Online Escape-Rooms: Learner Manual
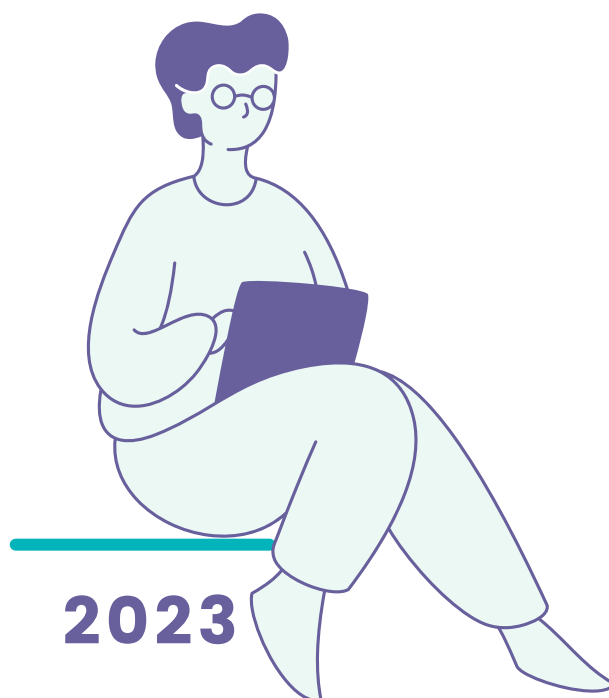
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Introduction

The 'Online Escape Rooms: The CO-ART Learner Manual' is designed to support youth workers, youth leaders, educators and trainers in their missions of developing digital and entrepreneurial skills of young people. It is based on the common skills frameworks ENTRECOMP and DIGCOMP 2.1 and focuses specifically on the young people working or interested to work in culture and creative industries.

The aims of the 'Online Escape Rooms: The CO-ART Learner Manual' are to support youth workers, youth leaders, educators and trainers:
- in delivering media-rich and interactive training activities to young people by adapting the CO-ART approach of online escape rooms;
- by equipping them with the knowledge, skills, competencies and tools necessary for them to design their own online escape rooms in order to use them in their teaching/learning activities;
- by promoting online escape rooms as an efficient tool to be used for online teaching/learning.

The Learner Manual is structured in four parts.
1. **Section 1** introduces the concept of online escape rooms and explains their role within the non-formal learning.
2. **Section 2** showcases 24 online escape rooms designed by the CO-ART project partners and links them to the learning outcomes – digital and entrepreneurship-related knowledge, skills and competences to be mastered.
3. **Section 3** explains how to design your own escape rooms by using freely available tools and how to integrate them into the learning process.
4. **Section 4** presents the approach designed for training youth workers, youth leaders, educators and trainers in developing, testing and piloting one's own designed online escape rooms.

The Learner Manual introduces the approach and methodology designed and tested by the international expert team within Erasmus+ project 'CO-ART: Challenge-based Online tools to develop entrepreneurial and digital competences among young ARTpreneurs' (2020-1-FR02-KA227-YOU-018660)

Section 1: Online Escape Rooms

What is it?

Although, Online Escape Rooms (ER), also called digital breakouts, virtual escape rooms etc., are beginning to attract the attention of youth workers and other professionals, they are still regarded as being at the cutting-edge of pedagogic innovation and, especially during the Covid-19 pandemic, have gained high popularity both as a free time, team building and educational activity.

The concept of online escape rooms includes the same principles as the physical escape rooms, but instead of escaping an actual room, learners, individually or in groups, are required to solve a series of clues to unlock the next challenges, solve the puzzles and reach specific learning outcomes online. The advantage of ER is that everyone can take part from the comfort of their own home – or an office, a local coffee shop, library or anywhere else. All that is needed to participate is a computer or a smartphone and an internet connection!

A lot of the traditional educational tools and methods turn learners into passive listeners and have very little interactivity. This was especially true during the Covid-19 pandemic with conventional education temporarily interrupted and online emergency education adopted at all levels. Learners were stuck in front of their screens spending hours listening to online seminars and lectures struggling to hold attention. This particular set of circumstances has triggered a paradigm shift towards learner-led digital escape rooms not just as a recreational tool but as an informal education method used to reach particular learning outcomes and objectives. ERs for education are problem-based learner-centered pedagogical activities demanding active and collaborative participation. ERs create more informal learning experiences and are praised for their flexibility and the heightened engagement that triggers learners interest.

ERs are a prime example of the Game-based Learning approach that uses gaming principles in order to allow learners to engage with the educational materials in a playful and dynamic way. Educational ERs are created in a way that the challenges entail the educational content so that the players/ learners are required to master it in order to succeed and advance in the escape room and unlock the challenges. Important elements of educational ERs is an overarching storyline that provides the problem context and creates the game environment.

ERs are mostly built around an educational theme that is revealed in the narrative of the ER which is often encouraging the learner to engage with the topic through role play. ER challengesare developed for a specific target group and are designed with concrete well-defined learning goals and objectives in mind. Designing educational ERs and their challenges is a difficult task, since easy challenges can quickly become boring, while ones that are too difficult can cause frustration and disengagement.

Online Escape Rooms in non-formal learning

The power and efficiency of ER lies in the fact that they can be adapted to any subject and because of that online educational ER can be used not only in formal education but also in non-formal learning.

But what is non-formal education? Non-formal Learning (NFL) is defined as any educational activity outside the formal education system which is addressed to a group of learners and has specific educational objectives. Non-formal education can come in a variety of forms. However, there are some traits that are typical:

- NFL is a planned learning process with educational goals;
- NFL activities are developed based on learners needs;
- NFL exercises welcome student engagement into the instructional process and promote making connections to real-world situations;
- at the core of NFL is the learners' voluntary engagement (in other words, NFL is not a compulsory activity);
- NFL is inclusive and accessible - organizers actively look for methods to include people who might suffer exclusion or marginalization;
- NFL techniques are flexible, inclusive, and learner-centered; they combine individual and group learning and promote peer-to-peer learning;
- developing life skills and preparing for active citizenship are the main focuses of NFL;
- NFL programs may be directed by paid instructors or trainers or by volunteers.

The above points highlight an overlap between NFL basic principles and the characteristics of Online education ER and why they make a good fit. NFL is based on active participation (doing, experiencing), and self-reflection is crucial to the learning process. The exercises in NFL are experiential in nature (e.g., role-plays and simulations), and the input is always participatory (a

product of the facilitator and participants; they contribute with their experiences and knowledge). At the same time, the idea of an educational escape room, in essence, is problem-based learning that is organized and incorporates elements of a learning framework in the context of an interesting scenario or a theme. In contrast to conventional teaching and learning methods, an escape room's "active learning" approach and interactivity can not only engage students but also open up new opportunities for involvement outside of the confines of the escape game. Escape Rooms offer both a game-based learning experience and gamified skills acquisition therefore they are exceptionally suitable for non-formal learning environments.
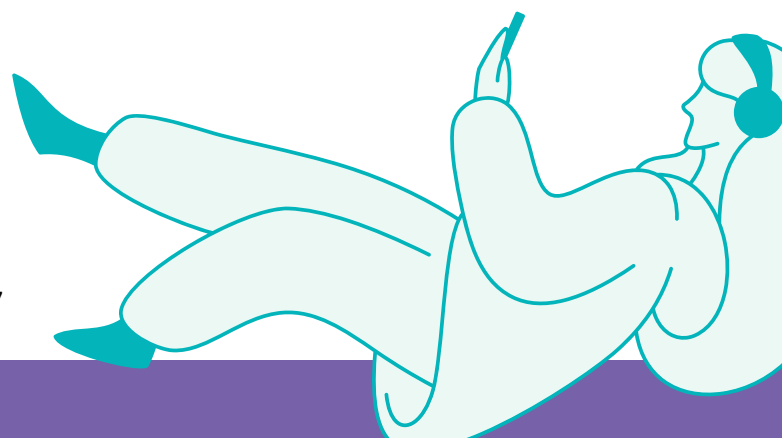
Section 2: The Co-ART Approach

Learning frameworks: entrepreneurial and digital competences

Before starting any teaching, coaching or learning activity, a clear vision of objectives and learning outcomes has to be set. The online escape rooms designed for learning purposes are no exception. Escape rooms can be infinitely engaging and fun, but how to ensure they really promote the knowledge, skills, competences and attitudes desired?

An effective learning process requires a structure, a framework and a scope. It is impossible to learn everything at once, therefore it is advisable to divide the overall learning path into smaller tasks and achievements. When considering an escape room as a separate learning task, one should clearly define 2-6 pieces of knowledge, skills and/or competencies that will be improved through the learning experience provided by the online escape room.

The CO-ART project focuses on the skills and competencies currently in demand among young unemployed Culture and Creative Sector (CCS) workers and aspiring (art) entrepreneurs. Taking that into account the scope of CO-ART escape room activities has been based on two learning frameworks – The Entrepreneurship Competence Framework (ENTRECOMP) and The Digital Competence Framework for Citizens (DIGCOMP 2.1). Each of the framework's centers around a set of specific skills, competences and attitudes that are relevant for the personal and professional development of individuals.

The focal point of ENTRECOMP is entrepreneurial competences and entrepreneurial learning. According to the ENTRECOMP Framework, entrepreneurship as a transversal key competence enables citizens to nurture their personal development, to actively contribute to social development, to enter the job market as employee or as self-employed, and to start-up or scale-up ventures which may have a cultural, social, or commercial motive (ENTRECOMP: The Entrepreneurship Competence Framework, 2016).

The DIGCOMP 2.1 introduces 8 proficiency levels for developing digital competences. The concept of digital competence has emerged hand-in-hand with technological development and pushed society to recognize the

need for new skills and competences. Digital competence is a combination of knowledge, skills, and attitudes with regards to the use of technology to perform tasks, solve problems, communicate, manage information, collaborate, as well as to create and share content effectively, appropriately, securely, critically, creatively, independently, and ethically (Anders Skov, Center for Digital Dannelse, 2016).

Twelve entrepreneurial and digital competence areas were selected to construct the framework for the CO-ART learning experiences based on the employment needs during the Covid-19 pandemic, attractiveness to the youth and competence underrepresentation in the youth work. The detailed list of specific knowledge, skills and attitudes selected and addressed by the CO-ART escape rooms are compiled in Annex 1. These represent the following selected competence areas:

ENTRECOMP	DIGCOMP 2.1
SPOTTING OPPORTUNITIES	COLLABORATING THROUGH DIGITAL TECHNOLOGIES
ETHICAL AND SUSTAINABLE THINKING	NETIQUETTE
MOBILISING RESOURCES	DEVELOPING DIGITAL CONTENT
FINANCIAL LITERACY	COPYRIGHTS AND LICENCES
COPING WITH UNCERTAINTY, AMBIGUITY AND RISK	PROTECTING PERSONAL DATA AND PRIVACY
WORKING WITH OTHERS	PROTECTING HEALTH AND WELL-BEING
SPOTTING OPPORTUNITIES	COLLABORATING THROUGH DIGITAL TECHNOLOGIES

CO-ART learning resources

The following pages present the CO-ART project online escape rooms (available in https://co-art-hub.eu) by the difficulty levels from introductory to expert.

INTRODUCTORY LEVEL

ART LIBRARY EVENT - COLLABORATING THROUGH DIGITAL TECHNOLOGIES AND NETIQUETTE
Janet is a visual artist who manages the implementation of artistic and cultural projects, in particular the organization of contemporary art exhibitions, cultural stays, etc. Today, her ambition is to open an artotheque for the general public to democratize access to contemporary art and design. Help Janet to implement her project!

