. In museums, everyone has the right to their subjective experiences, which makes the different strengths of individuals visible and supports participation.



Knowledge and ideas about cultural heritage

The methods outlined in this workbook are specifically directed towards students and young adults who are soon entering working life. It is also possible, however, to use these methods with younger participants, for example, to support teamwork, discussion, or ideation. This book is intended for anyone working with young people, for example in schools, youth work, and museums. It helps to find new perspectives, practices, and learning environments for activating young people and innovation training.

The methods allow cultural heritage to be viewed from the starting points of the viewer. The workbook acts as a guide to interact with the museum exhibits and works of art, as

well as encourages to observe, study, and interpret. The methods presented have been developed in museums focusing on technology, history, and contemporary art, but they can also be applied in other learning environments.

This workbook was created as part of the Aboa Vetus & Ars Nova's coordinated Museums as innovation platforms- a project implemented with the Museum of Technology, Humak University of Applied Sciences, and Junior Achievement Finland. During the project, societal think tanks and innovation courses directed at students of higher education were arranged in museums. The project has been funded by the European Social Fund and is part of the European Commission's sustainable growth and work in the 2014-2020 programme.

2.

INNOVATION AND THE INNOVATION PROCESS

What is innovation?

Ideation of the new is the starting point for innovation. However, a good idea, plan, or invention are not yet innovations, which they only become at the point when their functionality and benefit have been tested and approved by the target group. Knowing the target group is central to the innovation process, because the core of innovation is specifically found in the needs of the target group. Innovation, therefore, cannot only take place at the design table, but it is necessary, early on, to engage with the target group. The target group is often involved in the development of innovation from the beginning of the ideation process.

ent senses, jolting thoughts out of ruts, and even throwing oneself into unconventional states of mind.

Jolting and throwing oneself are not successful immediately, but they are skills that evolve with training. These exercises do not necessarily bring immediate benefits to the development of innovation; therefore, they should not be expected from them. Turning thinking onto new tracks, however, is necessary, as it helps to produce unusual and innovative solutions.

In the development of innovation, it is not worth clinging onto the first solution that emerges, as it is often the most conventional. The innovation process is characterized by a rapid succession of sprouting ideas. Some of these are pruned along the way away and only a small portion proceed to the implementation stage, and often even these have been significantly transformed from the original. The process requires plenty of mental space, as it must be possible to turn and reshape the ideas again, if necessary.

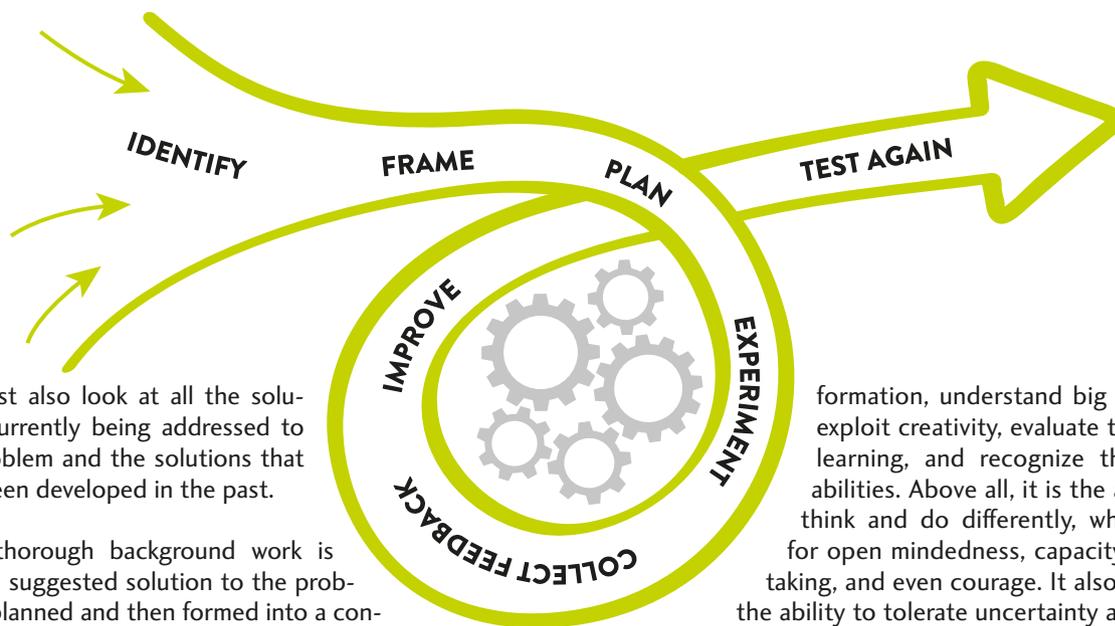
Innovations can be radical in nature, i.e. revolutionary to technology, practices, markets, and even society. Such examples include, electricity, student aid, and social media. The majority of innovations, however, are incremental, which means that they are improvements to existing products, services, or structures.

Innovating is teamwork involving various mindsets, opinions, and diverse skills. A good innovative team includes experts from different fields and people from diverse backgrounds. A group's ability to innovate arises from both the individuals and the group. It is, therefore, important to not only pay attention to the most diverse possible composition of the group, but also to group activities that are equal and take into account all parties.

How are innovations generated?

Even though the seeds of innovation are sometimes born in a single glimpse-like moment, this is quite rare. Most often, generating innovation is a planned process. The innovation process must be understood as partially conscious and partially subconscious, so must, therefore, be given sufficient time and space. Time is needed for ideation and thought maturation, but especially for tuning into innovation thinking itself. It rarely happens in one's familiar contexts or as part of normal work, and requires the stimulation of differ-

Innovation is the production of solutions to existing problems. When it comes to designing innovation, we must first identify the problem and the factors linked to it, especially the target group, its needs, and its operating environment.



We must also look at all the solutions currently being addressed to the problem and the solutions that have been developed in the past.

Once thorough background work is done, a suggested solution to the problem is planned and then formed into a concrete product, service, or structure that can be tested in practice with the target group. The first testing is intended to be a light experiment to provide answers to the most essential questions of functionality and usefulness. Feedback is collected from the experiment and it is carefully analysed. Based on the information received, the necessary improvements and experiments will be made as long as the innovation is functioning.

