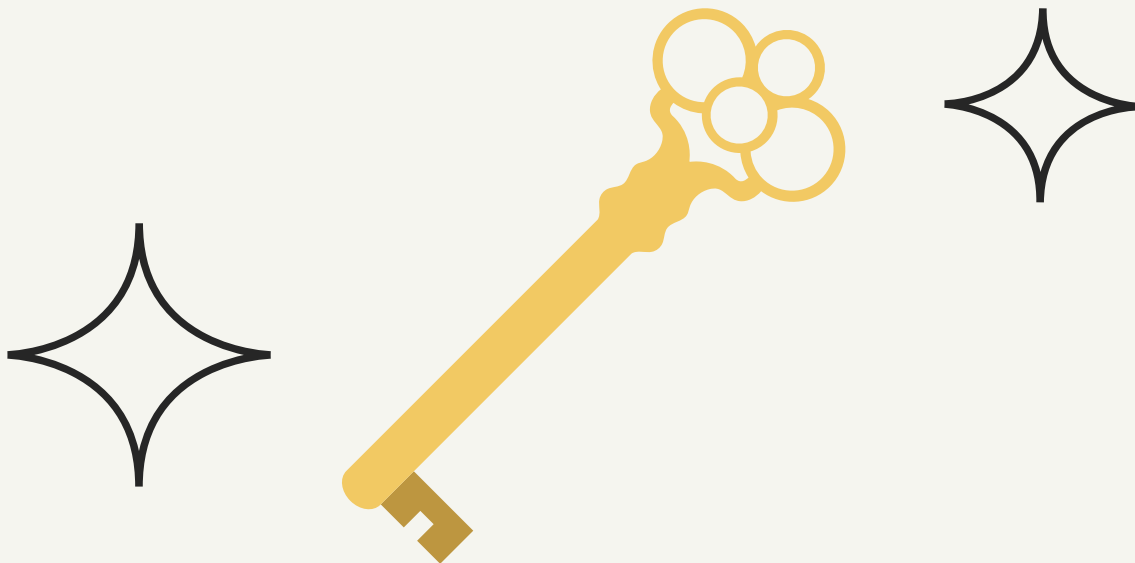




**E-scape - Exploring Supportive  
Creative Alternative Paths for Education**

# **Manual on Educational Escape Rooms for Youth Education**



Co-funded by the  
Erasmus+ Programme  
of the European Union



**TDM2000**  
INTERNATIONAL

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E-scape - Exploring Supportive Creative Alternative Paths for Education  
Project number: 2020-1-IT03-KA227-YOU-020642



# 0. INDEX



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GEOCLUBE  
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# 1. INTRODUCTION



This publication and manual is connected to the project “E-scape: Exploring Supportive Creative Alternative Paths for Education”. It is the deliverable of the first Intellectual Output of the project.

Escape rooms are a really entertaining activity which became famous in the last 10 years all over the world. The first recreational escape room can be traced back to Japan in 2007. Now, there are 4,785 globally and vary in design and style, but the basic premise is the same: people are trapped inside a space for a specific amount of time and need to solve a number of puzzles to get out. Dr. Scott Nicholson, an American Professor of Game Design & Development, was the first one in 2014 to approach the evolution of Escape Rooms from an educational point of view, therefore attempting to identify the way in which the concept could practically fit in various educational scenarios and programs. Since then, a number of professors in primary, secondary and tertiary education (Borrego et al., 2017; Johnson, 2017; Leung & Pluskwik, 2018; Pinard, 2018) have adopted this method and created their own escape games, with the results pointing out to students being more engaged, more capable to solve problems and more able to retain knowledge for a longer period of time (Leung & Pluskwik, 2018, p. 4). However, little is done in regard to adapting and applying this methodology in the non-formal education environment and youth work. In our project instead we would like to turn the opportunity of educating through escape rooms online by giving a chance to young people to have something innovative and available to them for free to test their competences and improve themselves together with an innovative instrument for youth workers and educators in general.

## 1.1 Project funders

The project E-scape is a project co-financed by the Erasmus plus programme through the call for funds for creative project ideas during the crisis created by the pandemic of COVID-19. The Erasmus plus programme is a programme financed by the European Commission and managed by the European Education and Culture Executive Agency and in the case of our project has been directly financed by the Italian National Agency “AGENZIA NAZIONALE PER I GIOVANI”, who takes care of direct funds of the Erasmus plus programme in the field of youth.

Moreover, the project has also been co-financed by the Sardinian Regional Government within the law 3 for co-financing European Projects for NGO's active in the Sardinian territory.



## 1.2 Aims & Objectives

The main aim of our project is actually to reduce the gap created by COVID-19 in the education of young people and decrease consequently the number of young people who do not have access to proper educational paths by providing them alternative ways to improve themselves and grow personally and professionally to enter the labour market. Moreover, we would like to increase the number of innovative tools available for youth workers in Europe by introducing digital education tools.

The objectives we want to achieve are:

- Provide an innovative ICT-based model, with theoretical and practical methods, that will motivate the young professionals in NGOs to enhance creative skills on young people and their target groups.
- Support youth workers to harness the potential of digital learning environments to build high-value skill sets within their target groups;
- Test with applying innovative methodology in each partner country and gather feedback for improvements;
- Expand youth workers' tutoring tools with an enabler for conducting "Educational Escape Room" games, and encourage them to create online learning opportunities for their participants;
- Strengthen cooperation in the cultural and creative sector and exchange of information and good practices between diverse entities in different areas of Europe.

## 1.3 Timeline

Our project started in March 2021, and it will finish in March 2023. We will be following different steps, and it will involve different target groups. We have foreseen several transnational partners meeting to monitor it and meanwhile we will be working in 2 main results which are:

- 1) Manual for Youth Workers on how to develop Escape Rooms with scenarios and examples;
- 2) E-scape Mobile App with all escape rooms scenarios developed thanks to the feedback of young people and youth workers to the consortium.



Here it is a visual idea of the timeline:

### 7. LAUNCH OF E-SCAPE APP

In February 2023 we have foreseen to launch our mobile app which will be available in all the 6 languages of the partners involved and downloadable for iOS and Android devices.

### 5. MOBILE APP

All the consortium will be starting to work on the creation of a mobile app which will be containing educative escape rooms with different scenarios and with the Manual Inside it to be downloaded.

### 4. SHORT-TERM STAFF TRAINING

This training needs to be done after the Manual will be developed in order to transfer mostly the content of the Manual to other trainers and youth workers who will be also using and supporting the development of the mobile App. It will be run in Tallin, Estonia.

### 1. KICK OFF

Kick Off meeting. The project has started and all the different details, graphic identity, research details and other matters.

### 8. FINAL CONFERENCE

At international final conference will be done in Cagliari, Italy, to finally provide all the final results of this project. Manual and Mobile App of E-SCAPE. It will be done in order to spread all the results of the project and sharing the path which will be leading to the creation of results.

### 6. TESTING PHASE

During the whole 2022, we have foreseen to make a test phase of the app at local level in all the 6 countries involved in the partnership, we will test the app with young people with other youth workers to get feedback and improve it. We will make polls for scenarios and competences for the app.

### 3. MANUAL ON ESCAPE ROOMS WITH EDUCATIONAL PURPOSES

A Manual available for all youth workers and educators which is sharing the results of the initial research, explanation on how to create a creative learning space, how to create an escape room with educative purposes and scenarios as example,

### 2. RESEARCH ON THE STATE OF ART OF ESCAPE ROOMS

Every partner runs a research with focus groups and interviews to youth workers and educators who work with young people to check state of use and knowledge of Escape Rooms together with needs they shares on the use of them for educational purposes.





## 1.4 Partners

The consortium of this partnership is composed of complementary organisations with different expertises. All the partnership is made in majority by Non-Profit Organisations and two private companies.

These are the partners:

### COORDINATOR:

TDM 2000 International (headquarter in Italy) it's an international network. Currently, they count 30 members in 24 countries. Active in developing strategies to tackle issues affecting European youth, their work supports them in achieving an active role in their community, in order to bring creativity and innovative ideas, towards the acquisition of competences also useful to enter the labour market. They create links between young adults, policy makers, media and other stakeholders promoting the involvement of young people in the decision-making process underlining their key role for the societies. As an umbrella organisation, their main goal is to support the growth of their members by creating and providing tools to foster their empowerment. Check more in <https://www.tdm2000international.org/>



MEDIA CREATIVA 2020 (Spain): they are based in Bilbao, Spain. MediaCreativa is the result of over 20 years of experience, challenges and lessons learned from an interdisciplinary group of professionals who share a common passion: educational innovation. MediaCreativa works to bring value to learning environments by researching, designing and developing different training programmes, inspired by innovative methodologies and pedagogical approaches such as storytelling (including digital storytelling), problem-based training, gamification, game-based learning, etc. By using applications, games, web series, webinars and mobile learning, they focus on seizing the full potential offered by new technologies.



Check more in <https://mediacreativa.eu/>

SHOKKIN GROUP (Estonia): they are based in Tallinn, Estonia. Shokkin Group is a youth organization composed of young people 16-30 years of age, based in or connected to Estonia. The organization was founded in October 2011 with the main aim of empowering young people of Estonia to live a pro-active lifestyle by providing them with opportunities to develop competencies for personal, professional and social growth. The organization works closely with young people coming from the Russian-speaking background but also includes



young people with Estonian being their first language. By these activities they are working to unite young people of Estonia regardless of their nationality, religion, race or any other possible characteristic. Their motto is imagine, inspire, act! And it describes the whole idea of the organization in the best possible way. They hope that modern youth will imagine, be inspired and inspire others to act for a stronger society. Check more in <https://et.shokkin.org/>

Ingenious Knowledge (Germany): Ingenious Knowledge GmbH is an SME and innovator in education on several levels. The company was founded in 2010 in Cologne, Germany, and has been working in close cooperation with education institutions, such as universities and schools, in order to develop new educational approaches. Its central focus is creating a new generation of education solutions with a focus on 'serious games'. Ingenious Knowledge believes that new generations grow up in a different world that requires new approaches to education. The company is constantly exploring new ways of using modern technology to improve the lifelong learning environment and make learning more accessible and more fun. Check more in <https://www.ingeniousknowledge.com/>



PASAULIO PILIECIU AKADEMIJA (Global Citizens' Academy) (Lithuania): Global Citizens' Academy (GCA) is a non-governmental organization which aims to promote active global citizenship and welfare among young people in Lithuania and beyond its borders. It is built on the fundamental values of social justice, solidarity, respect, responsibility for oneself, other people and planet, open-mindedness, active participation, cooperation and belief in making a difference. GCA contributes to making a difference both locally and globally by: - development of national, civic and cultural identities; - promoting respect for diversity and human dignity; - supporting young people to become active and responsible for their own wellbeing, as well as for the welfare of the global community; - bringing global perspective and the concept of sustainable development to youth work and non-formal learning; - advocating towards better integration of the concepts of global citizenship, human rights, inclusion and sustainable development in the policies of education and youth; - capacity building of youth workers, educators and civil society organizations. Check more in <https://www.pasauliopilietis.lt/home-c91k>



Geoclube - Associação Juvenil (Portugal): it is a Youth Association founded in 2000 by a group of teachers and students from the highschool of Gondomar city center. The main objective of the association is to foster the active participation and the involvement of young people in the decision-making





process of their education and their future. Moreover, Geoclube – Youth Association aims to create opportunities for young people to be active, to participate and to have special interest in issues that concern directly their future, such as Education, Policies, Economics, Democracy, Social problems, Employability and Environment related issues. Check more in <https://www.geoclube.eu/>

## 1.5 What this manual is about

This manual is a helpful tool for youth workers, educators, youth centers, NGOs etc., which explains step by step all necessary elements for creating an educational escape room and guides through the concept of designing educational escape rooms. The results of this work aim to lay the groundwork for youth workers and other stakeholders by offering new insights with effective advice and recommendations for the successful incorporation of escape rooms into their working strategies. Also, organisations that will use the Manual will increase their potential impact by reaching new audiences and providing learning opportunities that can be recognized. It is available in 7 languages (English, Italian, Spanish, Portuguese, German, Estonian and Lithuanian) and free to download.