CLAIRE TO SPREAD CREATIVITY - DEVELOPING DIGITAL CONTENT AND COPYRIGHTS AND LICENCES
Claire is stuck in the labour market and struggling to find work since the Covid-19 pandemic hit the CCS sector especially hard. Claire, a professional photographer, needs to reinvent herself and acquire new competencies to re-enter the labour market. You have to help Claire to understand how to use CANVA to create content to better advertise her work; then, help Clear to better understand and increase her knowledge about copyrights and licenses.

CHANGE BRINGS OPPORTUNITY - SPOTTING OPPORTUNITIES, ETHICAL AND SUSTAINABLE THINKING
You and your friend Janet had many traditions that kept both of you motivated and inspired. Now she is moving to Mexico for her research on climate change and you are worried that you will miss your buddy that helped you in organizing and attending exhibitions, concerts and events. You decide to take a walk and you discover many interesting creations and artworks around you to share with her. In the end, you realize that change brings opportunity.

**IMPACT4WORLD CHANGING THE WORLD** - COPING WITH UNCERTAINTY, AMBIGUITY AND RISK AND WORKING WITH OTHERS
Some time ago, a group of friends from a school's theatre club realized that acting was extremely important to them and they decided that they want to continue it after school. In addition, social issues were also very important to them, because they believed that everyone had the right to influence the shape of the world. That's why they came up with the idea to organize performances, but not the usual ones. They called themselves Impact4World.

THE E-CONCERT - PROTECTING PERSONAL DATA AND PRIVACY
Pandemic has established a new reality. Huge gatherings, parties, concerts and crowded music halls are closed...who knows when you will have the chance to live the same atmosphere again. You have missed that feeling for sure! Well, at least listening to your favourite band in an online streaming is something. Not compared to the live stage, the unforgettable moments you had with your best friends, your tired legs after hours of dancing hugging whoever is just around you. But still, it's something! What else you could possibly do?

CREATIVE COWORKING - MOBILISING RESROURCES
Joseph is a famous artist in Zaragoza who has decided to move to a rural space and organize a creative coworking there. Help him research on the variety of benefits and typologies of the coworking spaces and discover coworking opportunities offered in Europe.
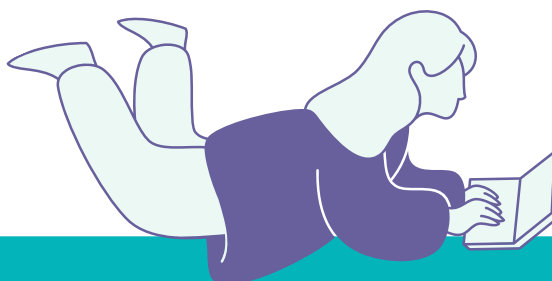
INTERMEDIATE LEVEL

ONLINE ART LIBRARY - COLLABORATING THROUGH DIGITAL TECHNOLOGIES AND NETIQUETTE
Janet's event took place and allowed her to select different artists who could be part of her art library. However, to popularize the project popularity with the target audience (amateurs, art collectors, communities, etc.) there is a need to establish the online presence of the art library. Then again, none of the artists have a presence on social networks and all are very apprehensive about how to establish one.

CLAIRE TO SPREAD CREATIVITY - DEVELOPING DIGITAL CONTENT AND COPYRIGHTS AND LICENCES
Claire, a professional photographer, realizes that she has to improve her knowledge about programs/tools/instruments that may help her to make her content more popular. The first challenge will be to select the right tools. After that, Claire will need to do web research to solve challenges linked to copyrights.

A NIGHT AT THE MUSEUM - SPOTTING OPPORTUNITIES, ETHICAL AND SUSTAINABLE THINKING
Gregory is a freelance artist who managed to lock himself in a museum for a night. His curious mind lets him wander around the museum where he discovers exhibitions on sustainable art. He gets inspired and is called to solve a series of challenges in order to get closer to his own sustainable art design.

IMPACT4WORLD FINDING SOLUTIONS - COPING WITH UNCERTAINTY, AMBIGUITY AND RISK AND WORKING WITH OTHERS
The purpose of their performances was to engage the viewers and in this way to show that they could influence the fate of their community and create the world they want to live in. In this ER, the players develop entrepreneurial competencies at the intermediate level in the fields of: - coping with uncertainty, ambiguity and risk, - and working with others; in particular they get to know: - critical thinking, - the difference between opinion and fact, - usage of brain teasers, - conflict resolution strategies - and decision-making process.

DIGITAL PHOTOGRAPHY EXHIBITION - PROTECTING PERSONAL DATA AND PRIVACY AND PROTECTING HEALTH AND WELL-BEING
Hi, I am Peter Feuzberg and the past ten years I work as a street photographer! In December 2020, I was going to present my new exhibition titled "Portraits from Uganda" at the CLB in Berlin. My exhibition consists mainly of black and white portraits of young members of the local community of Rutoke village. The photographs were taken during a 6 months solidarity trip organized by ActionAid, some of them capturing their difficult living conditions and others depicting touching moments of their fragile childhood innocence. Due to the pandemic of Covid-19 the art spaces were closed for over 6 months with no information regarding their re-opening. During a Skype Meeting with the art director of the art space, we decided to organize the photography exhibition virtually in the CLB's website.

FASHION LAB - FINANCIAL LITERACY
Maria from Slovakia runs a small company 'Fashion Lab' and designs and sells fashionable dresses, shoes and belts. She has committed to gain some knowledge in finances, as it is necessary for her business to run well. Help her to structure her financial data, calculate basic financial indicators and learn some commonly used financial terms.

ADVANCED LEVEL

ART LIBRARY WEB SERVICE - COLLABORATING THROUGH DIGITAL TECHNOLOGIES AND NETIQUETTE
In November 2023, Western Europe is hit by a new wave of COVID and everyone is confined to their homes while local authorities, disorganized by this unprecedented pandemic, organize themselves to restore mobility infrastructures. The idea is to transform the art library, which is now inaccessible, into an online service with the possibility of viewing all the works and also of reserving them with a drive through service to pick them up (free) or have them delivered (paying).

CLAIRE TO SPREAD CREATIVITY - DEVELOPING DIGITAL CONTENT AND COPYRIGHTS AND LICENCES
Claire will have to create her CV to apply for some positions and she will also have to include a personal portfolio with her photos and creative materials created over the years. She is now able to point out which copyright rules are the best to protect her products online. Claire will also have to select which of the CV options is the best to create a good first impression and represent her work.

A COURSE WITH SUSTAINABLE G - SPOTTING OPPORTUNITIES, ETHICAL AND SUSTAINABLE THINKING
Gregory is now a renowned artist who engages in sustainable art practices. He has created a course on the basic principles of the art world, the policies surrounding the CCS, and the unchallenged link between society and culture. Learn with Gregory the importance of impact assessment, monitoring and evaluation, and the different steps of the Logic Model.

IMPACT4WORLD COOPERATING WITH OTHERS - COPING WITH UNCERTAINTY, AMBIGUITY AND RISK AND WORKING WITH OTHERS
The members of the group felt bad after Alex left them, but knew it was his own decision. However, this situation made them realize that they need to gain even more skills and experience to work with others and develop themselves. Thanks to this ER, the players develop entrepreneurial competencies at the advanced level in the fields of: - coping with uncertainty, ambiguity and risk, - and working with others; in particular they get to know: - design thinking process, - personality types of people, - several programs supported by the European Union.

PETER AND THE DIGITAL ERA - PROTECTING PERSONAL DATA AND PRIVACY AND PROTECTING HEALTH AND WELL-BEING
Hello, it's me again! Peter Feuzberg! I have great news! My exhibition titled "Portraits from Uganda" has been completed with extreme success! The analytics of the CLB's website showed that more than 3.000 users visited the digital exhibition. My audience became bigger than ever before and my work is now known all over Europe. My next professional steps are exhibitions in art spaces and photography museums all around Europe. I have upgraded my digital competences and my knowledge on how to use technology. However, I have a lot more to learn in this field!

DESIGNING A DREAM DOCUMENTARY - MOBILISING RESROURCES
Albert is a passionate filmmaker from Romania who designs own short movies about the climate change and human footprint on ecology. Help him to find new opportunities to fund new filmmaking project, prepare for grant application and learn about the techniques for efficient time management.

EXPERT LEVEL

ARTISTS RESOURCE CENTER - COLLABORATING THROUGH DIGITAL TECHNOLOGIES AND NETIQUETTE
The development of the online art library has allowed artists and creative professionals to work in a situation of crisis and temporary closure of all art venues. They have been able to disseminate their work, increase their audience and diversify it, sell their work and make their activity profitable. A few months later, during the summer, all the creative venues can reopen and attract audiences in their area. How to make a difference and continue the work already developed by Janet and her partners in the art library?

CLAIRE TO SPREAD CREATIVITY - DEVELOPING DIGITAL CONTENT AND COPYRIGHTS AND LICENCES
Claire wants to try to become an influencer. Help Claire understand the difference between being a content creator and an influencer and to compose the successful-influencer-kit as well as help her figure out what she has to know about copyrights!

JANNET AND THE FASHION LAB - SPOTTING OPPORTUNITIES, ETHICAL AND SUSTAINABLE THINKING
Jannet has the desire to educate people on the reality of climate change and the consequences of fast fashion. To pursue that, she intends to create her own fashion lab, containing a lab for sustainable fabric/garment creation, a store where she can sell her teams' creations and other artists' sustainable fashion creations, and a department for research and consumer education on sustainable fashion. Help Jannet start her own entrepreneurial journey and surpass the many fears that surround an entrepreneur in the initiation phase.

IMPACT4WORLD DESIGNING THEIR IDEAS - COPING WITH UNCERTAINTY, AMBIGUITY AND RISK AND WORKING WITH OTHERS
The group performed all over Poland, but they did it in an unprofessional way. They mostly played in public venues in cities and town centers. Sometimes viewers paid them a few coins, which was enough to travel to the next places. But when the global COVID-19 pandemic began, they had to stop. However, they realized that they wanted to transfer their performances to the professional world, so that they could continue their mission. Thanks to this ER, the players develop entrepreneurial competencies at the expert level in the fields of: - coping with uncertainty, ambiguity and risk, - and working with others; in particular they get to know: - the process of designing your company, - business plan elements.

THE TRAINING OF MATTHEW - PROTECTING PERSONAL DATA AND PRIVACY AND PROTECTING HEALTH AND WELL-BEING
My name is Matthew Jaars and my interests lie on data protection laws and new technologies. I would like to gain more knowledge on the mentioned focus areas through user friendly e-learning platforms. During my research, I have discovered numerous trainings that I can attend and use these types of platforms. I decided to attend a training in ESB Law School named "Law of Digitalization" which aims to provide to students' knowledge through regular impulse lectures, meet-ups and working groups within a digital platform. Even if my training is going to start next month, I would like to be thoroughly informed and prepared on the main topics which will be covered.

**TAXES AND TIME –** FINANCIAL LITERACY AND MOBILISING RESOURCES
Milda is a young entrepreneur from Latvia who is passionate about organizing family events such as anniversaries, hen parties, weddings, gender reveal parties and many more. Help her to explore the opportunities to employ an assistant, calculate new salary expenses and find out about the tools for time tracking!

Section 3: Designing an escape room

How to design an escape room – step by step

When designing a digital escape room, logical sequence has to be followed by answering three major questions – 'Why?', 'What?' and 'How?'. It allows the designer to create a meaningful experience for young people by following each step of three phases, represented by the questions.