Innovation skills and innovation education

The innovation process generates new knowledge and solutions to identified problems based on a group's know-how. New development always means new learning. In the process, new insights are extracted from that which is being developed. In addition, passing through the stages of work develops innovation skills and understanding about the nature of the innovation process.

What then are innovation skills in practice? During innovation processes, people are closely intertwined as part of a team, applying their own skills in practice, and stepping outside of their comfort zones and perhaps even areas of expertise. Innovation skills, among other things, consist of interaction skills and the ability to find and manage in-

formation, understand big pictures, exploit creativity, evaluate their own learning, and recognize their own abilities. Above all, it is the ability to think and do differently, which calls for open mindedness, capacity for risk taking, and even courage. It also involves the ability to tolerate uncertainty and intermittent failure.

Innovation education aims to support the development of these skills and to increase innovativeness, i.e. the readiness to seek and provide new solutions. Innovation education guides ideation and integration of existing things in new ways. In innovation education we work together with concrete issues, creating new information and solving real challenges. The work is self-directed and reflective. Ready-made templates and detailed directions are given as little as possible, since defining assignments and identifying problems are also important parts of the learning process. Innovation education encourages openness as well as critical and creative thinking.

Innovation activities are often seen to be related specifically to business activities, both of which at the core identify the needs of a target group and the development of new products or services. Innovation education is therefore a natural part of entrepreneurship education. Innovation education, however, is not only related to entrepreneurship: innovation thinking that is included in innovation know-how, i.e. the ability to see things differently and to challenge prevailing practices, is needed in any activity that is genuinely wanted to be renewed.

3. INNOVATION ACTIVITIES IN MUSEUMS

In this chapter you will find the keys to the implementation of a **think tank** and **innovation course** in your chosen museum. Both models are flexible and can be tailored to the needs of different participants. The operating models open up new diverse learning environments for the fields of innovation education, youth work, and universities, while providing museums with the opportunity to review their materials in a new light and to develop new ways of using a museum.

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The idea of think tanks in museums is a perfect way to generate societal discussion and experimentation with new methods of thinking and problem solving. For think tanks, the contents of a museum serve as the igniter of conversation and ideation. At innovation courses, a museum's contents are harnessed to support creativity and thinking through a holistic innovation process brought to the museum. In the course, the museum works not only as inspiration, but also in support of the learning process. The concrete process helps to outline the innovation-process stages and one's own skills, as well as to develop working-life skills in a diverse manner.

Think tank

Think tank refers to an organization, group, or discussion forum aimed at developing solution suggestions for selected problems. In this workbook, the think tank is a platform for discussion and ideation directed at young people, where it is possible to look at societal questions and ideate solutions to the problems associated with them. With a think tank implemented in a museum en-

vironment, the museum serves as a lens through which societal topics are explored.

A think tank in a museum consists of three parts: the opening of the discussion, the active part in the exhibition, and the summary. It is good to build the event around a theme that works as a red thread for the day. The opening discussion is intended to serve as the impetus for the chosen theme and to inspire ideas and questions. The practical part may consist of a discussion or workshop, and it aims to develop the initial ideas and to reflect on them in the exhibition environment. Finally, the conversations, insights, and ideas generated during the day are then dealt with collectively.

A think tank can be used for processing a phenomenon or problem, to increase understanding, or to seek solution suggestions. A think tank can also be used as an introduction for the innovation process, to create a theme or problem to be solved in the actual process.

ORGANIZE A THINK TANK!

Theme
presentation and
opening
discussion
0.5–1.5 h

Practical part:
discussion and
ideation in the
exhibition
1.5–3 h

Summary:
going through in-
sights and ideas
0.5–1 h

START HERE!

Find a partner

Participants from universities, schools, and the field of youth work: Book a museum space for your use. Contact the museum you selected (for example, customer service or the museum-education manager) and explain that you would like to organize a few hours of discussion, including the practical part in the exhibition rooms. The optimal duration of a think tank is, depending on the size of the group, from two to four hours. Also inquire if it is possible for the museum professionals to participate in the design or implementation of the workshops, since they have expertise of the content and the ability to deepen the museum experience.

Museums: Contact the people involved in educational institutions or youth work and suggest cooperation in the form of a think tank. Your museum can have a ready theme or topic you would like to address or, for example, a newly opened exhibition, to which you would like to invite young people to discuss and ideate.

Think of a societal theme that you want to start the day with

Prepare an opening impetus based on the day's theme. It can be a speech on the subject, a panel discussion, a short film, or, for example, a performance. The style is free, but the presentation must evoke thoughts or questions in the participants and lead to the theme of the day. There can be quite a few speakers or presentations in a longer think tank.

Aim to bring in a multidisciplinary approach

Also invite other educational institutions, disciplines, or organizations to participate and call experts from different fields to introduce the topics.

Select a few methods to fit your needs from the Methodology section of this workbook

The tasks most suitable for the think-tank programme challenge the participants to live out experiences, discover new perspectives, discuss, and ideate. With the think tank, you can also experiment with innovation methods in the museum environment or invite students along to ideate and implement workshops.

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Have the necessary materials for the exercises ready in the exhibition space

The exercises can be, for example, at workstations that the participants rotate through.

THE THINK TANK PROCESS:

- Welcome all the participants and introduce the day's programme. Then, introduce the theme of the day and the speakers/performers.
- Reserve time (approx. 15–30 min) for questions after the opening of the discussion. You can also prepare some discussion initiators in case the audience does not immediately raise questions after the presentation/speech.
- After a brief discussion, divide the participants into small groups of about five, with as many people as possible studying in different fields, of different age, and previously unfamiliar with each other.
- Direct the groups to the various workstations and encourage the use of the exhibition environment to help with ideation and problem solving. The problems or solutions addressed do not need to relate to the museum or cultural heritage. The purpose is to use the museum environment as inspiration. The methods in the next chapter of the workbook provide discussion openings and different perspectives for objects and works of art.
- Finally, gather together to collect the day's results. For example, you can consider what kinds of things generated discussion in the groups. And what kind of perspectives did the think tank open related to the day's theme? If you chose to include concrete ideation or innovation methods, you can end by presenting the ideas and insights generated in the groups during the day.