The core of the Manual brings the youth worker to dive into the complex but fascinating world of methods of designing an Escape Room, with an emphasis placed on particular parameters that need to be foreseen and included for an educative, engaging and fun result. The objective of this Manual is to encourage youth workers/trainers/educators to use it and exploit new learning methodologies. In doing so, we believe the Manual fosters the pursuit of individualized escape rooms for learning.



# 2. ESCAPE ROOMS



In this chapter, we will explore in depth the concept of escape rooms and understand their roots and importance to the community (educational and otherwise).

We have tried to define as best as possible what are escape rooms, using as a reference the works carried out by scholars, researchers and authors who have dedicated themselves to understand what this tool is about. Next, we try to understand why escape rooms are important and what their benefits are. We move on to a journey through time, tracing the evolution of escape rooms over the decades and trying to discover which were the key moments (and inventions) that led to the creation of this practice as we know it today. Next, we explain how the educational escape rooms are an added value for students and teachers and, finally, we explore their virtual format, presenting some examples that have already been practised, both in the educational and entertainment fields.

## 2.1 What are Escape rooms

Escape rooms are “live-action team-based games where players discover clues, solve puzzles, and accomplish tasks in one or more rooms in order to accomplish a specific goal (usually escaping from the room) in a limited amount of time” (Nicholson, 2016, p. 1). In other words, they are games that take place in enclosed spaces, where a group of people (usually from three to twelve individuals, but can be adapted to a larger team) interact and explore the environment in order to discover clues, objects, puzzles and any other type of existing details that allow them to overcome problems, challenges and, ultimately, unravel the mystery of the narrative and/or “escape” from the room (Nicholson, 2015).

Generally, Escape Rooms revolve around a driving narrative, which should enable the player to feel in a different place and time, creating emotions with a high degree of mystery, intrigue and motivation. This allows the creation of a strong interactive experience, taking advantage of the magic generated in the narrative and in solving mysteries and problems, leading to a more intense and active engagement of the target audience and providing them with a more attractive and solid experience.

Lavega, Planas and Ruiz (2014) state that for this methodology to be successful, it is essential to create a cooperative environment among participants, where





all of them are committed to the activity. Its implementation will make the audience work in coordination to overcome the challenge, making the team act cooperatively, putting creativity and critical reflection into practice.

Wiemker, Elumir and Clare (2016) point out that the Escape room can be designed in three ways:

- Linear model: the challenges are ordered, and a sequence must be followed to reach the set goal.
- Open model: the challenges are not ordered and can be solved in any order the group decides.
- Multilinear model: it is a combination of the two previous ones, since it introduces challenges that must be carried out in an orderly manner and others that are not.

COVID-19 affected every industry, from restaurants and businesses to amusement parks and escape rooms. However, this unfortunate situation offered an opportunity to adapt and innovate in the world of virtual entertainment.

COVID-19 led to a need for online escape rooms and at-home games. During lockdowns, friends sought out innovative ways to spend time together. Work teams searched for virtual team building activities. Even as lockdowns have become less restrictive, people and organizations are still looking for ways to connect from a distance. Virtual escape rooms tackle those issues. There are various kinds of virtual escape rooms including point-and-click apps, audio-only narrated games, and live hosted events.

The power of this tool in the digital world is yet to be fully explored, but it for sure adds value in terms of inclusion, reach, and usefulness in times in which “on spot” activities might be more difficult to realize.

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## 2.2 Why we look at escape rooms

COVID-19 is having a huge impact on cultural and creative sector and this is affecting also young people and citizens. It has created psychological problems and fear for the future. We would like to face the issue by using Escape Rooms as a tool to support young people in the process of learning and raise their capacities of resilience, problem solving and creative thinking. We believe Escape Rooms are a useful education tool for young people to simulate challenges they can face, and that they are already facing at this moment with COVID-19 crisis, and find alternative solutions.

Since its creation, a number of professors in primary, secondary and tertiary education have adopted Escape Games as a method and created their own, with the results pointing out to students being more engaged, more capable to solve problems and more able to retain knowledge for a longer period of time (Leung & Pluskwik, 2018, p. 4).

In fact, Escape Rooms have an extensive list of benefits that are worth taking into account:

- Quick and effective acquisition of knowledge: in times of speed and efficiency, we attempt to move away from reading large extensive texts of information. Instead, in escape rooms, we are transported directly into a tangible and immersive environment. An environment that encourages us to physically interact with the technologies, texts and codes of the time;
- Exploration of the senses: the moment you enter into an escape room, your senses are piqued. You feel the sudden urge for a survival instinct as you work as a team to find your way out of this unfamiliar place;
- Development of cognitive skills: logic, memorization, attention, deductive thinking, creativity, problem solving, and time and resource management;
- Increased social skills of teamwork, cooperation, including leadership;
- Development of motor skills: activities such as escape rooms can indeed take us out of our comfort zone and fine tune our gross motor skills through fast-paced and large physical movements;
- Development of psychological skills: expressing emotions, managing feelings associated with gain and loss, and self-knowledge;
- Better communication: when a group of people come together to work out a problem, effective communication is key to success. In that sense, the Escape Rooms are a way to develop our communication skills, since, in order to find solutions and succeed in our task, we have to get our message across in



the right way so that it is well understood by the team, and they can proceed along the clues. Effective communication also implies that we know how to listen to the suggestions of other team members.

- Boosting of productivity: because escape rooms are pretty exciting, they have a way of boosting the morale of everyone involved and makes productivity much, much easier;
- Closer relations: because escape rooms need communication, teamwork and problem-solving skills, this will doubtlessly improve the relationship you have with the other players, whether they are your colleagues, just friends or your family members. It might even improve relationships between those who don't know one another as well as they might like.

## 2.3 History and expansion of the concept of Escape Rooms

Before being subject to scientific literature and part of the curriculum in educational institutions, escape rooms became a popular activity for recreational purposes.

Back in the early 70's, with the creation of the first video games, companies started brainstorming new methods for players to further interact with their games. This gave way to point-and-click adventure games - the grandfather of real-life escape games. Played mainly on computers, point-and-clicks required players to use the cursor to interact with in-game objects. Planet Mephius is the earliest example, designed by Eiji Yokoyama and published by T&E Soft in 1983.

In 1988, John Wilson created Behind Closed Doors, a text-based game considered the first inception of a player trapped within a room. It does sound familiar, right?

"Escape the room" games became even more in-demand with the 2004 release of Crimson Room, a game by Japanese creator Toshimitsu Takagi. The original "escape the room" genre is also known as Takagism, in association with Takagi's name. Like Crimson Room, many games in this genre start with a short text introduction and involve a first-person perspective.

Takao Kato created the first real life escape game in 2007, in Kyoto.



The popularity of "escape the room" video games and his personal desire for adventure inspired him to try something new.

Originally, guests played in-person games in different Japanese bars and clubs. However, companies constructed more permanent locations throughout Asia and Europe over the next few years.

In mid-to late 2014, the industry began to see an explosion of real-life escape game businesses. Now, there are 4,785 globally that vary in design and style, but the basic premise is the same: people are trapped inside a space for a specific amount of time and need to solve a number of puzzles to get out.

Thus, it can be seen that Escape Rooms have emerged in recent years as an alternative leisure proposal in many cities, as they are a good claim to spend an entertaining time with friends and family, or as a team building activity, that is, an activity whose main objective is to promote team spirit and collaborative work among members of the same organization.

Players can now seek out these immersive adventures all over the world. One theory behind escape room popularity is the rise in demand for "experiential entertainment." People want to be part of the experience. This is evident in the rise of virtual reality games, music festivals, "haunted" adventure attractions, and themed conventions like Comic-Con.

Meanwhile, the pandemic shook up what was the traditional Escape Room concept, forcing the companies that provided this service to adapt and move online. With this digital transition, new formats emerged, such as point-and-click apps, audio-only narrated games, and live hosted events. Is this the beginning of a technological transformation in the world of Escape Rooms?

**1988**

"Behind Closed Doors", a text-based game considered the first inception of a player trapped within a room.

**1983**

"Planet Mephius" point-and-click adventure game, the grandfather of real-life escape games.