1. Posing the question 'Why?' will assure learning objectives and expected learning outcomes are properly set to make an escape room not just a fun game, but also a meaningful learning experience.
2. The question 'What?' allows to specify topics and particular knowledge necessary for learners to succeed in a learning journey. Clear storyline is required to make the learning content relevant for young learners.
3. By asking 'How?' you ensure the learning experience is well-structured, easy to follow and sequences just like real-life escape rooms are. This is the main phase of technical design which ensures gamification is in place. Significantly, it includes testing as a necessary element of digital escape room quality assurance.
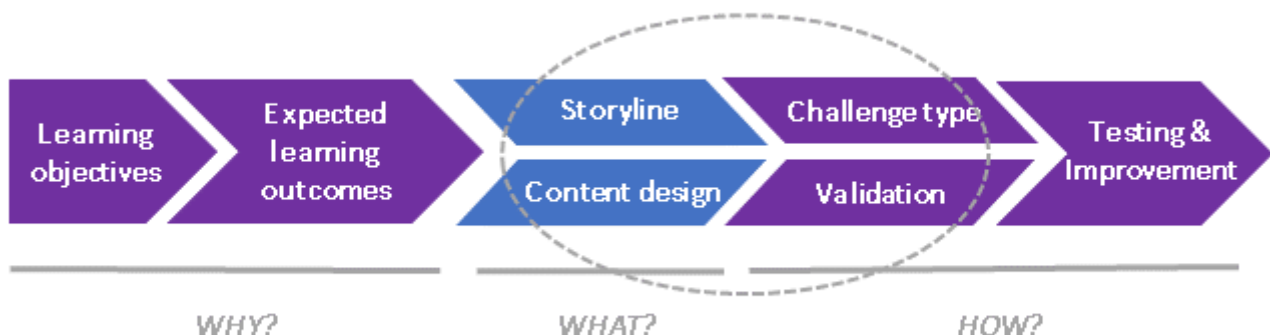
Follow each phase step by step to learn more about the design steps!

WHY | The 'Why' question is used to justify the design and further application of certain escape rooms in a learning process. It means setting **learning objectives** and **learning outcomes** before designing the escape room.

The learning designer (e.g., trainer, teacher, youth worker) should set specific learning outcomes as the expected results. These can reflect specific knowledge, skills, and attitudes gained in the result of learning, and depend on the objectives of learning. To make your learning objectives effective, apply the SMART principles – define them specific, measurable, achievable, relevant and time-bound.

Verbs to be used for setting specific learning objectives	
ATTITUDE	Advocate, Accept, Agree, Allow, Analyze, Approve, Assess, Believe, Choose, Collaborate, Comply, Conform, Convince, Cooperate, Decide To, Defend, Endorse, Evaluate, Pick, Recommend, Select, Support, Tolerate, Volunteer
KNOWLEDGE	Compare, Define, Describe, Designate, Discover, Distinguish, Explain, Identify, Itemize, Label, List, Name, Recite, Recognize, Recount, Relate, Retell, Specify, Spell Out, State, Tell, Term, Write
SKILLS	Actuate, Adjust, Administer, Align, Alter, Assemble, Build, Calibrate, Change, Copy, Demonstrate, Design, Develop, Draft, Execute, Form, Handle, Manipulate, Measure, Mend, Perform, Prepare, Process, Record, Regulate, Remove, Repair, Replace, Set, Service

Each learning objective should be then linked to the learning outcomes. Defining specific expectations allows to measure the success of learning activity. Annex 1 reflects specific learning outcomes used to enhance digital and entrepreneurship competencies of young culture and creative industry representatives, however online escape rooms as a method is universal and can be applied to almost any topic.

TIP! | During the testing phase (or feedback phase, if opted for such) the designer of the ER should create a measurement instrument to detect if the designed escape room really makes any difference in terms of knowledge, skills and attitude formation. You can use a focus group discussion, interviews or follow-up surveys as an instrument to measure general experiences of completing escape rooms

When setting the learning objectives and outcomes, you might already come up with the ideas on specific content, structure or case studies you would like to include in your escape rooms. At this stage questions 'what?' and 'how' are being considered.

WHAT | The question 'What' mainly focuses on the content and a storyline of the developed escape room. The content is determined by the learning objectives and envisaged outcomes, linking them to specific themes, topics and knowledge to be acquired by learners.

The content can be both self-generated or found in reliable sources – extracted from books, reports, photo, audio or video materials, databases, infographics, etc. In case of using existing materials, special attention should be paid to the ownership of materials: if they can be freely shared and how they should be cited.

Later on, the task of the online escape room designer is to transform the content into the task(s) or challenge(s) to make the learning process experiential. The designer might use ready-made tasks (e.g. quizzes, word-games) offered in teaching-focused sources (community channels) or use parts of available information to generate your own content. It is recommended to always specify the author(s), title of the content used and direct hyperlink (if applicable) for every content applied in online escape rooms.

To ensure the learning experience is not just enjoyable, but also relevant to the learners, storytelling techniques should be incorporated in the online escape room design. Storytelling is a crucial part of the gamified learning that creates more engaging and memorable content by connecting all the parts of the escape room into one fluent story. Several elements of storytelling that allow to create engaging learning experience are the following:

1. **Realistic stories.** The learner can acquire knowledge, gain new skills and attitudes faster when the connection between the learning content and real-life contexts and characters is introduced.
2. **Interaction.** Allowing the learner to decide for or interact with the character in other ways immerses the learner into the learning process.
3. **Challenges** keep the learner engaged and intrigued to proceed with next steps through solving certain 'problems'. However, one should make sure the challenges are not too easy or too difficult to avoid alienation.
4. **Connection.** Blending real-life contexts, challenges, characters and their emotions/achievements creates emotional bond between the learner

and the content acquired. It helps not only to memorize, but also recall the context of knowledge application.

5. **Multimedia**. Mixing media such as videos, images, audio files, diversifies learners and prevents being bored, as there are different ways of how each learner acquires the information the most effectively (this last point is worth remembering as an advice for technical escape room design – see "HOW" section).

EXAMPLE | Read the example of how storytelling is applied in creating a real-life context, the challenge and the emotional bond to it by asking to interact with the content that might follow.

'Brian is an artist-entrepreneur from Paris who creates and edits videos to promote cultural and social events. As he would like to enlarge business activity, he is searching for additional funding to support a new branch of business activities – design of the movies for environmental education. This is important for him as both of his parents are environmental activists and Brian shares these values from early childhood.
Environmental sustainability is also promoted by multiple European networks and organisations which support business activities that help to prevent or tackle environmental damage. Help Brian to find one that offers grants or other support services to entrepreneurs that drive innovations in the environmental sector!'

Depending on the learners' profile, topic review and complexity of the designed escape room, the storyline should consist of at least two challenges to be solved by the learner. It means dividing storyline into several tasks to be completed sequentially and providing validation instruments, so the sequence of accomplishing tasks, gaining the keys (rights to unlock the next challenge) and moving to the next tasks is maintained (just as in an offline escape room). Depending on the structure of the learning programme, one topic may consist of several escape rooms of different complexity (as in CO-ART escape rooms, where Introductory, Intermediate, Advanced and Expert levels are introduced for each of the thematic groups).

Linking the parts of the learning **content** into coherent **storyline** ensures the applicability of the acquired knowledge, skills and attitudes to real-life contexts. Also, it helps to ensure that the tasks of escape rooms are interrelated and complementary. At this point an idea or a concept of a certain escape room is born. The next question to review is natural – 'but how to connect these parts technically in order to create a meaningful and interactive learning experience?'.

HOW | When exploring the technical side of the escape room creation, one should be familiar with the ICT tools at least on the level of 'active user'. However, this does not necessarily require an escape room designer being familiar with advanced game-design software or some programming languages. Online escape rooms can be easily designed with the use of some mainstream digital tools such as Google Forms, Youtube, Typeform, Padlet, Learningapps, Google Sheets, or even Instagram. The essence hides in creative use of such tools. More examples of tools that can be freely accessed and applied in online escape rooms design are compiled in the next section – "Tools for online learning".

The main idea behind the use of ICT or digital tools hides in structuring and diversifying learning experience. The tool itself serves a framework in which the storylines with the sequenced challenges are stored and link to each other. Similarly, as with the concept of multimedia, the variety of tools makes the learning experience dynamic and more interactive, therefore – more engaging. However, there is no need to overwhelm learners with unnecessary procedures. The designer should also bear in mind the simplicity principle.

EXAMPLE | For instance, if the escape room consists of only two challenges, there is no need to generate three passwords (keys) to unlock other keys. Similarly, if some calculations can be done on the device convenient for the user (the phone), there is no point in specifying special software to be downloaded just to make some simple math. Also, if the usage of some tool requires the learner to read long usage instructions or follow a time-consuming registration process each time when some minor task needs to be accomplished it discourages continuing learning.

More important than the design tool of the online escape room is the logic behind setting one or another challenge type, or the method of teaching and learning. The escape rooms do not focus only on the knowledge, but facilitate the knowledge for building attitudes, practical skills and competences. This means that the escape rooms should not look like the reading material combined with the test. The designer should provide learners with the opportunity to search for the answers independently and by doing this, browse more content and sources that may be useful at some stage. Learning by doing and active learning is facilitated by such an approach.

There are plenty of ready-to-use solutions that are helpful for teachers in organizing online learning. As examples, one can check such tools collections as Educaplay or Learningapps to find out the variety of assignments that can be designed to structure and learn some content.

These include:

- Matching games ('Where is what'?) – looking for interrelated pairs of words, terms and definitions or pictures. Some might include memorizing elements, some might have all words or pictures to match open on the 'table'. Some might focus of identifying objects or locations and matching them to the titles or segments one by one;
- Crossword puzzle/Guess the word – looking for the answers to the questions with having defined number of letters in a word and options to uncover some letters or words;
- Word grid/Word search puzzles – looking for words of defined length in a structured box full of letters;
- Alphabet games/free text inputs – looking for the words describing pictures, audio recordings or written definitions. Might require defining words starting with or containing all alphabet letters (as in case of Educaplay);
- Memory games – matching interrelated pairs of pictures or words (sentences), includes memorizing element;
- Quiz (incl. map and video quizzes) – selecting the correct answer(s) to the questions (statement), just like in a close-ended questionnaire. Quizzes sometimes include additional gamification or illustration elements, such as frog jumping to the selected answers or horse riding ahead in case of the correct answer;
- 'Fill-in-blanks' game – looking for the right words to paste into text. Variety exists in having a bank of words to use or choosing the right one from the dropdown menu – depending on a software;
- Fill table – filling the table with the correct words according to the task, for instance, identifying the correct translations to verbs in the forms of infinitive, past or future forms;
- Ordering game – structuring phrases or pictures in the correct order to create a logical sequence;
- Riddles – looking for some word according to some given textual, image or audio clues. Several attempts are given and points provided according to the use of clues;
- and many more.

See more learning games and softwares in Section "Tools for online learning".

TIP! | By using creativity, designers of the escape rooms can also use their own methods and task types, for instance by creating worksheets in the Google Forms, Google Docs or Sheets, or any other online notes. Multimedia can be easily inserted there by linking these sheets to Youtube or Vimeo, uploading files, setting passwords, leaving hints and many more. The only

To have the designed escape rooms well-structured and somehow unified, it is recommended to use one basic software which will then contain all the tasks, instructions, links and information necessary not to get lost. When playing physical escape rooms, sometimes it gets extremely difficult to start when you have no point of reference. It might be similar, if the learner receives several links, pictures and documents by email and gets lost at the very beginning of work.

Therefore, to retain some structure and order, a simple automated online questionnaire form is suggested to store all the tasks and challenges of one escape room. First of all, online questionnaires' structure parts of the escape rooms into Introduction, Challenges (with the instructions and validation mechanisms) and Closure. Each challenge can be arranged as a separate sheet (section) with 'back' and 'next' functions, so the next tasks are not seen if previous ones are not answered yet.

Secondly, it provides space for writing as many instructions as necessary. However, it is still recommended to keep the online escape room as short as possible. Thirdly, validation tools for checking correct answers are in place and several question formats can be used to determine whether a learner can continue with the next level (challenge, tasks) or not. Additionally, photos (incl. QR codes), videos, audio files, links and references for recommended sources can be integrated and stored in the online questionnaires.