**Nice concept,
something
new!**

**Definitely
reinforced my
enthusiasm to
learn and
motivated me
in a new way.**

**The spacious
room helped
ideation and
made it easy to
be there.**

**I learned the courage
to think “outside the
box”, as well as to say
thoughts aloud.**

Thoughts
automatically
shifted to a more
creative gear.

I received additional
boosts and inspiration
for innovation in
the workplace.

INNOVATION COURSE

At the innovation course, the museum offers a platform for solving societal problems and developing new innovations. The innovation platform is a confined place or space where a specific group of people, or innovators, are working on a confined problem, striving to solve it to produce social or economic value. The innovation platform is also defined by a clear, repeatable innovation process.

The innovators are students working in teams of 4 to 5 people who are responsible for developing a new concrete product, service, or concept during the course, for the needs of their chosen target group. The teams go through the innovation process during the course, starting with defining the problem and target group and ending up with testing and the further development of the ideas.

The intensive course develops a diverse range of problem-solving skills, innovation and entrepreneurial skills, teamwork skills, and the ability to tolerate uncertainty and stress. The participants learn to work in the innovation process, while strengthening project-management skills and awareness of their own strengths. The course develops solutions to the problems of our real everyday life, which makes visible the possibilities of young people to influence and act in society.

The innovation course may start with a pre-existing assignment or think tanks. The museum not only functions as a physical platform for innovation work, but also its contents act as substantive inspiration. The course days include museum interventions or workshops, during which the students can dive into the exhibitions and museum collections to create new perspectives, ideas, and insights. In addition, the course includes a variety of innovation exercises based on the Let's Innovate course outline, created by Junior Achievement Finland.

Teachers, museum and youth-work professionals, as well as professionals in the fields of innovation and entrepreneurship education, can work as instructors of the course. In addition, experts from different fields can also be invited to share their skills and to spar with the students at different stages of the process.



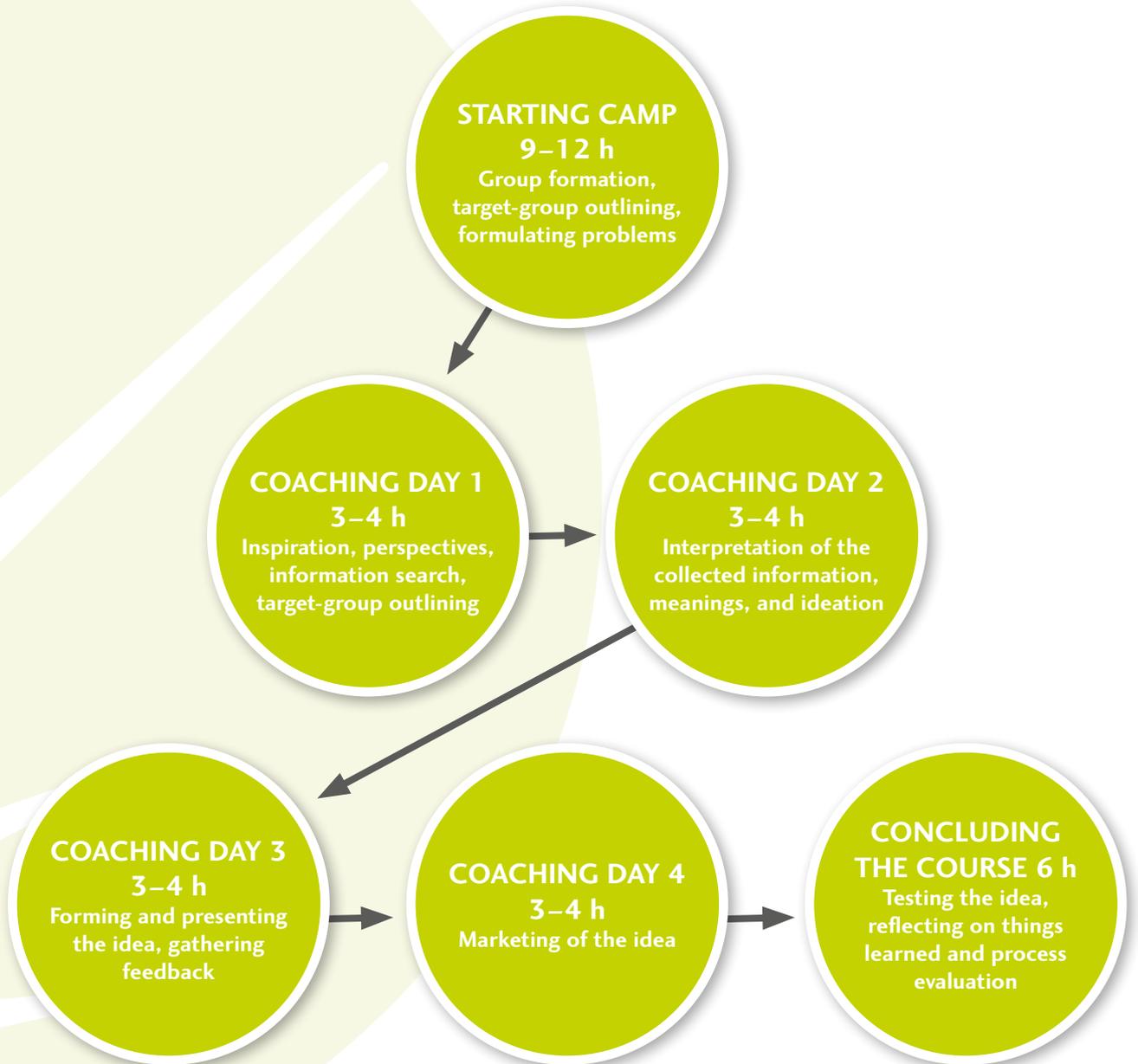
Ideaasta haluttuun sovellukseen

Mikä idea ja miten se toteutetaan? Mikä on tavoite? Mikä on resurssit? Mikä on aikataulu? Mikä on riskit? Mikä on seuranta?