**EARLY 70's**  
Creation of the first videogames

**2007**

First real life escape game, created by Takao Kato

**MID-TO-LATE 2014**

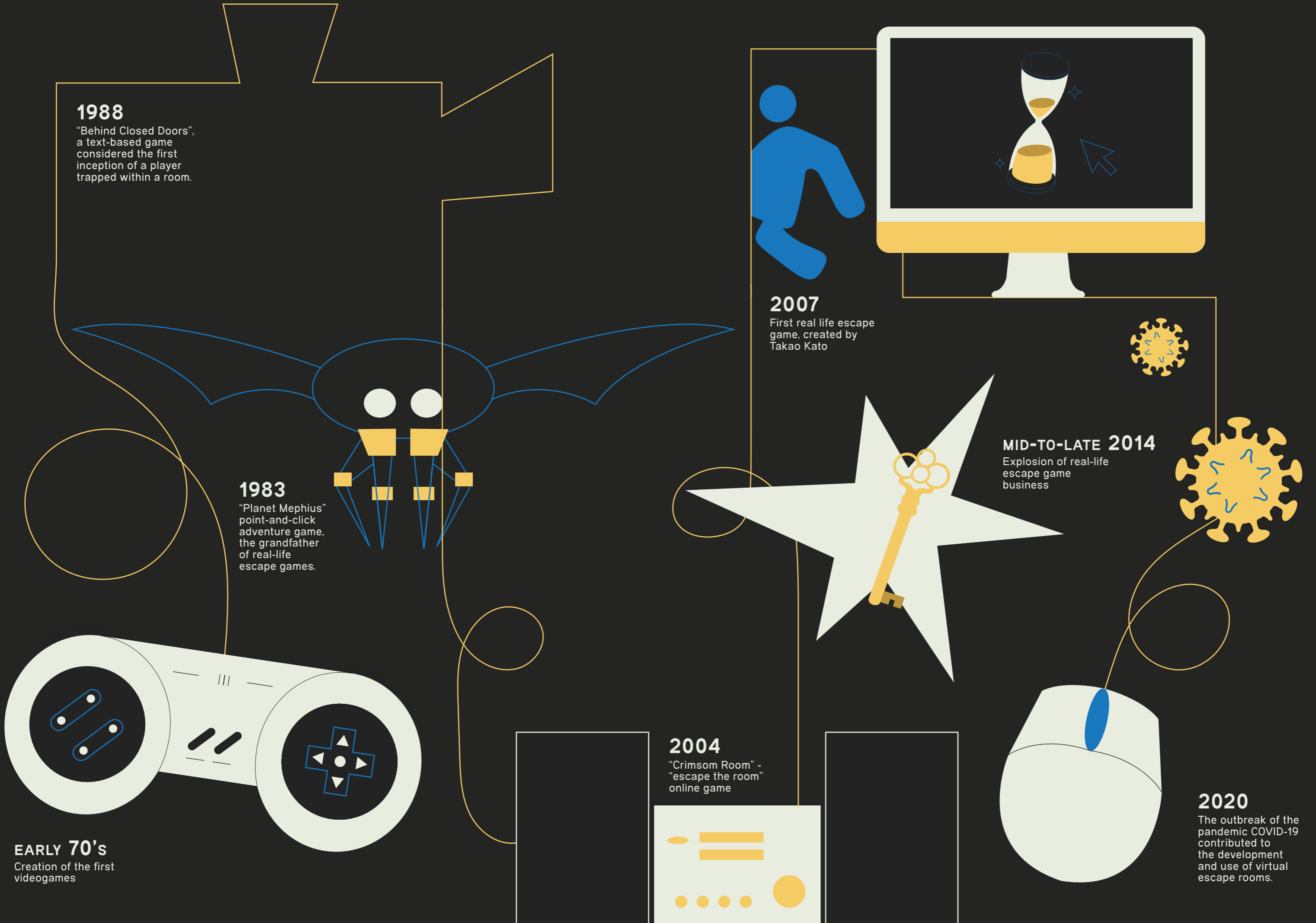
Explosion of real-life escape game business

**2004**

"Crimson Room" - "escape the room" online game

**2020**

The outbreak of the pandemic COVID-19 contributed to the development and use of virtual escape rooms.





## 2.4 Escape Rooms in education

Dr. Scott Nicholson, an American Professor of Game Design & Development, was the first one in 2014 to approach the evolution of Escape Rooms from an educational point of view, therefore attempting to identify the way in which the concept could practically fit in various educational scenarios and programs.

As we have already mentioned, this type of activity implies collaboration, communication, creativity, critical thinking, so its application in educational contexts is easy to consider. Although it is still relatively recent, existing studies already show that escape rooms for educational purposes offer an important perspective on the role of play in the teaching and learning process, especially for its contributions to the development of creative skills within tasks that are essentially collaborative. In fact, by participating in an educational escape room, students have the opportunity to test and develop multiple psychosocial skills in the service of learning.

The significant thing is to create an epic experience, lived by each student, and to achieve the pedagogical objectives.

Although there are more and more Escape Room experiences in the educational context, not many of them are rigorously documented. What has been observed is that practices based on Escape Room-type games can be part of a classroom management strategy in different school contexts. This is not a resource for everyday use, as it requires a lot of preparation work, and should only be used when warranted.

Hermanns et al. (2017) conducted a qualitative descriptive study regarding the approach to the Escape Room concept in the medical field. The results presented show high student engagement in the learning activities, the development of communication and problem-solving skills, while learning the subject content and applying it. These authors recommend this approach in areas that traditionally require a lot of reading and memorization, helping students' self-confidence and academic success. The results do not lie and show the educational value of this strategy.

Going into details, this activity:

- Favors learning, improves motivation, makes collaborative work and group cohesion visible;



- It enables immediate feedback on acquired learning, students' digital skills, logical-mathematical reasoning and creativity. In this way, assessment becomes immediate, transparent, participatory and more effective;
- It fosters pedagogical activity and puts students into action;
- Due to its versatility, it allows including any curricular content, through challenges, puzzles and instructions;
- Students can design their own Escape Rooms and participate in the organization of the space where the activity will take place;
- To advance in the game, students have to make decisions, put hypotheses, try to execute them, and all this helps to develop essential skills to succeed in the working world;
- During the different stages of the game, students have to communicate, exchange ideas, structure their speech, and all this helps to improve their verbal competence;
- It is easy to control its duration, since it is possible to use a timer and challenge the students to solve the riddles and tasks within the allotted time;
- Solving a challenge allows the student to move forward in exploring a new place by reproducing a constant sense of progression. In this way, he becomes aware of the evolution in his learning.

## 2.5 Description of a Virtual Escape Room & few examples with testimonials from practitioners

Virtual escape rooms are similar to the physical rooms. They can either be done by an individual or as a group, competing against friends or colleagues. There are different online games depending on the theme and cost people are looking for. All that is needed is a computer or text message screen. Once all is ready, there is only the need to click to begin the room and start answering the questions as quickly as possible.

Escape rooms require players to use critical thinking skills and teamwork to accomplish tasks and achieve their end goals. They can also teach core skills such as maths, history and science using thematic components related to relevant subjects. Because of this, they're an incredibly valuable tool for teaching students, but they aren't always easy to bring into the classroom.

Recently, however, educators have found a way around that problem and are creating virtual escape rooms using Google Sites, for example. It teaches





students the same skills as traditional escape rooms, and they can be accessed from students' devices.

This makes collaboration between teams of students simple and allows the escape rooms to be played at home or in the classroom.

Magen David Yeshivah School, in New York, has implemented this methodology in its classrooms. The rooms created by the teachers through Google Sites cover a variety of subject areas, from literature to lab sciences. The clues in the virtual escape rooms all relate to the material students are learning. It forces students to pay attention, read carefully and understand the content, so they can enter the correct answers into the Google Form and escape. This activity has shown to be very productive, since students showed more engagement and were eager to create their own versions of virtual escape rooms.

On a purely entertainment level, we have the very famous example of the Hogwarts Digital Escape Room. This Virtual Escape Room, totally free, aims to test users' knowledge of the Harry Potter saga. The proposal is from librarian Sydney Krawiec, from the Peters Township Public Library in McMurray, Pennsylvania, who created a virtual escape room inspired by the magical universe of the young wizard. To escape you have to answer a series of multiple choice questions, illustrated by images. There are also team-building exercises and puzzles that can be solved as an individual player, or in a team with.



# 3. RESEARCH INTRODUCTION - CREATIVE LEARNING SPACES



In this chapter, we will talk about the State of the Art research “The First Looking at Learning”, conducted by five project partners with a view to each country’s reality regarding creative learning environments. We will present the methodology used in this country research, the main results collected from it, the conclusions drawn from these results, and some recommendations for educators based on this work. This is an opportunity to dive into the reality of each country and to understand their perception and openness to this concept, still unfamiliar to some, of creative learning spaces. You will be surprised at some conclusions!

## 3.1 Methodology

Five of the six partners of the project (from Estonia, Italy, Lithuania, Portugal and Spain) worked together to conduct the State of Art research “The First Looking at Learning”.

This research was divided into three parts: a desk study, a focus group and the compilation of the main conclusions drawn from the previous two parts. Going into details:

1) First part: through the desk study, the partners outlined problems in the area of creative learning environments in each involved country education systems. This was made by simultaneously viewing education policy documents and inspecting the actual situation in educational establishments. Therefore, there was research on the education/youth work policy curriculum to find anything connected to creative learning environments and academic articles in their mother tongue on creative learning spaces. In the template created for the compilation of the results found by each partner, the following topics were placed:

- Conclusion of what has been found connected to creative learning environments;
- Conclusion of what has been found connected to academic articles in their mother tongue on educational escape rooms or creative learning environments;
- What general conclusions did they draw from the desk research;
- Links to relevant resources revised with short description.

2) Second part: then, it was held a focus group/interview by each partner, involving 5-10 youth workers/educators (ideally those who are involved in creative education & youth work). These interviews were done both in person



and online. The key comments of the participants were translated and quoted in the document created for this purpose. There were also noted the main ideas gathered from the participants, which were organized according to the defined topics and questions. These were the following:

What is a creative learning space for you?

- How do you create a creative learning space?
- What example of a creative learning space you can provide from your practice or practices of others?
- Do you know of any resources about creative learning spaces?

3) Third part: finally, there was made an overall conclusion on the country research done, which allowed the partners to develop a critical view over what was gathered until the moment. These were the topics that the partners had to answer related with creative learning environments:

- Overall conclusion on country research done;
- Key founding from desk research;
- Key founding from focus groups/interviews;
- What do you see as the “national” attitude towards creative learning environments?

## 3.2 Research results of each country

### ESTONIA

In the Estonian case, the terms “creative learning environment” and “creative learning space” can rarely be encountered in Internet, and they are only mentioned in a few blogs or articles where they are mainly discussing ideas of modernizing physical spaces.

In one of the articles encountered, there is a differentiation of physical, emotional, intellectual learning spaces that create a learning environment together. Also, a “handbook for good schools” argues the important connection between a physical and emotional learning environments and how they influence one another, providing ideas of strengthening physical environments that influence the spiritual/emotional learning environment for young people. There were also encountered attempts to promote outdoor learning through “smart learning trails”, that are designed for walking along the forest trails playing a digital game on environmental studies subjects.

There is no official or scientific data on creative learning spaces in Estonian language. Most of the research results bring to personal blogs of educators,



education enthusiasts or training companies.

### ITALY

Creative learning environments in Italy are starting to be used in the school and university after a law made in 2018, which provided funds to every school and university to change furniture and create learning environments with a mix of virtual and other innovative equipment, in order to increase the creativity of students and a more innovative approach. According to a study that we found, old schools and environments played an important role in school drop-outs in Italy. Many schools are now adapting and using Montessori responsive model, not basing anymore the learning path of young people by objectives and exams but working through the use of activities which stimulate the proactivity of the student, health and concern about relationships.

In turn, the organizations of the third sector use more and more drawing, board games, role plays, simulations and many other ways for creative learning.

### LITHUANIA

In Lithuania, there are different examples regarding creative learning environments, but the most popular version is the classical escape room version (usually for fun and team-building) and portable escape rooms which can be transported and implemented quite easy.

Only up to 5 game-based learning environments could be given this name. There are just very little examples of escape rooms or alternatives to where learning or capacity building elements are included and that can be considered a good practice of learning environment. The majority of these learning environments across the country are for other purposes. There is also a new form of an escape room that is bursting forward – a room of tasks with an actor or facilitator. It is a mixture of storytelling, mystery, crime and detective elements.

### PORTUGAL

In Portugal, creativity is not yet a common theme in the educational domain. However, few initiatives were discovered that make reference to creative learning environments. There were only found a total of 5 practices related to escape rooms game-based learning, which leads us to conclude that the promotion of creative learning environments is still scarce.







Nevertheless, it was found one study on creativity in a school context, which explores several methodologies and tools that have been used in the classroom context (such as psychomotricity).