We encourage you to try with the Google Forms first and then decide if any other questionnaire tool can be used for better functionality. Several types of questions can be programmed directly in the Google Forms – multiple choice questions, checkboxes, dropdown menu questions, short answers and paragraph answers, multiple or checkbox grid questions. However, not all of them allow for answer validation.

TIP! | For more advanced ICT users we suggest trying specialized game design tools, which include highly visual, for instance, Genially (require paid plans).

> There you can add music in the background, drag and move elements, create dialogues, block and unblock elements, add quizzes and other types of tasks.

As previously stated, **validation** is a crucial part of the escape room. The exit from a certain escape room is determined by finding the right key(s), meaning that online escape rooms require **validation** mechanisms to be set in place. Practically it means that each task or challenge as a set of tasks should require one or several correct answers to be provided by the learner to proceed to the further steps. If the learner did not complete the task right, she/he cannot move to the next step and additional learning needs to be done.

> **TIP! |** It is recommended to design such an escape room, in which learners can repeat the same task several or infinite number of times until it is completed in a correct way.

Ready-to-use softwares for games and assignments mainly have an integrated system, which provides feedback on if and which of the answers were provided correctly or incorrectly. However, the main task of such feedback is simple – to provide information. Escape rooms, in turn, require an additional feature, that allows or does not allow them to proceed to the next tasks or exit from the escape room, based on the inputs of learners (correct or incorrect). This requirement is another reason for having a unifying structure of the escape room in a form of online questionnaire.

> **EXAMPLE |** Simple Google Form questionnaire provides several options of how the answers can be validated:
> - Questions, which are mandatory to answer, need to be set as 'Required'. It might or might not have any additional requirement of providing exact correct answers.
>
> - When a specific answer is required for the 'Short answer' or 'Paragraph' type of question, the ' three dots' icon has to be pressed to select the needed option for 'Response validation'. It allows to limit the answer as:
>   1. number or whole number that is equal/not equal to, greater/ less than, greater/less or equal than, range in between, not between some predefined data;
>   2. text that contains/does not contain, is email or URL link;
>   3. length of written answer that responds to the requirement of maximum or minimum characters
>   4. regular expression that contains/does not contain, match/ does not match some text.

- When a specific answer is required in 'Checkboxes' or 'Dropdown' type of question, the learner can be transferred to a specific Section of the questionnaire based on provided answers. In this case, as a mechanism of validation, the same section can be selected if the answer is incorrect and the next section (or to the closing page) – if the answer is correct.

- In 'Multiple choice grid' and 'Checkbox grid' types of questions validation mechanism can be set to limit the number of responses per column to one. Also, in 'Checkboxes' type of question, answers can be limited only by the number of required responses provided – at least, at most or equal to some defined amount. However, these do not validate the answer which is correct or incorrect, therefore cannot be fully applied for online escape room validation.

- When using the option of Multiple choice, answer validation is applied by letting the learner move to the next section if the answer is correct or stay in the same section if the answer is wrong. Pay attention to keeping the questions in separate sections, because if more than one question is in the same section, even if the player answered just one question right out of the many, then the form will automatically move to the next section. By keeping one question per section you make sure that the learner answers all questions correctly.

Functionality of the Google Forms allows setting 'Customized error text' to guide the learning of what and how exactly needs to be provided to proceed with the escape room.

Any types and tools of validation can be considered for online escape rooms; however one might remember that manual validation done by the trainer or facilitator is time-consuming and not always possible and convenient for the learner. Therefore, automated digital tools are recommended.

In order to ensure that escape room is well-structured, logical in its sequence, lacks grammar mistakes and answer validation works well, testing phase is a necessity before proceeding with the learning process. First round of testing needs to occur within the teams of developers or colleagues of the designer. Two main aspects to be tested are:

1. technical - if the escape room really works well technically?
2. content and method - if the escape room brings any knowledge?

After eliminating any technical or logical errors of escape rooms and improving the content, the second round of testing can be done with the

target group – young people and young creative entrepreneurs (entrepreneurs-to-be). This will provide additional feedback on the usefulness and attractiveness of online escape rooms as learning tools.

The testing can be organized in a common room with the following group discussions or individually with the following interview or survey to be filled in by each person testing. To support the process, a proper measurement instrument – needs to be designed to be used for evaluating each escape room.
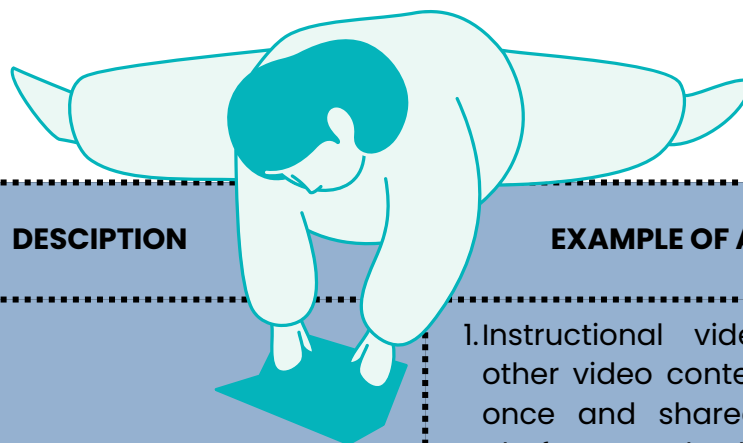
TIP! | Additionally, similar procedures can be conducted with the adult trainers and teachers to evaluate the usefulness of the content.

If the escape room is evaluated well, it can be applied to the learning process.

Tools for online learning

The tools for online learning constitute a compilation of the methods and tools to be used to deliver online learning activities for young people. The aim is to encourage youth workers to try out more media-rich and interactive resources (incl. tools, methodologies) to engage young people in online learning. Below is a compilation of tools, resources and techniques, their description and examples of how they can be applied in online learning with youth as a target group.

DESCIPTION	EXAMPLE OF APPLICATION
YouTube videos can be widely used in publishing learning video materials – for all users or certain groups only. Playlists can be created to store all relevant videos as a set of learning materials.	1. Instructional videos, webinars and other video content can be recorded once and shared through YouTube platform so the learners can access the content any time. 2. YouTube videos can be freely shared via links or embedded in other online learning platforms for more convenient access by using special code assigned to each video (embedding). 3. Young people can be evaluated by asking to provide recorded YouTube video links with them reflecting on the topics learned or presenting their own projects for further evaluation. Collecting likes can be enhanced to determine the best projects.
Online-Stop-Watch can be used to count activity time or countdown the time lef	1. Tool can be used in preparation of presentations to track the time spent on each of the sections presented. 2. The tool can be used by a facilitator to countdown the time left for youngsters presenting or pitching. Also, it can be used to countdown the time left for coffee break by leaving the full screen clock on a shared screen.

The following types of games can be designed with **EducaPlay**: matching game, crossword and word search puzzles, alphabet games, memory game, quiz (incl. map and video quizzes), matching columns and 'fill-in-blanks' game, riddle, dialogue, dictation game, etc. While some features are only available for paid accounts, EducaPlay offers a lot of free options to design and share games. Pictures, video, audio files and even audio recording option is integrated in some games to make them more interactive, for instance, riddle of video quizzes.	The tool can be used for designing assignments, which then can be integrated into online escape rooms. Games should integrate some key word or phrase that can be detected during the game and entered in the respective field of the escape room.
Link Lock is a tool for adding a password to a link so the access to some content is more challenging. Link Lock can be added to any original or already shortened link so one should enter a specific key (password) to make it open. The tool provides a new URL link to be used.	The passwords can be designed to sequence (order) the activities, meaning that one challenge should be accomplished and the key received to access the next challenge, etc.
Quizizz offers to develop one's own quizzes and polls for learners to check their knowledge and opinions. Several types of quizzes can be combined into one assignment, for instance, multiple-choice quiz, poll, fill-in-blanks, draw (requires learner to draw on smartphone screen) and open-ended quiz. Team and individual modes of completion are possible. After completion, the leaderboard can be seen by all learners. Answering time can be limited for each question of the quiz.	The tool can be used for designing assignments and generating answers to be integrated in digital escape rooms. Audios, videos, pictures and even complex equations and formulas can be inserted to support the learning activity. Correct answers from the quiz can be integrated into escape rooms. Quizzes can be shared with the QRs and simple codes.
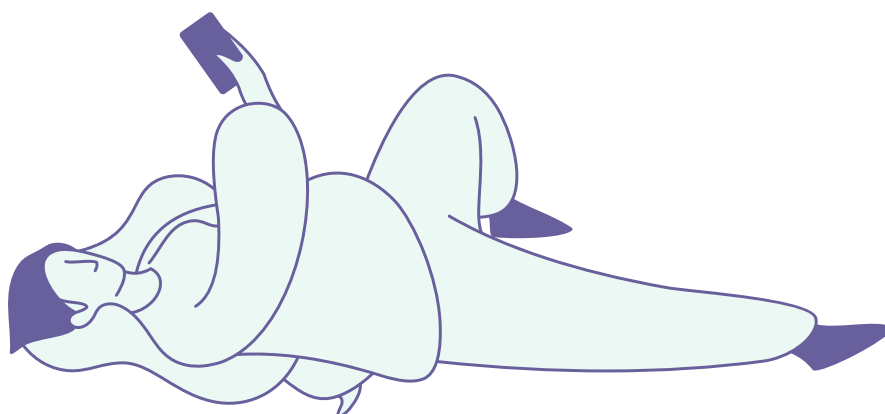
The **Google Forms** can be used as a quiz tool with automatic or manual grading tools and give to the educators a quick access on how the learners understand the content of the training.	1. The youth learners can be efficiently engaged in the learning process through interactive tools. At the end of each learning outcome, the quiz can be used as exercise in order to analyze the correct answers, missed questions and incorrect answers. The quiz summarizes the theory and creates to the learners the feelings of accomplishment. 2. The educator can easily gather the learners' emails and give personalized feedback for the incorrect responses. Also, through Google Forms the educator can identify each learner's knowledge gaps and give him/her further explanations. The feedback on Google Forms can take the form of a comment, a hyperlink, or both 3. The GoogleForm Quiz gives the option to learners to get a copy of their responses emailed to them after submitting. This option helps them to review their answers, especially the answers which were related with those learning units that they have knowledge gaps. The Google Forms can be shared easily via a link making the training materials available for everyone at any time.
The **Slido** is a go-to interaction app which can engage the learners into the learning process with live polls, Q&A, quizzes and word clouds.	Slido can capture in real time the learner's views, thoughts, concerns and feedback, and make them feel connected during the whole training. It is an easily accessible tool. The learners can join without any logins or downloads. The educators can get valuable insights with the Slido Analytics tool. For example, they can find out how many learners were engaged, which were the most common questions related to the subject, and export the questions or voting results for further analysis in the next sessions.

	The Slido gives everyone the chance to ask their questions, whether they're on mute or too shy to speak up. Through the Slido the educators can create a live quiz or trivia game and test learners' knowledge in an interactive way.
Stormboard is one of the most extensive platforms and offers several tools and functions to meet the learners' needs. The provided templates can be used to teach the learners several problem solving and planning processes.	The educator can set up a board with categories related to the training's subject. Then, the learners can participate by adding their questions, answers, concerns etc. to sticky notes and placing them in the related category. Also, the sticky notes can be moved around on the board as needed, which is helpful in the planning process. The learners can also include their sticky notes, images, videos, and files. This option makes the training more interactive and motivates the learners to do desk research about resources related to the training subject. The Stormboard enhances brainstorming and ideation. The learners can build on each other's ideas in a collaborative environment.
Edapp allows to create unlimited lessons, deploy to unlimited learners and provide a suite of analytical and management tools to track the learners' progress.	There is the option the educator uploads the training slides and they will be converted into mobile-first micro lessons making learning more accessible, digestible and engaging for learners. This feature enables learners to perform training on their own mobile devices. Through Edapp the educator can create a modern learning experience complete with gamification, spaced repetition and real rewards built-in for the learner. Also, Eddap provides dozens of ready-to-use templates, PowerPoint conversion, and SCORM upload and free regularly updated courses which cover many fields from data protection legislation to how to safely operate a forklift.