Luodaan ja toteutetaan sovelluksen avulla.

ORGANIZE AN INNOVATION COURSE!

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START HERE!

Find a Partner

Museums: Contact a higher education institution or someone involved with youth work and suggest your museum as a platform for the innovation process. Think about what you are willing to offer: just a space or guidance or workshop guidance as well. It is worth contacting universities well before the desired implementation time, so that they can react and plan the course as part of their study programme.

Higher education institutions and youth-work organizations: contact local museums to see if they are interested in becoming an innovation platform for the course. If possible, take advantage of the expertise of the museum professionals in designing and implementing the museum workshops. Often museums can offer not only their exhibition rooms, but workshop facilities as well, which are worth taking advantage of, since transferring all of the innovation work to the exhibition space can be challenging (e.g. the exercise instructions or displays of presentation graphics). Please note that the earlier you contact the museum, the more likely the facilities will be available for your desired time.

A course implemented with a multidisciplinary approach is the most fruitful for all participants. Therefore, if possible, you should also contact other disciplines, universities, interested parties. Due to its nature of being project-like and orientating working life, this course is suitable for many courses and subjects. Guidance should also be carried out in a multidisciplinary manner. Please reserve at least two instructors for each course in the museum.

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Plan the implementation

Assemble an outline for the course from the innovation exercises and museum workshops. Ideas for museum workshops can be found in the Methodology section of this workbook. For more information on the innovation and intermediate tasks in the course outline below, please refer to the Let's Innovate course manuscript from Junior Achievement Finland's teacher materials: <https://vuosiyrittajana.fi/materiaalit/>. (The material bank requires registration.) On the website you will also find completed materials for course evaluation.

Course completion is based on intermediate tasks supporting innovation that teams can collect as a group-based portfolio or learning journal. In addition, team members write a personal learning journal during the course, which can also be implemented, for example, as a video. Learning journals support in understanding innovation and the learning process.

While the goal during the course is to develop a concrete product or service for the testing stage, the most essential thing is the learning process – learning to innovate. A failed experiment does not equate bad performance in the course. Developing new things is always experimentation, which naturally includes failures and setbacks. These are also important steps in the learning process.

Note the size of the group and the museum used as your innovation platform when planning the course dates. Before fixing the schedule or choosing the methods, it is worth becoming familiar with the museum environment and its possibilities and constraints. The days shouldn't be scheduled too tightly. At the end of each day of the course, it is important to leave room for questions from the teams and for releasing the anxieties that will inevitably arise when the students are forced outside their comfort zones. Also, be sure to include at least a 15-minute break each day.

The impact of the museum space itself is great for thinking and teamwork. However, you should also include guided museum workshops in the course, since they allow you to stop by the museum exhibits and works of art. Contemplating the museum's contents strengthens the impact of the space and helps to find new perspectives to grasp.

It is a good idea to choose the museum workshops so that they link to other work during the day. It is good to explain to the participants why the museum exercise was done at that point of the process. This makes it easier for them to orient themselves to the task and to take advantage of the museum's content as part of their innovation process. It is also good for the instructor to emphasize that the museum workshops won't necessarily generate major forward-directing insights but can rather serve to tune into innovation thinking and support the process.

Agree on the responsibilities and the mutual communication between the instructors. If you include instructors from different organizations, consider that the roles are shared clearly. Because different universities have different learning platforms, you can use email or cloud services, for example, to communicate and return course tasks. Finally, market the course to the target groups.

INNOVATION COURSE PROCESS:

STARTING CAMP

- Start of the day:** Presentation of the course and museum 30 min
- Icebreaking exercise and dividing into teams** 30 min
- Teambuilding and orienting exercises:** Becoming acquainted with each other and collecting team skills, as well as a museum workshop 90 min
- Break** 30 min

- Course policies** 30 min
- Theming/assignment (Instructor or guest speaker)** 30 min
- Selection of target groups** 30 min
- Interviews to familiarize with the target group** 45 min
- Task evaluation and overview** 45 min

- Break** 15 min
- Reverse brainstorming:** Ten ways to destroy the wellbeing of the target group 60 min
- Museum workshop:** Reflection 45 min
- Personal learning agreement** 15 min
- Summary of the day and assignment for the next time** 30 min

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The course begins with an intense nine-hour starting camp, during which you will get acquainted with the group and the museum, as well as kickstart the innovation process. Although nine hours sounds like a long time, every hour is needed so that the teams can really get acquainted with each other and get their processes started. A long day also challenges the students and the group to overcome their limitations. The starting camp consists of three parts of about three hours each.

The day should begin with an introduction about the course and the working environment as well. For example, you can ask the museum staff to tell about the museum. In this context, it is important for the instructors to define the role of the museum in the course: the igniter and inspiration for ideas, the opener of perspectives and ideas, as well as the learning environment. This is important to prevent the content of the ideas from becoming too tightly tied to the museum. In principle, the purpose of the course is not to ideate solutions for the museum. The students should be encouraged to take advantage of the museum environment and cultural heritage for their own starting points.

Following the introductions of the course and the museum, the group is divided into teams of 4 or 5 people. The groups can be divided, for example, by assigning numbers or even by eye colour. It is essential that the groups are made as heterogeneous as possible. The remainder of the first three-hour section is used for exercises supporting teambuilding and inspiration. One of the exercises can be used to take advantage of the museum workshop, where the group can become acquainted with the exhibition rooms as well as each other. The exercises can be done at the same time in order to save time.

During the next three-hour section, the course completion policies, theming, or assignment are gone through and the target group, for whose needs the solutions are required, is outlined. Once the target groups have been selected, the teams will be assigned to interview the representatives of their target groups, either in the museum or somewhere else.

The final three-hour section consists of innovation tools that support the surveying of the target group as well as reflecting on the course day. The day is intense, so it is a good idea to reserve time at the end of the day to analyse thoughts and things learned. A museum workshop can be used to introduce or support reflection.