A study was also found on innovative educational environments in Portugal, which considers game-based learning as one of the scenarios of pedagogical innovation. The study sought, through a survey of 15 teachers, to ascertain the skills developed and methodologies favoured in innovative educational environments.

After a thorough research on academic articles in Portuguese related to educational tools such as escape rooms and gamification, we realized that there is still very little research and literature on the subject. However, the articles found concern the last three years, which could be an indicator that this topic is gaining importance and visibility among the Portuguese educational community.

#### SPAIN

The Spanish Education system has been subject to a number of reforms in recent years. The recently created LOMLOE (Organic Law Amending the Organic Law of Education) presents a new educational model based on competency-based learning. It has the objective of adapting the education system to the digital advances.

At national level, Spain has the "National Institute of Educational Technologies and Teacher Training", responsible for the integration of ICT and Teacher Training in non-university educational stages. INTEF aims to promote methodological change in the classroom, through school collaboration, the improvement of learning spaces, the development of skills for the 21st century and digital competence for education.

In the Basque Country, there is Tknika (Institute for the Innovation of the Vocational and Educational Training System), established to promote innovation, creativity, and entrepreneurship in the VET centers of the Basque Country. Since 2013, Tknika is promoting ETHAZI, an innovative learning methodology based on challenge-based collaborative learning that focuses on introducing educational innovation.



Closely related to creativity and creative learning spaces, there is IDEATK (Basque Institute for Applied Creativity in Vocational Training). IDEATK operates with the aim of supporting knowledge transfer and innovation in VET, focusing on critical, constructive and creative thinking, and researching emotional and executive intelligence and how it can be useful for fostering creativity.

### 3.3 Common conclusions of the research

The countries involved in the research have slightly different realities with regard to creative learning environments. In general, however, we can conclude that this concept is still very much linked to non-formal education methods and still has little official state support. Nonetheless, there is a clear will on the part of educators and professionals working with young people to implement creative spaces as a methodology, and they are given due appreciation and recognition to it as a tool to enhance the skills of youngsters and children.

However, we will now present the main conclusions drawn from the study done in each country, in order to get to know the different realities in the European Union regarding the topic in question.

ESTONIA is heading towards designing more modern and adaptive learning environments in formal schools, university and youth work structures.

Even though we see that the overall attitude towards using educational games and developing creative learning spaces is positive and more educators would like to see that in their practice, no mentions in the state curriculum of creative learning environments or similar have been found, which makes it difficult to assess whether this shift is going to be made at a large scale or not.

According to the current policy, educational institutions and youth centers have quite large independence when it comes to shaping the curriculum, designing a space and developing internal working and teaching arrangements, making some places more modern than others. This brings freedom of expression to educators, while also creating a gap between innovator educators and the majority.

There are few independent NGOs, including Shokkin Group, who are leading experimentation with educational games for the youth work and secondary education fields. There is practical interest in designing full packages that equip educators with everything necessary to implement an educational game.





In conclusion, it seems creative learning environments are at an early stage, while teachers and educators look for added value of creating a space for ideas, providing a space for discussion in their practices.

In ITALY, concerning creative learning spaces, there are many experimental schools that use approaches related to digitalization and non-formal education methods in the frame of formal education. Regarding the third sector, creative space learning is frequently used and nowadays, in the most innovative companies, the use of gamification is becoming more popular. In 2018, the Italian Ministry of Education created a law to fund and create experiential spaces of learning, mixing virtual and innovative ways of education with more equipment to enable young people to work differently, but there is still a lot to do to reach high levels.

Through the focus group made within the Italian partner, we realized that all the organisations and youth workers stressed the lack of competences and guidance in the creation or assessment of tools ready to be used with youngsters. However, the main attitude towards creative learning at national level in Italy from the third sector and youth workers is seen as open, and they use a lot of innovative and creative learning spaces to work with young people.

Once we go instead to the schools and university, the improvements are coming slowly or almost not existing due to the lack of competences and proactive attitude of both teachers and also the ministry of education to adapt and renew the activities. There have been different programmes to promote and test new ways of learning for students through the use of their creativity and hidden talents. Most probably, these changes will slowly be coming with the actual change of generation of teachers. Anyway, globalization and the low and bad results of the continued use of old style methods and spaces is not giving results. This means that, from the education field, there is this awareness and the need to bring innovation.

In LITHUANIA, there are different examples regarding creative learning environments, but the most popular version is the classical escape room version (usually for fun and team-building) and portable escape rooms which can be transported and implemented quite easily.

Based on the gathered information from the desk research and focus group interviews, people tend to connect and relate creative learning spaces with non-formal education practices and methods. According to some answers and



data, youth workers and educators tend to create such environments by using various simulations, treasure hunts or by giving very flexible methods which involve emotional intellect and soft skills/competences.

Regarding PORTUGAL, research and studies related to creative educational environments are still very scarce. The educational system itself has also not promoted projects focused on this sphere.

At the level of formal education, we can see that professionals are willing to foster creative educational environments, and there are a growing number of initiatives related to this topic. However, as there is little support from the educational system and most of it is focused on the digital transition, with a gap in all other methods, these good practices come mainly from the individual initiative of educators and schools. We can, therefore, conclude that the articulation with the Directorate General of Education is weak and little encouraged by it.

With regard to non-formal education, we found some organizations and associations that are open to the promotion of these creative educational environments and carry out practices that foster them.

From the focus group, we noticed that the participants have a very clear perception of how to create a creative educational space, and they were even able to present examples that they have already put into practice in the past.

However, in general, the national attitude towards this topic is still not expressive and can hardly be changed if there is no greater support from the Portuguese educational system.

In turn, SPAIN is a country where there is room for creative learning environments in formal and non-formal education, as well as the implementation of innovative educational practices such as educational Escape Rooms, and there are many professionals willing and eager to do so, even with the difficulties that may be involved in the process.

The Spanish education policy documents allow educational institutions to have a certain degree of freedom to apply innovative practices, and the new education law (LOMLOE) pays special attention to the development of digital competence of students at all educational stages. Spain has official institutions and projects/methodologies directed towards innovation and creativity in the classroom, and the academic articles reviewed show that educators consider Educational Escape Rooms a useful tool with great potential.



But professionals working with youth feel a clear lack of resources and support, which means that they must invest a lot of time and effort in order to implement these methods and tools.

From the focus group conducted for this research, we can draw the conclusion that professionals working with young people in Spain see a clear need for active, new and innovative learning methodologies.

### 3.4 Recommendations for educators based on research

Based on the research that was done, as well as the focus group carried out by each partner, and according to the conclusions drawn from it, there are a number of recommendations that we can already give to educators who want to implement creative learning environments.

A Creative Learning Space is, above all, a place of learning where students are given the opportunity to express themselves and work freely, without the obstacles that “traditional” education often entails. In this space, the role of teachers/educators/monitors is to provide them with guidance tools during their learning process and to accompany them without restraining them, creating a safe space, where it is acceptable to test (and take risks).

Creating such spaces from scratch requires a lot of work and planning, especially in terms of adapting the learning content and objectives to the innovative materials or methods to be used. But this is why we are here to help!

When you consider a learning space which is creative, you should keep in mind what are the things stimulating rather than the content you need to transfer.

However, the creative space should be directed to the knowledge that is intended to be taught. In this sense, it should value non-formal educational methods and alternative, practical teaching resources. It is also important to understand what educational tools can be used, and you should give students the opportunity to choose the way they will do their assignments, not sticking to one way too much. You can use technology, gamification, flipped classroom, experimentation, role plays and other methodologies that appeal to the involvement of the target audience.



This is why it is very significant to know the profile of your public, since these methodologies should also be chosen according to their tastes and needs, as well as their age group.

Creating a creative educational space is also very much about the resources at our disposal, so there must be constant articulation with the school or youth organisation in order to understand what is available or can be provided for this purpose. A creative learning space should have a variety of tools for use (IT, like smart boards, tablets, computers, projectors; office materials, like markers, flipcharts; dimming light possibility; information resources, such as posters, etc.). Depending on the activity, it can even be used as background music to help the youngsters concentrate.

Also, the creative learning space must be thought with attention. The physical space itself can be indoor or outdoor. It is seen that a good physical space allows for a more pleasant learning environment and empowers students with various learning styles to gain the best out of it.

If the physical space is indoors, its layout and organization should be designed in a perspective of proximity and informality, using objects, materials and furniture that appeal to the five senses and make the environment welcoming and creative. Plus, the “room” itself shouldn’t be too cluttered and should be movable and large enough, so you can make different spaces for work.

Soft skills or competencies, emotional intelligence, critical and analytical thinking are also aspects which are a big part of creative learning environments and should be considered. Soft skills in line with creativity and innovation create a safe and reflective space which could be a creative learning environment.

Regarding resources educators can turn to, in order to learn more about creative learning environments, we have some suggestions to share:

- Toolkit “Design Thinking for Educators”, that can be found on Ideo, Salto Network, Eurodiaconia, Telegram groups where education professionals interested in innovative and creative tools come together, Pinterest.

# 4. DEVELOPMENT OF THE EDUCATIONAL TOOL



In this part of the manual, we would like to introduce you to the meaning of what is an Educational Tool and what involves the development of it. We believe that the introduction of it it's strictly connected also with the ability to create an educational escape room. In Youth Work the development of educational tools is a common strategy to bring innovation and variety in the methods used in the non-formal education frame and especially in young people's education.

## 4.1 Project Looking at Learning

Our project would like to focus on learning through the use of escape rooms online and offline. We have planned to create a mobile application which will allow youth workers and young people to learn and improve their skills together with their personal and professional profiles.

One of the main purposes of an educational tool is the learning process and its characteristics. In our project we will be focusing on soft skills which are usually those that young people are not managing to develop outside the classic formal educational path. In order to raise the competences of young people, we will mostly use non-formal education characteristics and in this case the educational escape rooms as a method and tool to improve the soft skills.

We decided to focus on Soft Skills because since the Bologna Declaration, it was underlined the importance of improvement of transversal skills as much as the ones which are developed in the academic curriculum.

Zhou (2014) considers that curricular reforms are fundamental to economic and social reforms, because handling everyday problems, being open-minded, creative and comprehensive and resorting to the application of collaborative learning principles, is the outcome of educational systems adapted to a competitive market and a strong knowledge-based economy.

There are many researches which emphasize the importance of soft skills such as team work, time management, problem solving, creativity, applying numeracy, applying technology or applying design. All of them are examples, and with our educational escape rooms we would like to focus on a certain soft skill or topic and work on the learning point of it.