EddAp offer to its users the cloud translation tool which uses Google's AutoML in order to enable the deployment of a courseware in multiple languages. Combined with the rapid authoring, courseware can be translated and distributed in numerous languages. EddAp can reinforce learning, as the educator is able to check the learners' understanding from meetings, onboarding, and training using a quiz-making tool named "Rapid Refresh". The educator can add questions and answers to the user-friendly spreadsheet, and deploy it to see where individual learners may need additional help.

The use of **external resources links** can be referred to articles, surveys or/and papers whose topics are related to the subject of the training. These links can be applied like extra learning materials and support the learning process.

The learners can gain deeper knowledge and understand difficult topics by studying more resources and information about the training's subject. The learners will be able to have access to these resources whenever they want either after the end of each session or even after the end of the whole training. The external links can improve access to high-quality educational content released under open licenses and enhance the quality of the curricula. External resources are very useful as supporting tools in teaching and learning. They give the learners the flexibility to access files and materials in a more informal way without the supervision of an educator or the pressure of the session time.

Pixabay is an online tool that allows users to: use a large bank of high-quality images and videos, access a collaborative space where you can share your own images and videos and download images and videos from other users for free.

In Escape Room development, it is essential to use visually pleasing material, and Pixabay offers this option for free. As such, it has been a key tool for downloading videos that have subsequently been used to create videos to present the scenarios and challenges of the Escape Rooms.

Filmora is a video editor that offers the user a wide range of functionalities. The simple toolbar allows inexperienced users to easily create high-resolution videos with professional-looking effects. You can even create small slideshows in a matter of minutes. The most notable advantages of this software are the following: it is free, offers the possibility to edit both simple and professional videos thanks to its ease of use and includes more than a hundred effects and elements to use in the edits.	Thanks to Filmora, presentation videos have been developed for the different scenarios and challenges of each level, in order to capture the user's attention and generate visual appeal, as well as dynamism.
Pexels offers completely free and high-quality stock photos and videos. All of them are tagged, easy to find in searches and appear on our image and video discovery pages.	In Escape Room development, it is essential to use visually pleasing material, and Pexels offers this option for free. As such, it has been a key tool for downloading videos that have subsequently been used to create videos to present the scenarios and challenges of the Escape Rooms.
LearningApps.org is a Web application to easily create fun exercises to be integrated into your educational content. There are more than 20 different exercises allowing a great variety of sequences	We used it to compel learners to access online learning resources embedded in interactive games to learn skills in a fun way: crosswords to learn Instagram terms, gap-filling texts to follow a procedure.
Genially is an all-in-one online tool to create stunning presentations, interactive images, infographics, dossiers, quizzes, resumes, etc. and enrich them with interactivity and animation effects in seconds.	Genially's many interactive options have made it possible to create online games such as puzzles, but also to integrate a bot into a game.
Canva is a graphic design platform, used to create social media graphics, presentations, posters, documents and other visual content. The app includes templates for users to use. The platform is free to use and offers paid subscriptions such as Canva Pro and Canva for Enterprise for additional functionality. In 2021, Canva launched a video editing tool. Users can also pay for physical products to be printed and shipped.	The tool can be used to create attractive contents to be added to the Escape Rooms; examples of its use can be creation of CVs, editing on photos, creation of graphic elements to make the environment more friendly. Moreover, CANVA allows the creation of logos and badges to be added at the end of the Escape Rooms.

SnatchBot is a chatbot builder platform without coding or technical skills. You can customize and publish your bot on various online platforms.	They have a shop of conversational bots already available including one on GPDR. We used it because it allowed us to learn more about the laws by talking to the bot, but also to take a quiz.
Prezi allows anyone who can sketch an idea on a napkin to create and perform stunning non-linear presentations with relations, zooming into details, and adjusting to the time left without the need to skip slides.	We used it to make a very large infographic interactive as a JPEG to hide hyperlinks
uMap lets you create maps online with OpenStreetMap layers in a minute and embed them in your site.	We have created an online map to make it easier for users to find the independent data protection authorities in their country and their websites.
Creative Commons is a global nonprofit organization that enables sharing and reuse of creativity and knowledge through the provision of free legal tools. The legal tools help those who want to encourage reuse of their works by offering them for use under generous, standardized terms; those who want to make creative uses of works; and those who want to benefit from this symbiosis. Their vision is to help others realize the full potential of the internet.	This website gave us the possibility to gather information about the different Common License Options and to create an activity included in the Introductory Escape Room in order to give users the chance to know the options they have to grant the public permission to use their creative work under copyright law. In the exercise, users will have to choose and mark the correct definition.
Teaching Treasure is a platform where you can find teaching tools such as educational games, online interactive activities, printable worksheets, project ideas and lesson plans to achieve some learning outcomes.	This platform has been useful to develop the Escape Rooms since we included the link to an online activity on copyrights to be filled by the users, so that by completing the exercise they can widen their knowledge about copyright breaching.
CopyrightUser.org is an independent online resource aimed at making Copyright Law accessible to creators, media professionals, entrepreneurs, students, and members of the public. The goal is to provide answers to the most pressing concerns creators have about copyright, helping them understand their rights.	This website provided us hints on how to develop the story through which the Escape Rooms have been developed. It also was useful to create a quiz on copyrights use and conditions.

Google Arts and Culture is probably the best educational arts and culture platform available for free. It is a non-profit initiative that features content from over 2000 leading museums and archives who have partnered with the Google Culture Institute. Users can easily find artworks, nearby museums, play art games, create an artwork collection and many more.	Google Arts & Culture educational material can be a pool of inspiration for Digital Escape Room development. By scrolling and experimenting with the various games that the platform offers, you can get inspired to create your own educational activities in the format of an escape room.
Gitmind is a professional mind map maker for brainstorming, project planning, development, action and many other creative tasks. With this tool you can capture your ideas and inspirations and structure them accordingly to create visually pleasing maps that will help you put your thoughts in line.	Gitmind was utilized during the Escape Room development, by providing a custom-made SWOT analysis template. Users can complete their SWOT analysis by adding comments on each suggested box. Others can see what everyone else added as a comment therefore it also functions as an interactive, collaboration tool to ensure that users can get inspired by others, and be inspiring themselves.
Powtoon sells cloud-based animation software for creating animated presentations and animated explainer videos. The e-Tool can be used for personal, educational or business/professional purposes. It is free, very user friendly that gives you the chance to create presentations with your own script, voiceover and visuals.	Powtoon offers great templates for presentations that were used in the Escape Rooms, by providing introductory guidelines for the challenges that followed.
Thinglink is a free website that allows users to create a webpage with an image with hotspots. Hovering on the hotspots will bring up more content, videos, images, text and links to other web pages.	Thinglink can be used as the tool that brings all challenges together. A main image can have the function of the "room" the user is trying to escape from, and you can add hotspots on the images that bring up the clues and challenges to escape from the room.

Integration into learning activities

The idea of gamification which is at the core of ER is well-known in non-formal education. It is a new way to make learning playful and connect it to the way young people think, using what generally interests them. People are naturally inquisitive, and the educational escape room is the ideal setting for utilizing this desire for learning.
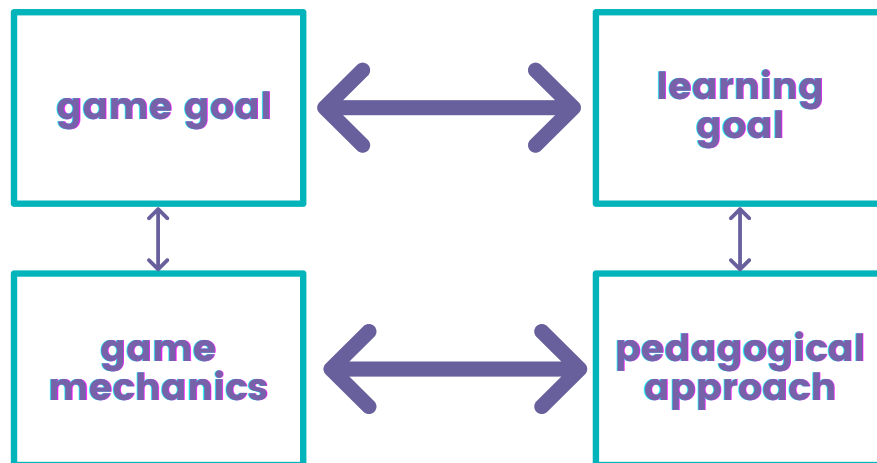
Pedagogical learning strategies that ERs pair well with other than Game Based Learning are problem-based learning, collaborative learning, and active learning all of which are pedagogical strategies often encountered in non-formal learning.

There are several reasons why ERs are an exceptionally suitable tool for non-formal education settings:
- ERs offer alternative and engaging approaches for learners to acquire new information, abilities, or attitudes;
- ERs can be used to test one's level of understanding, skill, knowledge, and advancement;
- ERs can help connect information with a multisensorial, effective, active, or practical memory;
- ERs are learner-centered, putting the learner's needs first and entrusting them with responsibility;
- using their curiosity and inventiveness, learners are encouraged to experiment and fail;
- using their own competencies and learning preferences, learners are encouraged by ERs to be proactive and seek out their own solutions;
- in ERs, the instructor supports learning by observing and engaging with students—but only when they request it;
- ER encourages creativity and uses a variety of resources;
- ER provides room for several learning styles;
- ERs have an important impact on the users behaviors and attitudes, and what is more, in the development of 21st-century skills.

Due to this versatility, ERs can be integrated in non-formal learning as either a stand-alone activity or as a part of a series of other educational activities, for example, an introduction to the topic or quite the contrary - at the end as assessment activity. ERs are appropriate for use in all learning environments and are suitable for a wide range of students in terms of age, intellectual capacities, nationality, and background. The major requirement for making them appropriate is to modify the method and design of the room to the needs and capacities of the learners and the educational environment.

For educational escape rooms educators define learning objectives and learning outcomes (described in Section 3 part on WHY) and a game goal. The educators' intention should be that by reaching the game goal, students achieve the learning objectives and desired learning outcomes. In educational ERs the alignment of learning goals, game goal, pedagogics and game mechanics in the design is a crucial component. This is true not only for educational ERs, but educational games in general.

```
┌─────────────┐          ┌─────────────┐
│  game goal  │ ◄──────► │  learning   │
│             │          │    goal     │
└─────────────┘          └─────────────┘
      ▲                        ▲
      │                        │
      ▼                        ▼
┌─────────────┐          ┌─────────────┐
│    game     │ ◄──────► │ pedagogical │
│  mechanics  │          │  approach   │
└─────────────┘          └─────────────┘
```

What is important to understand when incorporating such an innovative approach as ERs in non-formal learning, is the role of the educator. As opposed to classical learning methodologies, the function of the educator is quite different - to help and coach rather than to lead and offer clear direction in challenging circumstances. Teams should not be stopped when they are doing something incorrectly or moving in the wrong direction unless they specifically request assistance because mistakes are an integral part of the process. During the gameplay, the main functions of the educator are: 1) monitoring, 2) guiding, 3) providing hints, and 4) debriefing.