Intermediate task:

Define the problem and target group

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Photo: Junior Achievement Finland

COACHING DAY 1

Start of the day 10 min

Museum workshop 30–45 min

Team task: What have we found out about our target group? 20 min

Cross-pollination: Sharing ideas between teams 30 min

Team task: The life situations of the target group. What everyday situations does the target group face? 30 min

Boost hour: The teams choose one of the challenges or problems of the target group and seek solutions with the other teams 30 min

Team task: What is not yet known about our target group? 20 min

Assignment for the next time 30 min

The theme of the first day of the course is the target group and surveying it. How is the day-to-day life of the target group? What do we really know about our target group? What is not yet known, and how can we find it out? The day's museum intervention should be selected from 'Data Collection' in the Methodology section. The museum workshop can be used to either start or break up the day.

Intermediate task:

Creating a customer profile



COACHING DAY 2

Start of the day 10 min

Museum workshop 30-45 min

Visitor/theme introduction 20 min

Team evaluation: What's gone well? What hasn't gone well? What have we learned? What should we do differently from now on? 30 min

One-hour innovation circle:

1. Teams come up with five dream situations of the target group 10 min
2. The best dream situation is chosen 5 min
3. Three innovations that would help the target group reach this dream situation 30 min
4. Ten ways that this dream could be turned into a nightmare 15 min

Follow-up task: Teams come up with ten countermeasures to prevent the dream from being destroyed 20 min

Boost hour 20 min

Assignment for the next time 30 min

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The theme of the second day of the course is ideation. The goal is to reflect on the dreams and nightmares of the selected target groups, i.e. the goals and threats that create boundaries for ideation. It's a good idea to organize the day so it is tight and intense, because the purpose of working at a fast pace is to push ideas towards becoming concrete. For the day's museum section, a workshop focusing on ideation is suitable. The museum workshop works best at the start of the day for warming up before actual innovation exercises.

Intermediate task:

Testing and pitching the idea

COACHING
DAY
3

Start of the day 10 min

Museum workshop 30 min

Visitor/theme introduction 20 min

Assessing own pitches in teams 10 min

Cross-pollination: Sharing ideas between teams 20 min

Developing and finishing pitches 10 min

Pitches: The teams present their pitches and give feedback to other teams 50 min

Refining the idea based on the received feedback 15 min

Team task: What have we learned? How has our idea changed? 15 min

Timeline: What does the team still need to do before the last training day? 15 min

Assignment for the next time 30 min

For the third day of the course, the teams must prepare a pitch, i.e. a three-minute sales talk about the idea developed so far. During the day, you will practise putting your own idea into words, as well as giving and receiving feedback. Choose a museum workshop from either the 'Ideation' or 'Onwards from an idea' sections and have it either at the beginning of the day or during the middle stages to break up the work.

Intermediate task:

Marketing an idea

COACHING
DAY
4

Start and introduction to the theme 30 min
Museum workshop 30 min
Student-led marketing workshops 60–90 min
Overview 30 min
Assignment for the next time 30 min

The fourth day of the course focuses on marketing the ideas. The day consists entirely of a programme structured by the teams. Each team teaches the others a tool that supports the marketing of an idea that they have found useful. This day's museum workshop should take place right at the start of the day. Select an exercise from the 'Onwards from an idea' section. It is a good idea to reserve enough time at the end of the day for giving instructions about the demos they will implement next time. The aim is that the teams will organize a trial for their target audience on the last day, where they can test their ideas for functionality and collect user feedback.

Intermediate task:

Testing an idea with a target group

CONCLUDING THE COURSE

Team demos 180 min

Demo overviews and presentation for the rest of the group 60 min

Course evaluation 90 min

For the final meeting of the course, the teams implement demos that test their ideas with their chosen target group. The demos can be done either in the museum or somewhere else. If it is possible, the course instructors can join to observe the tests. The first three hours of the day are reserved for the demos and the latter for the evaluation of the test implemented and the reflection of the whole process. The latter part of the course can also be carried out in such a way that the tests are implemented between the two final course meetings, and the last meeting, as a whole, can be used to present the demos and user feedback as well as to evaluate the course.



A woman with dark hair is speaking at a podium with a microphone. She is wearing a light-colored top. In front of her, an audience of people is seated, seen from behind. The background features a large mural of a river scene with a boat and a red building. The scene is set in a museum or gallery.

The space and the sensory stimuli it brings has an impact.

Innovation can be practised and is not just a feature of certain “creative types”.

I felt that thoughts flowed more freely. Also, as a notion, I wasn't tired even after a long day when compared to a classroom.

The museum did not create any anxiety or pressure.

The course offered good lessons for working life and developed teamwork skills. It was great to get to design and implement ideas from the beginning.



Professional, I felt like I was no longer a student.

I learned a lot about my abilities, and I think I'm fit for more diverse work tasks than I thought I was.

I learned to work efficiently under stress, to tolerate unpleasant feelings, to focus optimistically on the future, as well as to strengthen skills for teamwork and interaction.

The stimulating environment gave an extra boost for thinking.

4 ● METHODOLOGY

The following methods can be used freely and adaptably in a variety of museums and with cultural heritage. The methods provide participatory tips utilizing cultural heritage and art for teamwork, ideation, creative problem solving, and reflection. The workshops have been compiled into a form of the innovation process to support each stage of the process. You can also utilize the methods as part of a think tank or individually for other types of teamwork or projects.

INSPIRATION

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In this section you will find tasks that support the process of observing and identifying a problem. The tasks inspire, stimulate conversation, and support team building and, therefore, are a good fit for the beginning stage of teamwork or a project.

Take the role!

Living out roles, perspectives, stimulating conversation
20–30 min

In this workshop we practise living out roles as well as stimulate conversation and versatile perspectives.

Required:

- a group of 3 to 6 people
- a stimulating environment, such as a museum or around cultural heritage
- paper and pencils
- an open mind and ability to dive in!

Go to a cultural heritage site, work of art, or object. Each member of the group imagines one person and describes him/her in a few words (e.g. age, gender, personality, workplace, life situation, worldview). The descriptions are written on the paper.

The papers are turned upside down and each person selects one. Now, live out the role of the person you selected and comment on the piece from the perspective of your role.