## 4.2 Aim & object

As a tool we foresee a real engaging activity which could be repeated and done by any facilitator who does not have any or much experience on the topic of the tool. In this case, the tool should have different characteristics to respect in order also to be considered a tool. A tool could be a game, like a card game, a board game, a workshop with different dynamics related to non-formal education such as theatre, simulation, group work, role plays and many others. In our case, we will be focusing on the development of escape rooms offline and online. The mobile app will provide educational escape rooms focused on certain competences and topics, which will be identified after polls made with young people to pick up the most important and prioritize competences which are more relevant and interesting for young people. In order to make it effective for the participants, but also to make it user-friendly for the operators (youth workers), the tool should have the following features:

- Engaging and interactive;
- Clearly explained with written rules ready to be used for the facilitator who would like to use it;
- Easy for the final users, in our case for young people;
- Defined on time, on numbers of users and on the target group;
- Transferring content through experiential learning approach;
- A reflection and debriefing time with all questions ready for the facilitator;
- Possible variations on numbers, dynamics, and other changes;
- A time frame and scheme to follow;
- Usually there should be:
  - Objectives you would like to reach while using the tool;
  - Possibly some deliverables to be downloaded and used by the facilitators if they would like to read more about the topic the tool is facing;
  - Introduction with instructions both for facilitators and for final users;
  - Rules on how to use it with some examples as reference;
  - Possible handouts, cards, or anything to print out or used by the facilitator with young people (in the case of Escape Rooms could be items or anything useful for the play of the escape room or either a description and initial story to introduce the scenario of the Escape Room);
  - Debriefing and reflection time (provide ready questions to be used by facilitators to facilitate the process of reflection within the users). In the Educational Escape Rooms this part is going to be really important to understand how the experience has been for the participants and what are the results and learning points for each of the participants;
  - Tips for facilitators. It is important that the tool is easy to be replicated by



any facilitator and accessible to anyone, also with handouts to be printed or anything which facilitates the work of the facilitator.

## 4.3 Documentation of the results

As already mentioned by the previous part, one of the most important parts of the Educational Tool is actually to make a debriefing and a proper evaluation of the results reached during the escape room.

In order to do that, we suggest you:

### 1) DEBRIEFING

Be sure you will gather all the participants together in a cosy and informal environment to discuss and debate how was the experience in the educational escape room and then be sure to lead and facilitate the debate by asking:

- How did they feel individually and in the team?
- How were the group dynamics?
- How about the duration - was it difficult to do it within that time?
- Compare the process and situations of the escape room with real life experiences and ask them if they can see common things and what.
- What was the most difficult thing for them?
- What was the easiest thing for them?
- What was the most exciting thing during the Escape Room?
- What was the biggest learning achievement?
- What is the competence they believe they develop the most?

Check all of these topics and if there are some questions which could be interesting and could stimulate the reflection of the participants that pops up in your mind, make it.

### 2) EVALUATION MODELS

We strongly suggest you to use evaluation models to understand also if your educational tool works and in that case your educational escape room is effective with young people you have involved. The best way is to use:

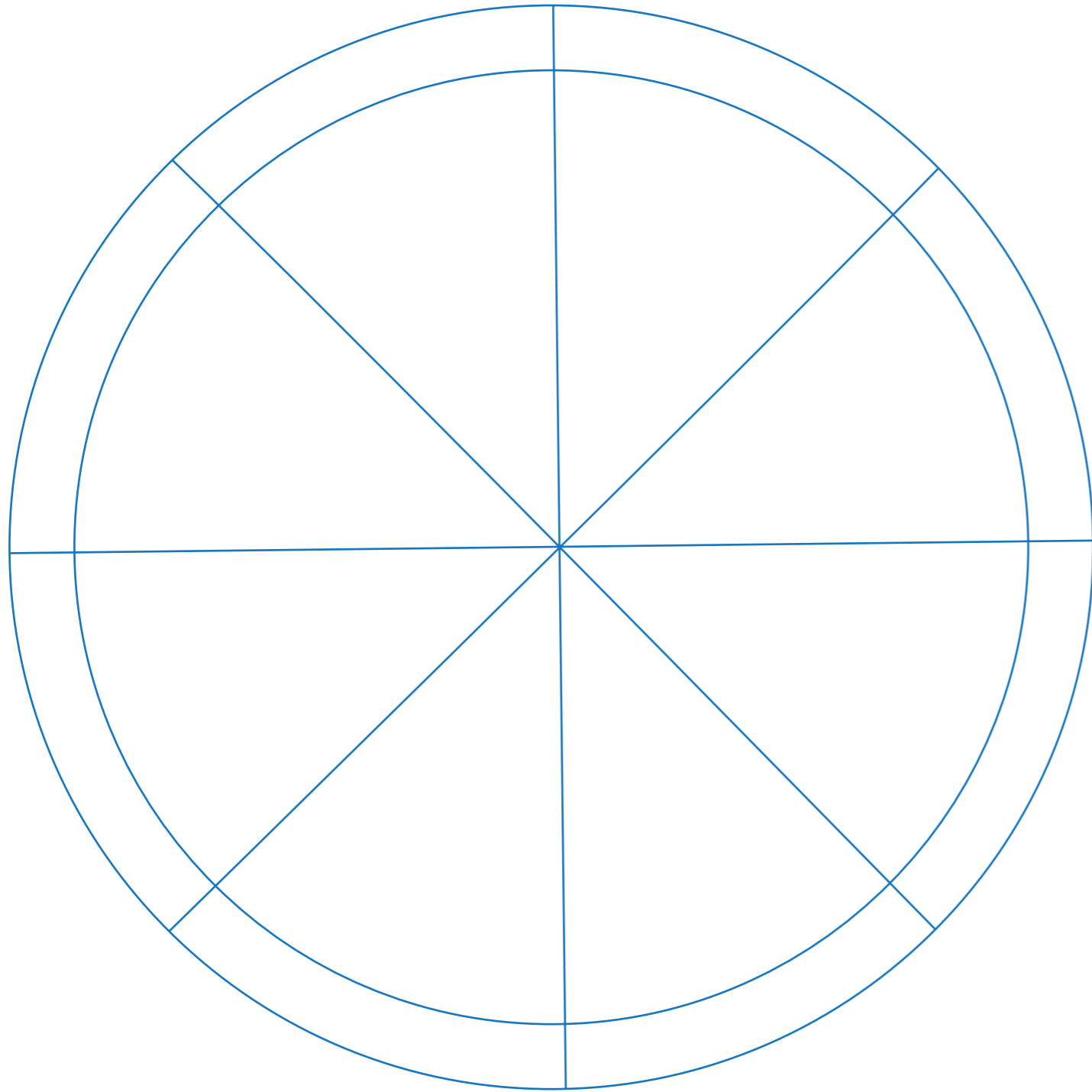
a) Visual evaluation. This could be done in different ways - offline or online. Regarding the offline format, we will share here some examples you can use, which could also be transferred in an online evaluation by using supporting systems as Jamboard:





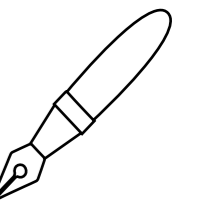
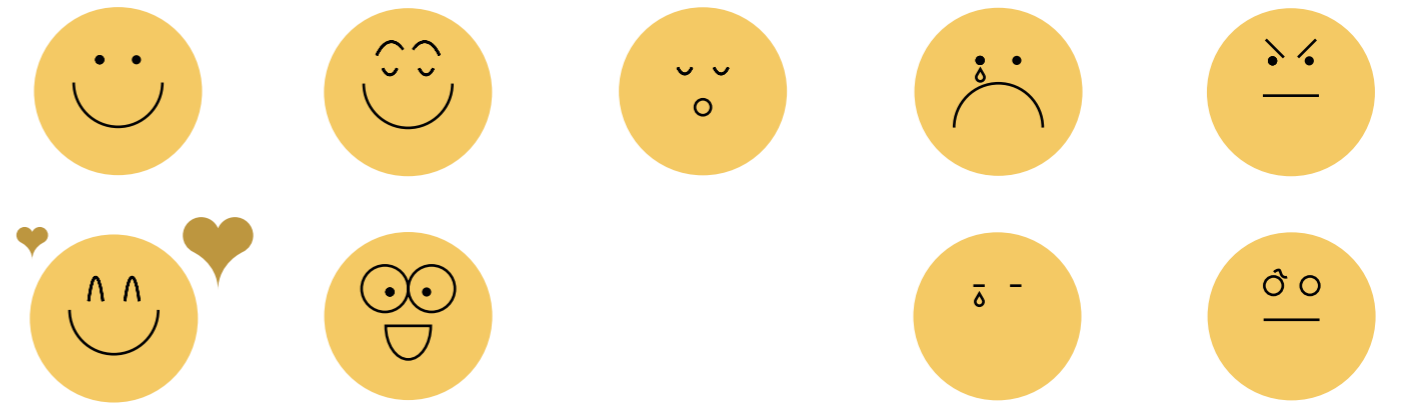
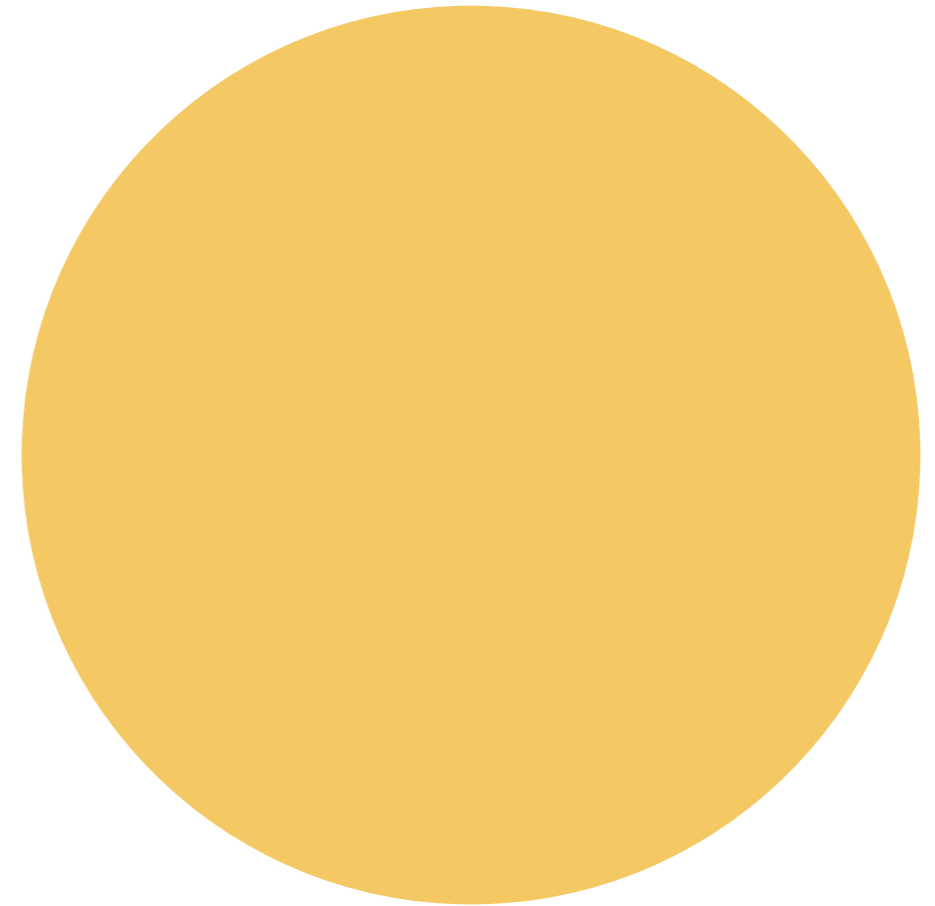
## Pizza evaluation

Place a dot for each slice. Bear on mind, pizza center is 100% good, pizza border is 0% not good.