The last function mentioned (debriefing) is an important one. The presence of a space for reflection on the experience is a crucial component to learning and is what defines the ER as an educational escape room. This element of reflection needs to be incorporated into the design of the educational ER as well as needs to be planned for when incorporating ER in non-formal learning. It is essential to provide the space for debriefing as it offers participants the chance to think back on the experience, challenge what happened, provide and/or receive feedback, and become aware of their learning. This debriefing space may allow to build a shared understanding of the entire process by evaluating the individual results and used solutions for each assignment as well as to assess participants to see if they have met the learning objectives. A space for reflection also allows to finish the escape room's narrative and explain the purpose of the entire educational meaning of the particular ER process.

Section 4: The CO-ART in-service training program

Section 4 presents the approach designed within the CO-ART project for training youth workers, youth leaders, educators and trainers in developing, testing and piloting one's own online escape rooms. The purpose of the program is:

- to promote online escape rooms as an efficient tool to be used for online teaching/learning;
- to equip youth workers with the knowledge, skills, competencies, and tools to design their own challenge-based learning resources and use them as an interactive tool in their own teaching/learning activities in a variety of non-formal education contexts.

The training program is based on the content of this Manual and includes references to the developed media-rich and interactive resources and provides a step-by-step guide to their design. The training and the Manual are with the aim to support youth trainers in further delivering in-service training to other youth workers, youth leaders, and trainers in their countries/regions.

The training covers:

- the concept of online escape rooms and explains their role within the non-formal learning;
- showcases 24 online escape rooms designed by the CO-ART project partners and link them to the learning outcomes – digital and entrepreneurship-related knowledge, skills and competences;
- how to design your own escape rooms by using freely available tools;
- how to integrate escape rooms into the learning process.

The training program was piloted and tested from 5 till the 8th of July 2022 in Riga, Latvia with 24 participants from Latvia, Poland, France, Spain, Cyprus and Greece.

Learning objectives & key learning outcomes

The **learning objectives** of the training program are the following:

- familiarize the youth workers with the new approaches required to effectively use and integrate the new resources into workshops and trainings;
- emphasize working in new, dynamic online learning environments and use media rich ICT tools;
- explore the different roles of youth workers and trainers while implementing ER is non-formal education.

The **key learning outcomes** of the in-service training program are that as a result of the training youth workers (youth leaders, trainers) should be able to:

- Identify and evaluate innovative non-formal learning methods and tools for online youth work;
- Apply ENTRECOMP and DIGCOMP 2.1 skills framework in youth work, being able to identify main competence areas to address in youth;
- Reflect on own knowledge, skills and competencies necessary for carrying efficient youth work online;
- Explain what online escape rooms are and what are their key features in relation to non-formal education;
- Test, evaluate and apply Online Escape Rooms and Resources for Online Learning designed within the CO-ART project in own youth work practice;
- Design one's own online escape rooms (incl. developing tactics, structure, functionality) to apply in youth work;
- Apply a variety of online-based tools for media-rich and interactive online learning implementation (incl. escape room design and application);
- Evaluate and provide feedback on online escape rooms and online learning events designed by peers;
- Design one's own unique methodologies for efficient online learning with the use of Online Escape Rooms for youth and present them to other youth workers;
- Identify various roles of youth workers and trainers within online learning;
- Act as a self-confident professional in the online environment;
- Pass newly acquired knowledge on efficient online learning facilitation to other youth workers, youth leaders, and trainers.

The overall structure of the training program

The following subsection introduces the overall structure of how the training program was implemented by the CO-ART project consortium with the purpose to pilot and test it and then improve it. However, the purpose of the section 3 is to provide youth workers with a clear understanding how they themselves can organize a similar training in order to popularize the online educational ER as a methodology in their own county, region, sector and fields of work. This means that the readers of the manual should evaluate themselves which steps of the training program are the most applicable to their own situation. It might be that unless implementing an international training program, Part I and Part IV can be omitted.

Part I.

Introductory event – implemented in each partner country as a preparation for the transnational training event in Latvia. Meant to present the CO-ART project, inform about the logistics and necessary materials/equipment (e.g., computer) to be carried to the training venue.

Part II.

Face-to-face training & Self-directed learning online through the e-learning portal – 4 days of training activities include work in both online and offline environments.
The face-to-face training is aimed at supporting youth workers and trainers to develop their own online digital breakout challenge-based learning resources.
The aim of the self-directed learning online is to develop the necessary skills and competencies to deliver workshops and pieces of training in dynamic online environments and successfully manage the new, digital learner/ trainer relationships.

Part III.

Evaluation of the training: each participant filed an entry and exit questionnaire to identify improvements in their learning process, and at the same time receive feedback about the implementation of the training event. Participants evaluated the quality of the content, the professionality of the facilitators, team dynamics, logistics, and other aspects identified.

The structure of the 4-day training

The following subsection introduces the day-by-day structure of how the training program was implemented by the CO-ART project consortium with the purpose to pilot and test it and then improve it. However, the purpose of the section 3 is to provide youth workers with a clear understanding how they themselves can organize a similar training in order to popularize the online educational ER as a methodology in their own county, region, sector and fields of work. This means that the readers of the manual should evaluate themselves which steps of the training program are the most applicable to their own situation. It might be that depending on the number of participants, a part of the Day 4 activities can be done in Day 3 thus finishing earlier on Day 4.

The structure of the 4-day-training is based on the contents of this Manual. Hence, for all work session you can find materials and content within these pages.

On Day 1, there is both Presentation of <u>CO-ART Escape Rooms</u> as well as Testing of CO-ART escape rooms. We suggest that you do not omit these steps but rather use the rich resources of the project as a way to introduce your trainees to the concept of educational digital Escape Rooms with concrete practical examples. One of the reasons why Day 1 contains ER testing, is so that when Day 2 comes containing the theory of anatomy of an ER, the learners would have already experienced an ER by playing themselves and would have an easier time to perceive the theory and later apply it in practice. On Day 2 there is a feedback session from CO-ART ER testing - this is meant as an opportunity to discuss with learners what questions they might already have from that experience and make sure that those are answered in the upcoming sessions.

Day 1

Topic: **What is a digital escape room, how can it be used and what does it look like?**

Methodology:
Frontal presentation
Group work

Welcome to the CO-ART training!
Presentation of the agenda, and participant introduction.

What is a digital breakout?

Online Escape Rooms in non-formal learning & integration of ER in non-formal learning activities

Presentation of CO-ART Escape Rooms:
- learning frameworks: entrepreneurial and digital competences
- CO-ART learning resources – overview of the 24 ER
-

Testing of the CO-ART Escape Rooms.

Day 2

Topic: **Designing your own escape room - theory**

Methodology:
Frontal presentation
Group work

Welcome day 2!
Presenting the agenda for the day.

Feedback session from CO-ART ER testing.

An overview of the anatomy of an ER: WHY, WHAT, HOW
- WHY: the learning objectives and learning outcomes
- WHAT: the content and a storyline
- HOW: the technical side of the escape room creation

Resources for online learning (presenting the ICT tools).

Forming the groups for work on their own escape rooms.

Work in groups: construction of own escape rooms – ideation and brainstorming of the topics

Day 3

Topic: **Designing your own escape room - practice**

Methodology:
Frontal presentation
Group work

Welcome day 3!
Presenting the agenda for the day.

Work in groups: ideation on integration of ER into learning activity, developing a storyline and ideas for the challenges

Work in groups: the technical construction of their own escape rooms

Work in groups: finalizing of the escape rooms

Day 4

<u>Topic</u>: **Designing your own escape room - practice**

<u>Methodology:</u>
Frontal presentation
Group work

Welcome day 4!
Presenting the agenda for the day.

Presenting the escape rooms and feedback on the escape rooms.

Feedback and Q&A session from self-directed learning.

Evaluation of the training.

Presenting the escape rooms and learning activities they could be used in.
Feedback on the escape rooms from the trainers.

Evaluation of the training

Following the completion of the learning, teaching and training activities, participants were asked to fill in an evaluation questionnaire, expressing their thoughts and feeling about their experience. Participants were pleased with the general organization of the training, in particular with the collaborative group atmosphere created among them, the opportunity for networking with other professionals across Europe, and the facilitation of the learning process. The objectives set out before the training were met to a sufficient extent. Participants gained an in-depth understanding of how to integrate escape rooms into a learning process, how to design their own escape rooms based on the project's methodology, and comprehended the concept of online escape rooms and their role in non-formal learning.

Conclusion

Educators all over the world have been motivated to incorporate escape rooms in educational settings as a result of the global increase in leisure escape rooms as well as in the context of the recent rise of online learning due to the pandemic. As escape rooms become more and more popular in both formal and non-formal education, there is a need for guidelines on how to create and operate escape rooms in educational contexts. This Manual has been created for exactly that purpose. Education experts will benefit from the Manual's suggestions for designing and implementing escape rooms because these new learning environments will help students gain knowledge and abilities more effectively. In contrast to recreational escape rooms, players in educational escape rooms must complete educational objectives in order to advance in the game. This manual has laid out how to align the game mechanics and educational learning objectives and outcomes. We hope you have gained new knowledge and zest for playing!

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Annex – Learning Outcomes Addressed by the CO-ART Project

ENTREPRENEURIAL COMPETENCES				
KEY COMPETENCES	**Levels**	**Knowledge**	**Skills**	**Attitudes**
On successful completion of this resource, learners will be able to:				
1) **SPOTTING OPPORTUNITIES** 2) **ETHICAL AND SUSTAINABLE THINKING**	**Introductory** Learner is relying on support from others	• Identify opportunities within relevant creative fields, • Recognise needs and challenges within a particular creative sector. • Recognise ethical behaviours in the Culture and Creative Sector. • Use sustainable thinking in creative activities for the benefit of the community and society. • Differentiate the changes and impact creative and artistic activities can achieve.	• Able to create value through creative activities in the local community and surroundings. • Able to address challenges and needs in the local community and surroundings through creative actions. • Able to differentiate various areas within the CCS where value can be created. • Able to recognise the roles of various stakeholders within the creative sector. • Able to recognise honest, and responsible behaviours and ethical values, and describe their importance within the context of CCS. • Able to define examples of ethical behaviours within cultural, creative and artistic actions. • Able to identify environmentally friendly behaviours within the CCS. • Able to select and distinguish the impact to the community and general society created through artistic and creative actions.	• Awareness of the CCS in the local context, including the awareness of challenges, needs and opportunities. • Awareness and interest of the principles of ethical behaviour and sustainable thinking within CCS. • Expanding the mindset regarding the environment where creative and artistic activities can create impact.
	Intermediate Learner is building independence	• Explain, how different opportunities can contribute to creative and artistic actions. • Recognise alternative ways to solve problems and address challenges within the creative and artistic fields of work. • Explain, what are the different target groups of a particular creative/ artistic action and what are the needs of the target group.	• Able to identify alternative ways to solve problems and address challenges related to creative and artistic activities. • Able to establish a wider target/ user group for a particular creative/ artistic action and define the needs accordingly. • Able to distinguish the different contexts within the CCS where one can create value. • Able to identify personal, social, and professional opportunities within the CCS.	• Proactive attitude to search for opportunities within the field of interest. • Open and curious mind to apply new and alternative solutions within the field of interest. • Demonstrate interest to setting up new ventures or improve existing ones in the field of interest.