- *What would he/she pay attention to on the object you are observing?*
- *What kind of thoughts would it inspire?*
- *Would he/she like it? Why? Why not?*

Finally, consider:

- *How did the task feel? What thoughts were awakened?*
- *Were there diverging opinions about the piece, or did a mutual understanding arise?*
- *What feelings did the piece evoke in your role-played characters and why?*
- *Did the opinions of the role-played characters differentiate from your own?*



Interpretive dancing

Living out experiences, team building, interpretations
10–20 min

The aim of this workshop is to explore cultural heritage through movement. What new things can you discover when you live out the role of an object or a work of art with your body?

Required:

- at least one group of 3 to 6 people
- museum environment
- comfortable clothes and an open mind

The objects in a museum are often silent and stationary. Choose an object or a work of art that you want to bring to life through your motions.

Discover:

- *How has the object or work of art moved: was it spinning, wavy, sudden, in which direction was the movement?*
- *Does your chosen object or work of art have, for example, any cranks, gears, or wheels?*
- *What kind of sound has the object made or could be at the background of the picture?*

Form a small group of living machines or images whose human parts are in motion and make sounds and interact with each other.



Photo: Museum of Technology



Person as a focal point

Collecting and combining information, living out a role, perspectives, interpretations
40–60 min

The purpose of this task is to familiarize yourself with an exhibition and gather information creatively by living out a role, using the role as the focal point.

Required:

- at least one group of 3 to 6 people
- museum environment
- A pre-planned person to obtain information about while becoming familiar with the exhibition
- pencils and paper

The exercise begins with a person from whom it is possible to obtain information by observing the museum's exhibition. The person can be, for example, a historical figure, an imaginary character appearing in the exhibition's story, or even an artist. To describe the person, the instructor can either find information on the museum's website, visit the exhibition in advance, or request assistance from the museum staff. You should contact either the museum lecturer, pedagogues, or education manager.

To begin the task, the instructor explains who the person is and directs the teams to gather information about this person with the help of the exhibition. The goal is to live out the person's role and gather information around the following themes:

- *The person: How is the character of the person? What does he/she like? What does he/she look like?*
- *Day-to-day life: What does the person's day-to-day life consist of? Who is a part of it? How is a normal day of the person?*
- *Environment: In what kind of environment does he/she live? How does the person impact their environment, and, on the other hand, how does the environment affect him/her?*

The teams write down the themes and go to the exhibition to gather information. There may not be a simple answer to each question, so even bold interpretations are allowed. Finally, gather together to share the collected information and compare the personal profiles that came out of this.

Adventure course in the museum

Problem solving, team building, warming up
30–60 min

A workshop implemented in the form of an adventure course works as a warmup for problem solving, familiarizing with the work environment and the members of the team.

Required:

- at least one group of 3 to 6 people
- museum environment
- a pre-planned plot or story (e.g. a crime to be solved through hints)
- hints related to the work environment and objects: crossword puzzles, visual puzzles, and mathematical tasks
- tools: e.g. lockable boxes, UV pens and lamps, pencils and paper
- additional hints to help the groups proceed if needed

When preparing the workshop, you should contact the museum, for example, the museum lecturer or other museum education workers, and make agreements in advance to work at the exhibition. Since the task requires placing workshop materials in the exhibition space, it works best when the museum isn't busy.

Familiarize yourself with the work environment and plan the plot of the task course in advance. The story can be closely related to the exhibition story: for example, you may have at the centre of the story a character or a story from the exhibition relating to the tasks of the different points of the course, or alternatively, the exhibition environment can be utilized more loosely, binding individual objects, for example, to the plot of a crime story.



Examples of background stories:

An inventor's patent has been stolen! Please help him find the culprit and get his fortune back. The inventor had a habit of storing his patent... Maybe you can find a hint from there?

An archaeologist has found a strange note between the pages of an excavation report. The script resembles a code that the archaeologist does not recognize. Please help her to clarify the meaning of the curious message. The note was found in the excavation report at the point of ... Maybe this specific object could help to get the task started?

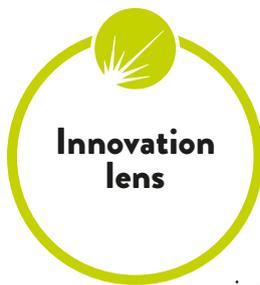
Search the environment for 4 to 5 points where you attach a hint task for the participants to solve. The intention is that each task is somehow linked to the plot of the adventure course and helps the participants to move towards the next task point. It is good to keep the tasks simple and short. A good idea could be, for example, mathematical puzzles (the correct answer could be the number combination that opens a lock), as well as crossword puzzles, visual and word puzzles (the answer could be the next exhibit for the participants to find).

Put the hints and other required materials into place in advance. The hints can be marked with a symbol that makes it easier to find the hint points.

Divide the participants into groups of about 3 to 6 people. Introduce the background story of the adventure course, instruct the groups to search for hints, and give them the search tools.

Follow the progression of the adventurers and, if necessary, help them to proceed with further hints.

The workshop can also be tied to the other work of the day. The task to be solved at the end of the day may, for example, open a box containing an innovation theme for each group or a topic of discussion related to innovation thinking.



Observation, perspectives, warming up 10–20 min

The purpose of this exercise is to see the world through the innovation lens and explore how the objects or works of art look as innovations. What new and innovative insight has the creator made?

Required:

- at least one group of 3 to 6 people
- a stimulating environment, such as in a museum or around cultural heritage
- pencils and post-it notes

Each group chooses an item to review, such as an object or a work of art, and observes it from the perspective of innovation.

Consider:

- *How is innovation recognized?*
- *What innovations do you find in the surrounding milieu?*
- *What new insight has the creator of the object or work of art made?*
- *What societal situations or needs are the innovations you found reflecting?*

Observations and ideas can be recorded on post-it notes and placed around the innovations found in the space used.

GATHERING INFORMATION

In this section you will find tasks that support the collecting and combining of information and the discovery of different perspectives and meanings. The tasks help in defining the need and approaching and framing the problem.