## Bring your feeling

Share your emoji according to your feeling after this activity!





b) Group evaluation. This could also be a solution by asking for instance the youngsters a word to summarize the experience during the educational experience or share a thought.

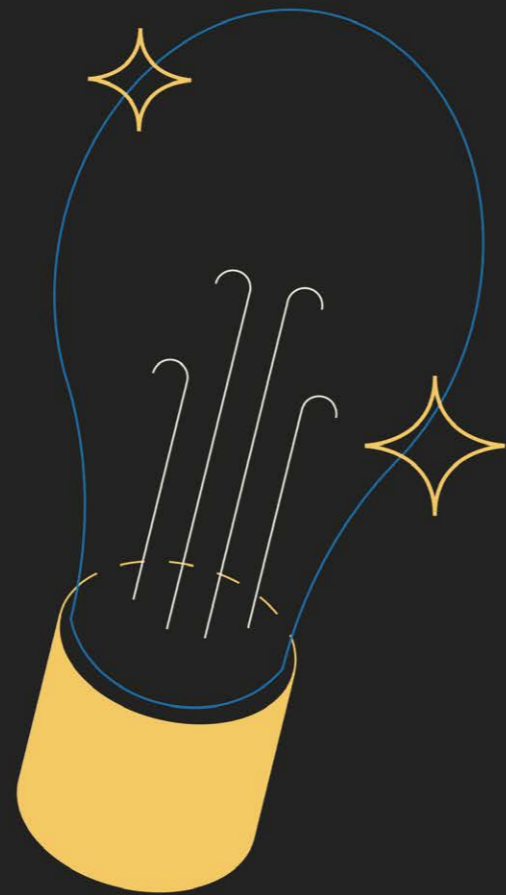
c) Questionnaires. They can be personal questionnaires online by using Google, Typeform or Survey Monkey. It would be better if you manage to prepare one questionnaire before the experience and after the experience, since it will provide you a more precise understanding of the impact of your educational tool. In the questionnaire, you can ask:

- Competences before and after the experience;
- Feelings and best moments;
- Feedback about dynamics, playability, fun, structure, difficulty and others;
- Any general feedback they would like to give you.

d) Pictures and videos are also a good way to check group dynamics during the educational experience. If you want them, be sure to ask the participants if they agree to be in pictures and videos and make them sign GDPR declarations in advance.



# 5. DEVELOPING EDUCATIONAL ESCAPE ROOMS



In this chapter, we will concentrate on developing educational escape rooms and approaches that educators and youth workers can take up when they wish to create this kind of learning environment. You will have an opportunity to look at differences between conventional escape rooms and those created for learning (especially in the virtual field), as well as get to know practical steps and tips for designing your own virtual escape room. Let's get into it.

## 5.1. Virtual Educational Escape Rooms as a creative learning environment

Creative learning environments provide space for solution-based thinking, innovative approaches and spaces to experiment. An educational escape room can be both a physical space for a learner to explore and an engaging activity to take part in. When designing an educational escape room, we don't have to limit ourselves with the game itself, but we can also utilize the space for later exploration and tasks based on the theme and separate elements of the room. For example, the wall with data and facts about fake news and disinformation that is part of one puzzle in the game can afterwards be used to study the articles or on which to base a whole group assignment or individual essay. The physical environment can also be a trigger for creating continuation of stories and consequences of the actions taken by characters, or analysing reasons for the story to occur in the first place. Thus, when we look at an escape room as a creative learning environment, we can find a multitude of ways to engage learners in activities which are first motivated by the game and then use the space and its potential.

When talking about educational escape rooms in the virtual context, a similar application is possible but, instead of the wall with articles, it can be a Padlet board or Google Jamboard to which participants can return to explore the topic. On the other hand, it is easier to take the virtual escape room "with you" and once at home open up the specific link, watch the full video that has been used for a puzzle or listen to the full podcast that might have been integrated into the game. Both physical and virtual escape rooms offer a creative learning environment which can immerse learners even after the main activity of playing the game is finished.





## 5.2 The educational element and how to plant it

Even though it is argued that there is potential to learn from any playful activity, it is the conscious decision to add learning outcomes from the beginning that makes educational games different. When working with educational escape rooms, look at the learning factor that is planted by the designer from the beginning of the creation process and try to enhance it in various ways. Knowing the target group and their learning needs as well as looking at the possible curriculum allows creating a room with specific learning outcomes that will be relevant for the learners and for the program they are taking part in.

Learning outcomes in this context are understood as development of competencies or their specific aspects: knowledge, skills, attitudes and behaviours. Every escape room has the potential to enhance knowledge of players through in-game texts, pre-story or even the whole scenario based on a real or fictional story. Skills are developed through repetition, puzzle solving, and cooperating with one another. Meanwhile, the attitudes and behaviours are formed or changed because of the overall experience and after game activities such as debriefing or reflection. In order to achieve a result that you are happy with, there are a few things you should take a look at during the “planting the learning” stage.

First it is important to choose a topic for the escape room that will be close to you or to your team’s area of expertise which will allow creating a more detailed and in depth scenario for the game that could be full of metaphors and enhancing factors. The topic can be anything that is relevant for your work, e.g. geography, history, mental health, gender based violence, environmental awareness. When you have chosen a topic, it is the right time to answer two questions:

- What does your target group already know or think about this topic?
- What are they interested in knowing about this topic?
- What should they know about this topic according to the curriculum/program/campaign?

When these questions are answered from the perspective of the learner, you can list all the bullet points and prioritize them by what you think is most relevant



at this point, what is achievable with a game experience and what should be addressed via discussion, lecture or perhaps audiovisual elements. We advise for a game session of 90 minutes to choose up to 3 learning outcomes.

Now when you have the learning outcomes chosen, let’s see how to spread them across the playing experience:

**Scenario of the game** – scenario has potential to provide knowledge elements but most importantly a story that is relatable, striking and close to heart will provide a stronger experience and will have potential to change attitudes or behaviours of players. When creating the scenario, think of who are the players in this story; who is the main character; what is happening in the story before the game part and what happens after; what events happen during the game part and what plot twists might be there.

**Pre-story** - introducing game context, setting the mood, providing first details and information can all be done in the pre-story. Here participants can even have time to analyse some data, memorize key information or create their own information database to enter the game. Here participants are excited to join the game, so it is hard to keep them engaged with information, but nonetheless if you put it into the story and give them a reason to study, read, listen to something, you can make it work.

**Environmental storytelling** – physical objects such as clothes, posters, and symbols can enhance the scenarios and thus enhance the playing experience immersing the players into the game world providing stronger emotions and longer effects.

**In-game storytelling** – maybe we have a diary of the victim from the beginning, maybe we find recorded messages from a friend along the way. All of this is a chance to provide us with more context, more information, introduce concepts and make us apply learnt concepts to practice. In-game storytelling is what you want to include in any educational escape room.

**In-game actor** – if you would like to provide space for in-game discussion, repeat important information, create a dialogue with players, it can all be done with an in-game actor who plays a specific role throughout the scenario. This way you can control the pace of the progress, increase story immersion and have flexibility and ability to point at significant details or data without disturbing the game experience.





**Puzzles** – are the main aspect of educational escape rooms that of course have to be variable, intriguing, increasing in difficulty but possible to solve in a short time. But to enhance learning you can have thematic puzzles, answers that correspond to specific data or even puzzles based on concepts, facts and knowledge sources that are spread around the room. Carefully choose the puzzles that will provide a better learning experience and be topic appropriate.

**After-story** – once the game is finished and the timer stops, you can hold space to explain game metaphors, unravel the story or even introduce a plot twist. All this creates a stronger experience for players that allows retaining learning for longer.

**After game activity** – after the game ends, providing players with space for personal or group reflection, guided debriefing, and theoretical input provides a great opportunity for knowledge transfer.

**Follow-up activity** – recommending a book, article, documentary, providing a flyer, and inviting to an event of a similar topic can be a great way to use the escape game as a platform for increasing curiosity and involving the players in further activities on this topic.

An educational escape game designer can set his/her own priorities in each game scenario. In some cases, the focus might be on the new knowledge, so the pre-story and in-game storytelling can take more space. If the game is designed to test acquired knowledge or assess learning, then puzzles and in-game challenges can take the spotlight. However, if the desire is to reflect on values, attitudes and adjust behaviour, then the focus is clearly on the storytelling, emotional connection and after game reflection and debriefing which can provide strong points for learners to retain. There are many places to plant and enhance learning in an escape room environment, so choose your priorities and experiment throughout the process.



## 5.3 Suitable educational fields to build educational rooms

Every time when we introduce that we will play an escape game, we see excitement in the learners as it is something mysterious, active and achievement driven. Such activities can be suitable for all educational fields and youth work practices no matter where and for whom. An escape room can be set up in a youth camp's dormitory, a high school classroom, university auditorium or even in a tent in the park. It can be facilitated in a youth center for a mixed-age group of young people, implemented in the local library for families or groups of friends, or even created fully online to be played on one device or multiple devices by anyone interested. It is up to the educator to decide whether an escape room is suitable for this specific group of learners and curriculum, as well as to consider whether the educator has enough resources and time to invest into creating this experience.

Educational escape rooms are creative learning environments that can provide maximum immersion due to environmental storytelling and a 360 degree gameplay opportunity where everything around you conveys the story and can be interacted with. Escape rooms are also one of the best embodied experiences where you are required to use all the challenges and work physically, cognitively and socially to fulfil the set task or mission. So the playing and after game experiences are quite high on emotions and feelings. And as we know, emotional experiences are retained longer in our memories. When we are confronted with a similar situation, this emotional experience is brought back to us, and we can better remember what we felt and what were the actions taken. So if we play a game connected to the topic of gender based violence that creates a strong emotional connection between the topic, and we have an in depth discussion that ends with specific steps to take if you witness gender based violence, then it is more sure that when confronted with a real situation we will remember the steps better than after a simple introduction lecture on how to behave when witnessing a gender-based violence situation.

Thus, creating strong emotional connections makes educational escape rooms a great tool to address important issues that need empathy. Violence, racism, discrimination, environmental catastrophe, migration, bullying, are some of many topics that escape rooms suit very well. Topics that require understanding of facts and events can also be introduced via an escape room (e.g. historical events, political cases or geographical data). Being a highly engaging tool,



escape rooms can be used in subjects that are more technical also. There is plenty of space to experiment with educational escape rooms and chemistry, physics or mathematics among other subjects. Possibility to practice soft skills allows you to create an escape room that can concentrate on specific skills such as cooperation, communication, leadership and beyond.

## 5.4 Resources needed to create online educational rooms

Let's be clear: the more experience and skills in the digital world you have, the easier it will be to create an educational escape room in the online space using a variety of tools and programs. However, even with little experience, you can create an escape game online to educate learners.