		● Understand ethical thinking principles in decision making within the CCS. ● Understand ethical thinking principles of consumption and production within CCS, and specific artistic actions. ● Differentiate sustainable and unsustainable practices and their impact in the context of culture, art and creative actions. ● Understand accounting principles for resources relevant to creative and artistic activities.	● Able to apply ethical thinking to the production processes of creative/ artistic actions. ● Able to produce a problem statement addressing unsustainable practices within CCS.	● Honesty and integrity driven attitude towards decision making. ● Mindset oriented towards change and future development within the CCS.
	Advanced Learner is taking responsibility	● Explain approaches to identify entrepreneurial opportunities of a creative activity. ● Estimate the appropriate time to exploit the opportunities of creative and artistic fields. ● Identify challenges between contrasting needs and interests. ● Identify the limits of the systems relevant to the actions within the CCS ● Demonstrate how particular creative/ artistic actions and enterprises are related to broader topics. ● Understand how creative/ artistic actions should support wider ethical values of equality, fairness, social justice etc. ● Apprise the implications of creative/ artistic actions within the existing limitations. ● Analyse and discuss methods for functional and strategic accountability within the CCS.	● Able to apply the knowledge and understanding to manage a creative/ artistic actions, initiatives, and enterprises. ● Able to modify existing mainstream practices to create value in different ways to benefit the creative/ artistic initiative, project, or enterprise. ● Able to develop needs analysis according to the relevant CCS stakeholders. ● Able to analyse an existing initiatives, projects or enterprises within the CCS and identify opportunities for their further development. ● Able to facilitate ethical behaviours in relevant fields of interest and influence. ● Able to analyse the impact a creative/ artistic action has on the environment and vice versa. ● Able to formulate the purpose of an impact assessment, monitoring and evaluation within a creative/ artistic project, initiative, or enterprise. ● Able to differentiate what is input, output, outcomes, and impact of a particular creative artistic activity within the CCS.	● Entrepreneurial, analytical, and future oriented mindset focusing on the creative and artistic fields. ● Showing initiative and take responsibility to promote ethical behaviours and sustainable thinking within creative/ artistic activities, projects, or enterprises. ● Awareness of different opportunities, contexts, and alternative solutions within the CCS.
	Expert	● Estimate the value of opportunities within the CCS.	● Apply appropriate decisions to follow up on a different level according to the opportunities.	● Courageous, motivated, and curious attitude

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	Learner is driving transformation, innovation, and growth	• Define opportunities and identify synergies to achieve higher results with creative projects. • Design creative projects, initiatives, or entrepreneurial activities to address the potential future needs. • Distinguish trends, threats, and signals of change that can benefit the creation of an artistic entrepreneurial activity. • Assess relevant trends CCS to achieve new entrepreneurial opportunities. • Prioritize ethical behaviours and facilitate their implementation in creative and artistic areas. • Differentiate the advantages and disadvantages of environmental impact on a creative initiatives, projects, and entrepreneurial activities. • Monitor and assess impact of a creative initiative, project, or entrepreneurial activity.	• Able to distinguish opportunities and exploit them quickly towards the good of a creative project/ enterprise. • Able to select and organise opportunities towards higher advantage. • Able to create tools and methods to match the needs with the solutions and anticipate future needs within the CCS and beyond. • Able to organise the team in a way that would identify signals of changes and lead to new opportunities within the CCS and beyond. • Able to create actions against unethical behaviours in the CCS. • Able to apply impact assessment, impact monitoring and impact evaluation of relevant projects, initiatives, or enterprises. • Able to design ways and solutions to be accountable towards all stakeholders.	• Competitive, impact and achievement-oriented attitudes. • Future, development, and growth-oriented mindset. • Awareness of changes, trends and threats in the sector and prompt reaction to them. • Responsible attitude towards stakeholders.
3) **MOBILISING RESOURCES** 4) **FINANCIAL LITERACY**	**Introductory** Learner is relying on support from others.	• Understand the value of sharing resources within the creative field. • Describe ways how resources can last longer within a creative/ artistic action. • Identify ways to efficiently use time. • Recognise situations within the development of a creative/ artistic action that require support. • Estimate the use of money within a creative/ artistic action. • Explain the role of taxation in providing goods and services within the CCS.	• Able to recognise the limitations of resources to develop creative/ artistic actions. • Able to recognise a responsible use of resources to develop a creative/ artistic action. • Able to recognise time as a scarce resource to develop a creative/ artistic action. • Able to identify sources of help according to the needs the creative activity requires. • Able to explain basic economic concepts. • Able to outline a simple budget in a responsible manner for a small-scale creative activity. • Able to differentiate main types of income within the CCS. • Able to outline the purpose of taxation.	• Appreciation of resources and possessions. • Responsibility towards the use of resources. • Open to receive help and support, when necessary. • Awareness of basic financial and economic concepts. • Awareness of basic financial and economic principles.

Intermediate Learner is building independence	• Understand the principles of circular economy and resource efficiency within CCS. • Describe concepts of division of labour to develop a creative/ artistic initiatives or projects. • Read income statements and balance sheets. • Evaluate the cash-flow needs of a project/ initiative/ activity. • Identify and explain the various forms and structures of creative/ artistic activities. • Identify the tax requirements for a creative/ artistic initiative or project.	• Able to select and manage the necessary resources according to the ideas. • Able responsibly and efficiently use resources to develop creative/ artistic initiatives and projects. • Apply efficient time management methods to develop creative/ artistic initiatives and projects. • Able to identify and list relevant stakeholders to support the development of creative/ artistic ideas, initiatives, and projects. • Able to outline a budget for a creative project/ initiative. • Able to identify sources of funding (public and private) to develop/ sustain a creative initiative or project. • Able to estimate the main accountancy and tax obligations to fulfil tax requirements for a creative/ artistic initiative or project.	• Conscious and responsible use of resources. • Courage to ask for support and help when it is necessary. • Awareness of different funding opportunities. • Responsibility towards taxation and accountability. • Awareness of more specific financial and economic concepts.
Advanced Learner is taking responsibility	• Understand how to deal with limited resources to develop creative/ artistic project or entrepreneurial activity. • Understand the non-material costs of the use of resources to develop a creative/ artistic project, initiative, or entrepreneurial activity. • Support others towards effective time management practices within the creative projects. • Identify digital solutions that would help to manage resources to develop creative projects and initiatives. • Understand financial planning and forecasting concepts to turn ideas in to viable actions. • Evaluate the public and private business support programmes, calls, tenders to develop creative actions.	• Able to select and combine accordingly the acquired resources. • Apply effective resource management procedures to develop creative projects. • Manage time efficiently addressing personal and/or team's productivity towards creative projects. • Able to find appropriate support to fully develop a creative project. • Able to formulate financial indicators (profit, sales growth, working capital) of a creative project. • Apply most appropriate sources of funding to start/ scale-up a creative project. • Apply appropriate financial decisions based on current taxation schemes	• Awareness of procedures that affects individual and team's productivity. • Awareness of possible improvements in efficient use and management of resources. • Oriented on reaching most advantage of possible opportunities. • Awareness of public and private funding opportunities for further development of a creative projects.

		● Understand, how financial decisions affect the tax.		
	Expert Learner is driving transformation, innovation, and growth	● Evaluate the key resources necessary to support innovation, new venture, or enterprise within the CCS. ● Identify the benefits of efficient use of resources to an organisation/ individual within CCS. ● Understand the benefits of circular economy to the organisation/ individual within CCS ● Construct efficient time management procedures to develop and implement a creative project. ● Analyse financial health of a creative project/ initiative/ enterprise. ● Evaluate the potential to invest in a creative enterprise. ● Understand more complex taxation schemes.	● Able to plan enough resources for various steps of an action plan of a creative project/ enterprise. ● Able to design and incorporate innovative ways that would measure and reduce negative impact of a creative project/ enterprise on environment, community, and society. ● Able to develop effective time management procedures according to the specific needs of the creative project/ enterprise. ● Able to create a network of responsive and flexible stakeholders to support a creative project/ entrepreneurial idea. ● Apply efficient task management methods. ● Apply financial indicators to analyse financial health of a creative project/ enterprise and its competitors. ● Able to create a plan for financial and economic sustainability of a creative project/ enterprise. ● Able to develop a strategy to raise funds through different sources to secure revenue of a creative project/ enterprise.	● Rational and structured approach towards resource and task distribution, and financial planning. ● Innovation and impact-oriented mindset. ● Focusing on efficiency and value ● Awareness of the existing competition. ● Interested in growth and further development. ● Awareness of more complex taxation systems.
5) **COPING WITH UNCERTAINTY, AMBIGUITY AND RISK** 6) **WORKING WITH OTHERS**	**Introductory** Learner is relying on support from others	● Analyse customized approaches to lead a creative activity or initiative towards achievements. ● Recognize, the additional value of diversity in the process of idea generation and implementation. ● Recognize, how individual emotions, behaviours and attitudes affect others and vice versa. ● Understand the value of active listening.	● Able to describe the potential risks related to a creative activity, initiative, or project. ● Able to take risks and decisions in the creative work embracing the fear of making mistakes. ● Apply behaviours that show empathy when workings with others. ● Apply active listening principles when listening to other ideas to achieve personal/ team's goals.	● Awareness of existing risks. ● Awareness of emotional intelligence and its effects on individuals and groups. ● Awareness and respect towards diversity. ● Awareness of the benefits differences can add to a project, initiative, organisation etc. ● Willingness to team up, collaborate and establish new networks.

		- Understand the principles of working in a group. - Recognize how to contribute to simple creative projects, initiatives, entrepreneurial activities. - Understand the meaning and forms of associations, co-operations, peer-to-peer support.	- Able to work individually and with others, undertake different roles and take responsibility. - Able to involve other people in a creative activity, initiative, project. - Able to initiate networking.	
	Intermediate Learner is building independence	- Understand the role of information in decision making and reducing of risks. - Understand the potential risks and differentiate relevant factors. - Identify individual preferences and according to that analyse benefits of being self-employed or alternative career choices. - Understand, how diversity contributes to ideas and opportunities. - Understand how emotional intelligence and support can help to face and solve conflicts.	- Able to apply critical thinking and make informed decisions that can reduce risks in a creative action, project, or simple entrepreneurial activities. - Able to promote diversity and combine different contributions to brainstorm towards a valuable creative initiative, project, entrepreneurial activity. - Able to present ideas, projects, initiatives in a confident manner. - Collaborate with other individuals and teams towards creative projects and entrepreneurial activities. - Able to create new relationships to receive the necessary support, including emotional support. - Understand and apply shared ownership principles of ideas, projects, initiative.	- Awareness of the importance of information and sources of information to predict and reduce risks. - Decision making towards individual career choices. - Critical and rational mindset. - Confidence to present ideas and projects. - Focusing on problem and conflict solving. - Awareness of emotional intelligence and acknowledge the importance of emotional support.
	Advanced Learner is taking responsibility	- Recognize when information is incomplete and identify alternative ways to make decisions. - Understand the concept of affordable losses within a creative project. - Evaluate the risks and expected benefits to make decisions within a creative project/ enterprise. - Recognise behaviours that hinders personal or team's interests.	- Make informed decisions based on different viewpoints when the level of uncertainty is high within a creative project/ entrepreneurial activity. - Able to develop a risk assessment and management plan to guide individual or team's choices and compare creative projects/ enterprises. - Able to make compromises within the team or when working individually.	- Awareness of alternative ways to make decisions. - Awareness of the tools and concepts to assess and manage risks. - Supportive towards diversity within a team/ enterprise. - Addressing the needs of the end users. - Supportive towards the needs of the team and the value-creating activity.