Mind map of the object

Gathering and combining information, interpretations, thinking about the target group 20–40 min

This task challenges to search for new perspectives and boldly combine information. The exercise serves as a basis for thinking about the target group. The intention is to demonstrate all that we can get out of the object just by looking at it and posing good questions.

Required:

- at least one group of 3 to 6 people
- at least one museum exhibit for observation
- A3 (or similar size) sheets of paper
- pencils

First, a museum exhibit is selected for each group and it is explained what the object is. However, more specific background information is not needed.

The object is drawn on the middle of the paper and the purpose is to come up with questions to ask about the object, which will help to create additional information and interpretations about the object.

For example, you can consider:

- *Who has used the object?*
- *What was the object used for? Has it been used infrequently or often?*
- *How important has it been for its owner? Has the owner had, perhaps, a number of similar objects?*
- *Has it always been with the owner or brought out only when necessary?*
- *Where is the object stored?*
- *Why has it stopped being used or been abandoned?*

The aim is to respond to the questions posed to the object and to start to build a mind map around the object on the paper using the answers. It is not essential to know the right answers, but to try to look at the object from as many different perspectives as possible and to make interpretations. Finally, if you wish, you can present the mind maps to each other.





Creator's motive

Interpretations, thinking about the target group 10–20 min

This exercise turns the gaze towards the creator of the object or work of art and prepares for thinking about the target group as well as making interpretations.

Required:

- at least one group of 3 to 6 people
- a stimulating environment, such as a museum or around cultural heritage

Settle in around your chosen cultural heritage, museum exhibit, or work of art. Each team can choose their own target object. Concentrate on thinking about its creator. Was there one creator or many?

Please pay attention to the creator's motives. Consider:

- *Why did he/she create this work of art or object?*
- *Who was it created for? For personal use or for someone else? For a large or small group?*
- *Has it reached its target group?*
- *What are some of the indicators telling about the creator's motives or the target group?*



Creative thinking, interpretations, thinking about the target group 30–40 min

The purpose of this task is to exercise creativity and understanding meaning, as well as to develop thinking about the target group. In the exercise, it is considered what the object or work of art would be like if it were a person.

Required:

- at least one group of 3 to 6 people, preferably more than one small group
- museum environment
- pencils and paper

The groups look for an object or work of art from the museum space and consider what it would be like if it had a persona.

If the exercise is carried out as part of the innovation process and the teams have already decided their target group, then the teams can be instructed to look for an object that symbolizes their target group. How would the person who belongs to their target group be? Whose problem are they ideating solutions for?

Consider:

- *What is the character of this “person”?*
- *What does the person look like? How old is he/she?*
- *What does he/she do? Does he/she have any hobbies?*
- *What does he/she like?*
- *How is his/her day-to-day life?*

A life story can also be made up for the person. Ask the teams to present the personified object or work of art to each other, either by bringing the rest of the group to the object or, alternatively, by photographing it.



IDEATION

These tasks will give you a boost for ideation. The tasks challenge the teams to problem solve creatively, to combine things open-mindedly, and to notice various connections.



From a dream to an idea

Ideation, creative thinking, problem solving
30–40 min

This task practises problem-solving capacity and creativity. Rather than solving the problem, the task is aimed at implementing dreams using cultural heritage as inspiration. This task also works as a further exercise for the target-group task.

Required:

- at least one group of 3 to 6 people
- museum environment
- pencils and paper
- pre-chosen target group

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Ask the groups to look for an object or work of art in the exhibition, which can reflect what would make a representative of the target group, described in the previous task, or representative of a predefined target group, crazy out of happiness. What does he/she dream about?

After making their choice, the teams will be assigned to invent a new product or service for their target group, which would make the described dream situation come true.



New purpose

Ideation, creative thinking, combining things 20–30 min

The purpose of this exercise is to seek inspiration from cultural heritage and to challenge the group to ideate and combine things differently. New purposes are being ideated for cultural heritage in this task.

Required:

- at least one group of 3 to 6 people, preferably several small groups
- a stimulating environment, such as in a museum or around cultural heritage

Go to a cultural-heritage site, museum exhibit, or work of art. Each team can choose their preference, or the instructor can assign them to the teams. Instruct the teams to find out about the object concerned and why it was created.

Now come up with a new purpose for it.

- *For what purpose could the object or work of art be used?*
- *Could it be seen as a new innovation when adapted to another context?*

Share the ideas that have come up with each other.

Take an idea from the object!

Ideation, combining things, problem solving 20–30 min

The purpose of the task is to ideate a new service or product using cultural heritage as an inspiration. The exercise challenges the group to combine things creatively, to solve problems, and to orient thinking towards the target group and service design.

Required:

- at least one group of 3 to 6 people
- at least one object as a source of inspiration
- premade target-group, product, and challenge cards

A raffle is used to assign the following to the teams:

- Target group (e.g. students, busy people, or garden enthusiasts)
- A product or service for ideation (e.g. cultural service, travelling gadget, or sports widget)
- As well as an additional challenge (the card can be used to challenge a team, for example, to innovate an invention that does not require grid power, or that their budget is running out).

In addition, at least one object or a work of art is chosen for each team as a source of inspiration.

The task of the teams is to ideate a defined service or product for the assigned target group, taking the additional challenge into account. In addition, inspiration for the innovation is looked for from a concrete object: *How would you use the object in the service? Could the object's mechanics or material be related to the product innovated?*

After completing the idea, the groups introduce it to each other.



ONWARDS FROM AN IDEA

These tasks are suitable for shaping and developing an idea. They support interaction and communication skills and help with verbalizing and justifying one's own ideas. The methods are also well suited to support the tasks for marketing and service design.



Pitch an object!

Communication and interaction skills, combining things, creative thinking
20–30 min

With the help of this task, one learns to present their ideas or work in a relaxed and inspiring manner. The task practises the ability to verbalize and justify one's own ideas and to combine things creatively.

Required:

- at least two small groups of 3 to 6 people
- museum environment
- imagination and the ability to dive in

The groups look for an object or work of art from the exhibition and pitch, i.e. present the “invention”, in a saleable way to potential contemporary users. In the pitch, the group can utilize information about the object or work of art, or alternatively, let the imagination fly and ignore the object's original purpose. The purpose is to pitch the idea, compactly and convincingly, to the other groups, as well as to use the selected object or work of art as insightfully as possible as part of the presentation.