To design an escape room in the online space, you can manage only with a laptop. But creating an engaging escape room experience might require a bit more hardware. It is a good idea to use a variety of puzzles involving different senses and different puzzle styles. To be ready for versatility, equip yourself with a laptop or PC, good microphone, a video camera, a scanner and a printer. But most of the resources will be coming from the digital space. You might need to use a photo/visual editing program that is comfortable for you (Canva, Indesign, Photoshop), a video editing program (Openshot, Adobe Premiere), a variety of social media platforms (Twitter, Facebook, Wordpress, YouTube, Wix), an audio editing program (Studio One, Audacity Logic Pro X), file storing services (Google Drive, Dropbox) as well as applications and websites to create puzzles such as Morse code sequences (Morsecode.world), QR codes (qr-code-generator), hint systems (textadventures.co.uk). The possibilities of online escape room design are only limited by your time to research possible software, apps and their use. This can be both a great opportunity and a rabbit hole which can lead you to layers of puzzles and combinations of platforms and media files so don't forget the most important resource in the design process: time.



## 5.5 Advantages & disadvantages of escape rooms

As for any educational tool for escape rooms, there are two sides to a story, some advantages and disadvantages of their use. From desk research and personal experiences, we list a few things an educator can weigh before starting the journey of designing an educational escape room.

Virtual escape room advantages: a virtual escape room can be designed using literally zero financial resources, resorting only to the Internet and free services available to educators, which makes it an attractive tool to explore. But among other advantages of virtual escape games is that you can play it whenever and wherever, and teams can be in the same room or scattered across the city. The game can be played at any time and be accessed by players 24/7. Multiple groups can play at the same time and you don't have to worry about the physical space or be limited to a specific number of players to play the game. It is possible to pause or restart the game as the situation requires. Players can follow their own pace and if finished earlier, you can work on analysing the game while others are still playing. As the facilitator, you don't need to set up anything before or restart the game after a team finishes. If you see that elements of the game don't work on multiple groups, you can just take that puzzle out and change the URL link to lead to the next puzzle. You can easily update the game incorporating puzzles or re-structure any of its elements as long as you have the sequences mapped out in the master file. A virtual escape room is possible to introduce and facilitate distantly with breakout rooms. A follow-up activity can be just a click away with a final link leading to a document, podcast, video or a discussion forum.

Disadvantages of virtual escape games: they are less immersive, less interactive and don't provide the same embodied experience as physical escape rooms. They can depend on the availability of devices and highly depend on technology as well as a stable internet connection, fast enough devices and possibility to use multiple devices like laptop and phone at the same time. This might not be accessible for all learners. Some devices or geographical location don't support a specific website or app, which can make parts of the game inaccessible for some players or if an app or website changes an address, some links might become faulty and the game stops working for everyone. There is a danger that some parts of the game can be compromised, hacked or spammed by players or trolls. With all this, it is harder to provide a strong emotional experience and



easy to get players lost on the Internet, finding clues in all the wrong places.

Of course, there are ways of minimizing the impact of these disadvantages and providing a great learning journey for the players. The designer should have in mind the importance of building a smooth experience technically that avoids pitfalls mentioned above, while creating a story to which players can relate and get interested to discover. Meanwhile, practical administration of the game is also important before each use to be sure that the game still works the way it was designed.

## 5.6 Step-by-step design process

Creating an educational escape game, we want to provide a meaningful learning experience. However, not every experience a learner goes through can be qualified as a meaningful one. The greatest challenge here is that the meaningfulness of an experience is highly subjective and is very much dependent upon a multitude of factors, a lot of which the experience designer has absolutely no control over (like personal interpretations, previous experience, prejudice). There are, regardless, ways of impacting the learner's experience by keeping in mind the elements that can be controlled (atmosphere, story, facilitation, puzzles, after-game discussion flow) and making sure that every aspect of said experience (story, visuals, characters, puzzles) serves the purpose of making it meaningful, memorable and impactful. So what are the logical steps or groups of steps that an educational escape game designer should take?

**First group of steps** have been described in previous points of planting learning, and it is the research work an educator should make before even choosing to design an escape room. Decide on the general topic that you would like to address, analyse the target group and choose several learning outcomes that are most relevant for the target group and your course/activity. Write down these learning outcomes that will serve as the basis for creating an escape game.

**Second group** of steps is to revise resources available. Take into consideration the size of the group, available space, devices, and co-facilitators. Decide if you would like to create a physical, digital or mixed escape game. Choose to make either a linear or a multilinear escape game.

Now once you have your pre-work done, **it is time to dive into the storytelling**. First create a story that addresses the topic, take a look at the story arc or



the hero's journey for inspiration to build a full story. It is a good idea to create characters and create their looks and personalities. Think of when the escape game can be placed in this story, at which point the game intervention happens, and which role is played by the learners. Once the story makes sense, think of the ultimate goal of the players. The ultimate goal can be to find a cure, unravel a mystery, stop a bomb from exploding, escape climate change, help a victim of domestic violence or any other goal that can have an appeal to the audience and make sense for the story.

Once the storyline is finished, it is time for creating puzzle concepts and making thematic appropriation of puzzles. Make a mix of puzzles that connect various senses (sound, images, text, riddles, and physical puzzles like mazes). Make a balance between short puzzles based on facts or dates and puzzles based on text or longer video and sound files. Once you have a puzzle idea, go ahead and test the raw version on your friends and colleagues to see if it makes sense. Once you are satisfied with the puzzle concepts, create them and put a sequence starting with a simple puzzle leading to an increase of difficulty with a big finish at the end. When creating the puzzles and setting them up, make sure to have a master file with all log-in data, code words and sequences documented.

You can use [en.lockee.fr](https://en.lockee.fr) to create digital locks for your puzzles

When all puzzles are sequenced and appropriated, you can enhance the storytelling environment with extra visual and aesthetic aspects. You can write up the pre-story or record a video, even find some costumes for players or the facilitator. Design rules and any visual materials that can make the environmental storytelling better and the game more immersive.

The game is ready to engage learners, but a very important aspect is still missing. It is time to design the after-game and follow-up activities. Think of how you would like to lead the debriefing process: will you have any personal reflection or hold a space for group discussion? Are you providing any explanation or inputs right after the game? Will you have longer follow-up tasks in the game environment, or will you provide some media material for the learners to use at home? Remember that this part of the experience is one of the most significant ones as it has the power to express feelings, voice thoughts and build up on ideas of one another, ensuring continuation of topic discovery or even necessary action.





At this stage, the game's main prototype is ready and a very important part of play testing is still undone. Ideally, run the game with a small group of students or colleagues to see if everything works as planned. You will easily see what reactions the story, certain puzzles and the game itself cause. Observing players will hint at your weak points, and you will have a chance to change some things up before the real use of the game. If there is no possibility to play test with a group, then the least you can do is to play through the game from start to finish yourself and make appropriate changes.

The game is ready to be implemented with the group of learners, but it's still far from perfect. That's why it is important to have the "play and iterate" mentality so that you can adjust the game after each time you play it. By making small adjustments, you can smooth the game process and make sure the learners are in the state of flow, managing to reach the average desired playing time.

In order to design better educational escape rooms, we invite you to play more of them, and of virtual escape rooms. You can also look at the curriculum and educational programs with a game designer's eye. Think about what can be part of a game scenario, and what content seems to be possible to turn into a puzzle and more.

## 5.7 Common mistakes of designers

When looking back at early designed scenarios, no matter if for physical, digital or mixed escape games, there are few mistakes that are repeated and which educators designing games make. Here we reflect on some of the mistakes we made or have observed in teams who develop first educational escape games.

Making the game story too complex, metaphorical or detached from reality is something that happens quite often. For creators, the story and elements always make sense but it will also make sense for someone who just encounters the topic for the first time. Do we provide enough contexts for players to relate and get curious to discover what is behind the story? Are metaphors recognizable, and can we really imagine this story happening in our world's context?

As with any creation, there is no limit to perfection, and you can always find something you might want to develop further, change or add. This is good and along the way you can make changes, but trying to perfect a game can take too long and become more complex, so it will stop being resource-efficient.



Create and emphasize the use of a hint system. A virtual escape room has the danger that the players can accidentally take a wrong path and find correlations between the game topic and random search answers generated by Google. This can take the players down the rabbit hole, get them lost, confused, frustrated and quit playing the game. So it is a good idea to build a logical hint system that won't give the answer straight away but can provide some guidance to keep the players on track and in the boundaries of your game.

Using complicated, rare or fancy tools and software that require downloads can also turn some players off from playing the game. They already need to solve puzzles and if we also expect them to learn how to use a new online tool on the way it can be too much to ask. When playing on school computers, there might be restrictions on downloading content, so that can also be tricky and should be mentioned to players or checked before starting the game.

Having ambiguous answers or various answers as a result of solving a puzzle really makes players annoyed and should be avoided, as well as avoiding any time-wasting puzzles or dead ends. This does not correspond to a satisfactory experience but makes you feel cheated.

Basing puzzles on expected previous knowledge can also be tricky unless it is a follow-up on specific knowledge that has been provided in the previous meeting, session or in the pre-story stage of the game.

Not play testing enough is one of the most frequent mistakes made. When a game is designed we automatically fall in love with it and if it works with a team of testers we assume it will work with everyone, and we don't feel like testing and iterating it further. It might happen that after several tests you will change 30%-40% of the puzzles, adjust some narrative parts and take out some of your favourite tech solutions. As long as this will lead to a more pleasant experience for players, it is better to make these changes. Make the changes and play the game again with another group, observe, ask for feedback, and possibly you can bring some aspects back in the game.

Neglecting debriefing or not having enough time for it is a common mistake for many educators. Remember that a game is merely an experience that can be different for different players as well as they can draw different conclusions and even make false logical connections between what the game intended to communicate and what the player perceived. So leading a debriefing and providing space for reflection, is key to any game-based learning activity. True learning outcomes can be anchored during debriefing, true revelations come





from common discussion or space for personal thinking process, so make sure to plan and execute a debriefing session after each game played.

Forgetting about a follow-up activity keeps the game as a one off event and doesn't allow this experience to become a funnel for real discovery of the topic and real actions connected to it. Thus, incorporate a follow-up activity into the next time you meet with this group or provide them with a URL link, invitation to an event or a recommendation where to get a book or a movie on the topic to use the whole potential of the motivation that has been created during the playing experience.

## 5.8 How to organize an escape room

When creating an educational escape room to be used with a group of young people, it is important to let the group know that there will be a playful experience in the next class, so that the students come prepared and excited. If the game is connected to previous knowledge or topics that have been tackled in class or during previous training sessions, then you could also let them know what to revise or bring with them for the game.