		• Describe techniques to manage relationships with the target groups. • Recognise the combination of skills, knowledge and attitudes needed within a team. • Recognise what is the right profile of people to support a value-creating activity in the CCS.	• Apply active listening methods and appropriate strategies to find out and address the needs of specific target groups. • Able to use digital technologies to team up with other communities to create value. • Apply techniques and tools to support and facilitate teamwork and ensure the best performance of individuals. • Able to proactively network to find suitable people to support a creative project or entrepreneurial activity.	• Proactive attitude towards networking and involvement of suitable individuals.
	Expert Learner is driving transformation, innovation, and growth	• Analyse the elements of situations that are of uncertain and ambiguous within the CCS. • Evaluate and assess the existing and potential risks related to the project, idea, enterprise. • Evaluate conflicts to manage them effectively. • Understand the needs of the target groups by analysing wide range of sources of information. • Understand the needs of the team and it's capacity even when working remotely. • Understand the methods on how to successfully engage individuals and groups within a team and a wider network.	• Apply strategies to collect and monitor data and make evidence-based decisions. • Able to assess risks that a creative project/ enterprise is exposed to due to various changes. • Able to develop strategies to reduce risk of a creative project/ enterprise to become obsolete. • Able to find ideas and create value also outside the framework of an organisation, project, or enterprise. • Apply effective conflict management strategies. • Able to work with a team remotely to develop and implement creative project/ enterprise. • Able to design physical and virtual spaces to facilitate and encourage teamwork. • Able to design methods and incentives to enable quality teamwork. • Develop effective processes to that would engage different stakeholders in a long-term.	• Structured approach towards long-term investments, decision making. • Oriented towards long-term strategies, actions and involvement of individuals and networks. • Highly aware of the risks that affect actions and sectors. • Oriented towards effective conflict resolution. • Action oriented mindset.

DIGITAL COMPETENCES				
KEY COMPETENCES	Level	Knowledge	Skills	Attitudes
On successful completion of this resource, learners will be able to:				
1) **COLLABORATING THROUGH DIGITAL TECHNOLOGIES** 2) **NETIQUETTE**	**Introductory** Learner is relying on support from others	● Recognise simple digital tools and technologies. ● Understand simple behavioural norms while using digital technologies and interacting in digital environments. ● Identify simple communication modes and strategies according to the target group. ● Recognise cultural and generational diversity aspects to consider in digital environments.	● Able to collaborate with others by using simple digital tools and technologies. ● Able to use digital technologies and interact in digital environments applying simple behavioural norms and know-how. ● Able to select simple communication modes and strategies addressing specific target groups. ● Able to differentiate simple cultural and generational diversity aspects within digital environments.	● Attitude oriented towards collaboration, including in the digital environments. ● Awareness that specific norms and know-how exist also in digital environments. ● Awareness that different target groups require different communication modes and strategies. ● Awareness of cultural and generational diversity aspects within digital environments. ● Some guidance is required.
	Intermediate Learner is building independence	● Recognise well-defined and routine digital tools and technologies for collaborative processes. ● Describe behavioural norms and know-how while using digital technologies and interacting in digital environments. ● Understand communication strategies according to the audiences. ● Understand cultural and generational diversity aspects to consider in digital environments.	● Able to collaborate with others through well-defined and routine digital tools and technologies for collaborative processes. ● Able to solve straightforward and well-defined problems through digital tools and technologies. ● Able to discuss communication strategies adapted to specific audiences. ● Able to discuss cultural and generational diversity aspects to consider in digital environments.	● Awareness of straight-forward problems and digital tools and behaviours online to solve them. ● Awareness of personal needs and how those can be addressed through digital tools and environments. ● Oriented on solving well-defined and non-routine problems independently.
	Advanced Learner is taking responsibility and initiative	● Understand more advanced digital tools and technology to ensure collaboration. ● Analyse more complex contexts of collaborations where digital tools and technology can be applied.	● Able to propose digital tools and technologies to facilitate collaboration and guide others. ● Able to select and apply the most appropriate digital tools and technologies according to individual and group's needs.	● Awareness of individual and group's needs within complex contexts. ● Awareness of appropriate behavioural norms and know-how in online environment and ways to adapt them accordingly.

		● Understand the principles of co-constriction and co-creation for data, resources, and knowledge.	● Adapt and apply most appropriate behavioural norms and know-how while using technologies and interacting in digital environments. ● Adapt and apply most appropriate communication strategies in digital environments. ● Apply different cultural and generational diversity aspects in digital environments.	● Awareness of different audiences and appropriate communication strategies ● Awareness of advanced cultural and generational diversity aspects in digital environments.
	Expert Learner is driving transformation, innovation, and growth	● Knowledge about digital tools and technologies to be used towards collaboration in CCS/ art entrepreneurship. ● Knowledge about co-construction and co-creation of data, resources and knowledge through digital tools and technology to support an art enterprise or other CCS activity. ● Knowledge about the specific field where improvements can be made. ● Advanced knowledge on digital etiquette and appropriate behaviours.	● Identify and evaluate complex problems using collaborative processes and co-construction and co-creation of data. ● Able to integrate personal experiences and knowledge into to collaborate through digital tools for professional reasons. ● Able to integrate personal experience and knowledge to guide others to collaborate through digital technologies. ● Propose new ideas and solutions to solve complex problems through digital tools and technologies. ● Apply solutions relating to digital etiquettes and respecting diverse audiences. ● Able to solve problems that arise while communicating online (eg. negative/ inappropriate comments about your creative work) ● Develop rules and guidelines of an appropriate behaviour while interacting online.	● Awareness of more complex digital collaborative processes. ● Awareness of more complex and advanced behavioural norms and know-how in digital environments. ● Awareness of personal knowledge that can be integrated to support others in collaboration through digital technologies. ● Awareness of specific audiences and appropriate communication and behaviour when interacting online.
3) DEVELOPING DIGITAL CONTENT **4) COPYRIGHTS AND LICENCES**	**Introductory** Learner is relying on support from others	● Identify ways to express creatively using simple digital means. ● Basic knowledge about copyrights and licences of digital content. ● Recognise simple rules of copyright and licences that apply to the use of creative content online.	● Able to follow instructions to identify ways to create/ edit simple content in simple formats that would promote individual creative work online. ● By following a templates and tutorials able to select ways of creative expression through digital means.	● Awareness ways to create simple digital content. ● Awareness of existing tools and technology to create/ edit simple creative content through digital tools and technology.

			● Able to identify simple rules of copyright and licences to protect creative work online.	● Awareness that copyrights and licences apply also to the content online.
	Intermediate Learner is building independence	● Identify different formats how to create/ edit content and express artistically. ● Describe what are the rules of online copyrights and licences.	● Able to create/ edit more complex content using different formats and tools. ● Able independently use various digital tools, techniques to express creatively and address specific personal needs. ● Able to discuss copyrights and licences online according to personal needs.	● Awareness of a variety of digital means to create/ edit content and express artistically. ● Awareness of personal needs and non-routine problems that can be addressed creatively through digital tools. ●
	Advanced Learner is taking responsibility	● Understand advanced digital means to develop creative content. ● Understand and describe the digital tools and techniques required to make changes in creative content online. ● Understand the needs of individual art project and analyse the most appropriate copyright/ licensing rules to protect it online.	● Able to use the most appropriate digital means to develop a CV/ portfolio in a creative way. ● Analyse variety of rules addressing copyright and licences to data, digital information, and content and consult others. ● Apply the most appropriate rules of copyrights and licences online to protect personal creative work online.	● Awareness of digital tools and techniques at advanced level. ● Awareness of appropriate tools that can be used to change and improve creative content. ●
	Expert Learner is driving transformation, innovation, and growth	● Identify factors related to content creations/ edition in different formats and self-expression through digital means. ● Understand specialised solutions to apply copyrights and licences to protect creative content in digital environment. ●	● Apply knowledge and experience of various digital tools and techniques to guide others in developing digital content to benefit a creative project/ art enterprise. ● Able to develop an interactive CV/ portfolio by using appropriate software and programmes online and offline. ● Able to propose new tools and methods to facilitate creative content creation online and its protection. ● Able to apply copyright and licences to showcase and purchase creative work online. ● Able to propose new solutions to facilitate protection of creative work online.	● Awareness of specialised and appropriate tools and technology to create content digitally and to protect it. ● Awareness of possible improvements in protection of creative content online. ● Awareness of possible improvements in the field of digital content creation. ● Oriented towards new ideas and solutions to create creative content online and how to protect it.
5) **PROTECTING PERSONAL DATA AND PRIVACY**	**Introductory**	● Identify simple ways to use and share personal data while protecting myself and others form damage.	● Able to select ways to protect personal data and privacy when sharing information about the creative work in digital environments.	● Awareness of the basic safety rules when working in digital environments and technology.

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6) PROTECTING HEALTH AND WELL-BEING	Learner is relying on support from others	• Identify simple privacy policy statements of how personal data is used in digital services where creative activities can take place. • Identify simple digital technologies for social well-being and inclusion when working on a creative project online.	• Analyse simple ways to avoid health risks and threats to physical and psychological wellbeing while using digital technologies for general purposes. • Select simple ways to ensure individual protection from possible dangers in digital environments when working on a creative project online.	• Awareness of basic rules protection of personal data and privacy. • Awareness of privacy policy statements in digital services. • Awareness of the effects digital technologies bring to physical and psychological well-being and health. • Awareness of the existing risks and threats to physical and psychological well-being while using technologies and online environments.
	Intermediate Learner is building independence	• Describe and discuss ways to protect personal data and privacy in digital environments. • Recognise privacy policy statements of how personal data is used in digital services. • Identify and discuss digital technologies for social well-being and inclusion. • Understand ways to avoid health risks in digital environments.	• Able to explain and discuss the ways to protect personal data and privacy when working on • Able to find privacy policy statements of how personal data is used in websites where creative content can be published and promoted. • Able to explain the ways how to avoid threats to psychological and physical well-being when using online environments to promote creative work. • Able to maintain a discussion on the digital tools and technologies to ensure well-being and inclusion when promoting creative work online.	• Awareness of the ways to use and share information in a way that does not harm personal data and privacy. • Respect towards the privacy policy statements within digital services. • Awareness of the ways to avoid threats to well-being when working in digital environments.
	Advanced Learner is taking responsibility	• Evaluate the most appropriate ways of data protection while in digital/ online environments. • Analyse the existing laws and policies addressing data protection and privacy in digital environments. • Understand the situations that can arise with the use of personal data in digital environments.	• Able to distinguish and select the most appropriate ways to protect personal data when sharing digital content on social media to promote creative work. • Able to assess whether personal data on social media accounts dedicated to promotion of digital content is used according to European policies and laws of data protection. • Able to overcome complex situations that can arise with the use of personal data while on	• Awareness of data protection when sharing digital content online. • Awareness of the European laws and policies addressing data protection. • Informed about how personal data is used in different digital environments. •

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				• social media, such as removing pictures or personal information according to European data protection policies. • Able to use and encourage others to use a variety of digital technologies to ensure social well-being and inclusion. • Able to list the most appropriate ways to avoid health risks and threats to physical and psychological well-being while using online environments to promote creative work.	
	Expert Learner is driving transformation, innovation, and growth	• Evaluate personal knowledge and experience related to data protection and privacy when working in digital environments. • Identify where progress can be made regarding protection of personal data and privacy when promoting creative work in digital environments. • Evaluate personal knowledge and experience related to health and well-being in digital environments. • Identify where progress can be made to ensure physical and psychological well-being in digital environments while working with creative content.	• Able to protect oneself and other individuals involved in a creative activity from damages related to data protection. • Able to propose suggestions to improve data protection and privacy in digital environments, particularly when developing/ promoting creative content online. • Able to create digital campaign of possible health dangers of using social media for professional reasons, such as promotion and publishing of creative work online, that can support other CCS workers and aspiring art entrepreneurs. • Able to create a blog/ vlog on ways to protect personal/ professional well-being and deal with negative comments and or possible dangers, while promoting creative content online.	• Awareness of potential improvements in the field of data protection and privacy when related to creative work in digital environments. • Proactive and responsible attitudes towards protection of personal data and privacy in online environments. • Awareness of possible improvements to avoid any health-related threats and ensure well-being in digital environments, especially when promoting creative work online. • Proactive and responsible attitudes to ensure physical and psychological wellbeing in digital environments.