The pitch should take 2–3 minutes where the product is presented:

- *What is it and what can be done with it?*
- *Who is it directed to?*
- *How does it improve day-to-day life or solve a problem more conveniently than other products on the market?*

The teams are given a moment to prepare the pitches, after which they are presented to the rest of the group.



Meme assignment

Creative thinking, communication skills
20–30 min

The purpose of the task is to tune the students into creative marketing thinking and to condense the essentials into as efficient, fun, and marketable form as possible.

Required:

- at least two small groups of 3 to 6 people
- a stimulating environment, such as in a museum or around cultural heritage
- smartphone/meme generator

The groups look for a target or object from the environment and photograph it, and then using the meme generator create as insightful and fun meme as possible. The meme can be shared on social media and a playful competition can be organized, for example, over which work gets the most likes.

REFLECTION

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These tasks are appropriate to support the recognition and evaluation of the outcomes of the learning process. Therefore, they work best towards the end of the teamwork or project, for example, as a basis for an evaluation or feedback discussion.



Dialogue walk

Understanding your own learning and process, evaluation
20–30 min

The purpose of this task is designed to go through groups' thoughts about the learning process in a relaxed atmosphere. A dialogue walk works well as a basis for a final discussion or evaluation.

Required:

- at least two small groups of 3 to 6 people
- museum environment

The teams search the exhibition for a work of art or object that reflects each team's current state of mind. Ask the teams to consider justifications for their choice.

All teams take a picture of it or, alternatively, bring the other teams to the object. Each group gives a brief presentation of the choice and justifications for it to the other teams.



Understanding your own learning and process 60–90 min

The innovation or work process gone through in the task is presented in visual form. The purpose of the task is to act as a reflection tool for the students to understand different phases of their learning process.

Required:

- at least one small group which has undergone a process of innovation or teamwork
- yarn or rag-rug threads
- images, paper, markers, adhesive tape, and fastening tools
- finger crochet skills

The group gets the task to reflect on their learning process. The process is gone over with the help of physical activity: chains are finger crocheted using the rug-rag thread, in which knots can be made symbolizing adversity and to attach pieces of text, attention tags, thought bubbles, and snapshots of the group working, for example.

The finished chains can be assembled, for example, to an exhibition or can be kept as a memory of the working process.



5. COACHING SUPPORT

How is innovation work in the museum directed? Here you will find tips on how to support the methods and innovation work.

MAKE THE TEAMS AS HETEROGENEOUS AS POSSIBLE.

The more the people in a team are thinking differently, the more exciting the ideas that often arise. If possible, note this when forming the teams. Working with different people and multidisciplinary teams not only facilitates innovation, but also teaches teamwork skills.

ENCOURAGE UTILIZING CULTURAL HERITAGE.

This is also partly supported by the methods of the workbook. However, it may also be necessary for the instructor to emphasize that there is no single right way to investigate or interpret museum exhibits or art. We observe our environment through our own personal habits. Personal associations and insights are valuable and extremely important when developing something new.

EXPLAIN HOW THE MUSEUM WORKSHOP CONNECTS TO OTHER WORK.

In the museum workshop, thoughts may occasionally drift away from the core of the actual working process, which is legitimate and desirable. Therefore, it is important that the instructor searches for the intersections between the exercise and the theme of the day and then connects it to the other work of the day, either at the beginning of the workshop or at the overview stage

DEMAND FOR CONCRETENESS.

The more specifically one needs to describe and justify their idea, the sooner its flaws will be noticed. Aiming at concreteness also keeps the work motivating. If you are implementing the innovation process, it is worthwhile to call on the teams as early as possible to pitch their ideas and to carry out concrete tests where it is possible to get feedback for the idea. If you use individual methods to support other teamwork, such as team building or discussion, you can take advantage of the visualization or writing out of the ideas.

Also note that pencils and paper are not the only tools to present ideas or to present the intermediate and final outcomes. The teams can be encouraged to report their ideas, for example, using bodily movements, or with a three-dimensional structure.

KEEP A TIGHT SCHEDULE.

A tight schedule supports making ideas concrete and lowers the threshold to start testing. We are easily prone to circulate ideas around and to cling to details. A tight time window forces one to start working and to make decisions.

SUPPORT, BUT DON'T DIRECT TOO MUCH.

Innovation includes uncertainty and the constant questioning of one's own ideas. Almost all teamwork and projects will have stages come up that make it feel difficult to move ahead. It is important for the instructor to provide support and listen to the group at challenging phases. It is the responsibility of the group, however, for moving the work forward. Therefore, provide encouragement for problematic situations and avoid directing the direction or implementation of the contents of the work.

RESERVE TIME FOR REFLECTION.

To offset intensive and fast-paced work, time for discussion to internalize what was learned is needed. In the innovation process, a small moment to exchange ideas and experiences should be reserved for each meeting.



MUSEOT

INNOVAATIOALUSTOINA

Museums are huge information banks, conveying information about the world, even over a long time span, while creating experiences. In a museum it is possible to learn from the past, to understand the current moment, as well to anticipate the future. Museums can generate insights, new ideas and perspectives, but can cultural heritage and art help to develop new innovations?

This workbook introduces methods in which museums serve as a learning environment for innovativeness and as a platform for developing new solutions. The methods were created in cooperation with higher education, entrepreneurship education, and museum professionals, as well as students of higher education.

The methods selected in this workbook develop working-life skills, such as problem-solving and group-work skills. They encourage creative and critical thinking, identifying one's strengths, and give the courage to act and influence.

This book is intended for all those working with young people in museums, schools, and youth work, who are interested in discovering new perspectives, practices, and learning environments for youth activation and innovation training.

This workbook was created as part of the 'Museums as innovation platforms' joint project between Aboa Vetus & Ars Nova, the Museum of Technology, Humak University of Applied Sciences, and Junior Achievement Finland.

ABOAVETUS
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MUSEO



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