1. Once the day of the game arrives, set up the playing areas dividing the room for teams (if needed) and prepare all the handouts, flipcharts or messages on the blackboard that are required for the game;
2. Ask the students to come a bit earlier to class, so you can brief them about where the game takes place and what tools can or cannot be used. Explain game rules and any technical details at this point;
3. Brief the story introduction setting the mood of the game, providing some context and backstory. Make sure to clearly explain the roles of the players and their ultimate mission;
4. Start the timer and observe the game, supporting struggling groups when requested or when you see that the frustration level is higher than expected;
5. If a team finishes earlier than others, you can invite them to your side of the room to observe the other teams without any interference, or you can ask them to fill out a mini survey, assessment of the game or anything else relevant. Once the time runs out, announce the end of the game and congratulate the winners (if there are supposed to be any);
6. Hold a common debriefing talking about the game process and emotions of players and then moving onto the game story and what conclusions can be drawn from it;
7. Provide players with a follow-up task to be completed by the next class or

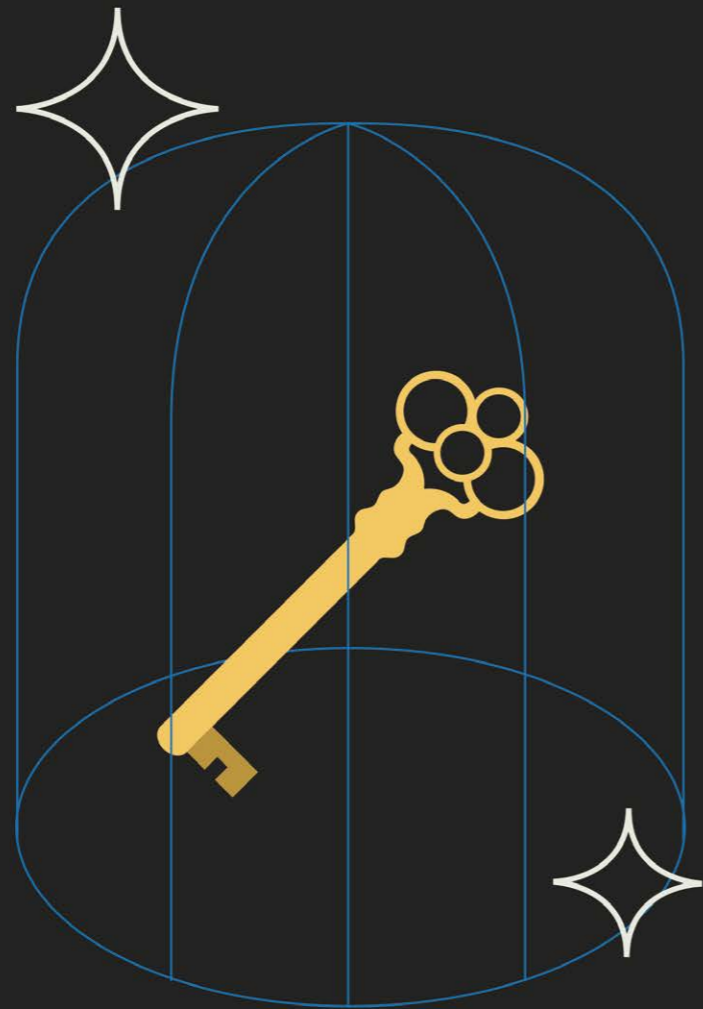


a specific deadline, and answer any questions that players may have about the game. If you have time, make a picture with the players to remember this moment;

8. Restart the game for a new group of players. Also write down ideas how the game can be further improved and pack everything in a box or two, so it can be easily accessible when you will decide to run the game again.

After you organize a game experience for a group of students, make an experiment and ask them a few weeks or months after about the game's content and see how much of it was retained and how easy it is to remember what is happening.

# 6. EDUCATIONAL ELEMENTS



In this part we will be focusing on educational elements of Escape Rooms and in general how to create a proper creative learning space with educational purposes. We will be focusing on the different features to clarify some aspects of the escape rooms. We would like to provide you with as many details as possible to consider, and we would like to enable you to understand the particular process of creative learning in an escape room.

## 6.1 Educational approach

Escape rooms have a problem-based approach, which usually is connected to time. Concerning educational purposes of escape rooms, there is a big difference between recreational escape rooms and the educative ones. Once you develop an educational escape room, you actually have an approach based on gamification principles in the activity and for the creation of it a similar process as the one followed when you are developing a serious game (game with educational purposes).

**Gamification** refers to the application of game mechanics and dynamics to non-game situations with the aim of fostering the active interest of users and their involvement, encouraging the performance of an activity or the acquisition of a behaviour. Gamification **acts at the level of player motivation** through the adoption of certain game mechanics such as: game levels, challenges, rewards, points. Dividing a process into levels helps to define individual objectives and increase motivation and the assignment of rewards allows, for example, subjects to receive immediate feedback on their performance, while the mechanism of scoring and ranking of players stimulates healthy competition. The principle behind gamification is very simple: if we have fun, we get better results (Alsawaier, 2018). **When games are applied to non-playing contexts, they are called “serious games”**. Serious games can be defined as “a mental contest, played with a computer in accordance with specific rules, that use entertainment to further government or corporate training, education, health, public policy, and strategic communication objectives” (Zyda, 2005). **Introducing serious games in educational courses for subjects who are not very motivated to learn certainly means radically changing the teaching methodology**. It means including a new language, learning based on levels of play, on group activities, on the achievement of objectives through scores and prizes. Some studies have shown how some commercial games, i.e. not specifically designed for educational purposes, can have a positive impact on



learning, stimulating and favouring, for example, reading and calculation skills and the acquisition of complex representations of space (Gee, 2013). In this sense, therefore, **using serious games in youth education** can have great **educational potential**, also in the direction of **developing forms of empathy and empowerment**. Interactive games, unlike other mediums, allow us to immerse ourselves in scenarios and settings that are difficult to represent in reality and in doing so to put ourselves “in the shoes of others”, and to be the protagonists ourselves (Olivier, Sterkenburg & Van Rensburg, 2019).

Through gamification, and, in that case, educational escape rooms, the concept of empowerment refers to the process of growth of the individual, who, through experiential and training paths, develops new skills and competences, thus enhancing the transition from the individual's sense of ineffectiveness and powerlessness in dealing with everyday problems (learned helplessness) to the sense of confidence and hope learned in managing complex and problematic situations (learned helpfulness) (Rappaport, 1981; Seligman, 1990; Zimmerman, 2000). In addition to enabling the development of forms of motivation (Borras-Gene, Martinez-Nunez & Blanco, 2016), therefore, playful activities can increase the empowerment of those involved (Spanellis, Dörfler & MacBryde, 2020). It is certainly not possible to ignore and not make the most of this great learning potential in order to capitalize on it in an educational direction.

The motivational and captivating potential of these tools, made accessible also by the possibility of initiating digital forms of play, can significantly foster social inclusion in a broad sense, i.e. offer and ensure that all subjects are enabled to participate in society as valued members capable of contributing to social wellbeing (Omidvar & Richmond, 2003). Beyond the “classic” contexts of use and adoption of these means for educational purposes, in fact, it is important to note the importance that they can have precisely in order to motivate people who are “excluded” or on the margins of social contexts to undertake training and work, increase their knowledge on relevant issues, develop forms of empowerment capable of pushing them towards a brighter future in their educational and professional path.

Through the educational escape room, you will be able to involve all these empowerment and characteristics which you can find in gamification and serious games by providing a online and offline space of learning with simulations together with problems, puzzles, trickeries to be solved, and make it cooperative. Moreover, the fact that you put pressure on the youngsters could be a plus or a minus, but it allows you to check how they cooperate/act



in such an environment and what are the results of the individual and group dynamics.

## 6.2 The intention to create a learning space

Nowadays, learning spaces and especially creative learning spaces are relevant for the growth of young people, and they help to have a transversal approach to the learning process. With our project, we would like to provide tips and a direct tool, such as the mobile app, to create a learning space and something which may support you in the creation of a proper learning space for your young people.

There are different elements you need to identify once you would like to create a learning space online and offline. We will try to provide some tips which will allow you to have a proper environment for your young people while running your educational activity.

We will go by bullet points:

- 1) Unless your group of young people already know each other, be sure to **create a common and safe environment within the group** by maybe also making some ice-breaker or getting to know each other's activities to deepen the knowledge. The team building won't be much necessary because most probably it's included in the case of your educational escape room.
- 2) **Be sure that within the group no one has issues (health or other kind) which may create problems during the activity.** Especially if you do an educational escape room offline, claustrophobia is a huge obstacle, and that's why in this case the mobile app and an online educational escape room may support you and avoid that obstacle.
- 3) **Materials are really important. Check and prepare a checklist of the materials which could be useful for a learning space,** at least offline. In the preparation of an offline Educational Escape Room, you must have a list of materials needed for the participants to play and also to discuss after. In the online educational escape room it's a similar approach but just the materials will be virtual ones. But again, better to have a checklist of all of them also in the online space.
- 4) **Technology should support you.** Nowadays, even if you are doing both



offline or online educational activities, you need **to be sure to have a proper Wi-Fi connection and to provide it to all your participants and youngsters**, especially because technology is also supporting you to be more sustainable. It may also happen that your participants do not have a phone or a laptop, and you should provide them in case there is the need, together with the connection. This supports to avoid any discrimination and digital divide.

5) If the learning space is offline, **we strongly suggest having a comfortable and proper space where to let the participants sit, create things, work with inspiration**. The more change of space you would have, the more the youngsters will appreciate and not get bored, so outdoor and indoor change is good. If you are planning a **real offline educational escape room**, the space is going to be really important. **Be sure to have big spaces and to plan their use in a proper way during the experience of the escape room**. Moreover, be sure you also **have a space straight after for the debriefing and evaluation of the educational experience**.

6) In the case of an online learning space, **you can use different ways to create it by the use of an online platform which may support you in making your participants meet**. You can mix the use of the different platforms, but the best way is actually to meet in a common space through the use of programmes such as Zoom.us or Google Meet. **The more you change platforms and dynamics, the more again your participants will enjoy**. In an **Educational Escape Room, in the case of our mobile app, everything will be mobile and usable by phone, and you can use Zoom.us or Google Meet to work on the introduction part for a group and the closing part of reflection and evaluation**.

These are just tips which come from our experience in the organization of learning spaces offline and online, and especially connected with the preparation of educational escape rooms.

## 6.3 The educator as a supporter of learning in class

Educators play a key role in the learning process of young people. In the process of educational escape rooms and anything which may concern offline and online learning of young people, it is important that the educator is aware of all the processes who needs to follow.

We will give guidelines on how an educator should support an educational



activity and in this case what are the elements which are relevant in the preparation, monitoring and evaluation of the learning of the youngsters who are going to be involved. The educator will be the one following the learning plan and process in the educational escape room of the participants involved.

Recreational escape rooms are individually played without the support of someone. On the opposite, the educational escape rooms are suggested to be followed and supported by a facilitator and educational monitor to help the target in the whole process. The educator should follow the principles that also a non-formal education trainer in this case would approach.

As an educator, you should:

### BEFORE

1. Work on a learning plan with your participants and understand which is the level of their competences before to play the educational escape room (EER).
2. While preparing the EER, you should focus on what they need to learn and try to apply a storyline and a scenario which will allow them to develop the skills, connecting them with the needs they have shown in advance in the first check you did.
3. Before starting, check within the group of participants if there is someone with health issues, who suffer panic attacks or similar issues because these are the side effects of an escape room, and it would be better to avoid anything which may damage people.
4. In the introduction, explain perfectly rules to follow in the educational escape room and what they can and cannot do. It is important to check if the rules are clear to everyone to make the learning effect happen. Make clear also if there is a need for phones or other materials in case you are doing them offline or online.
5. Once you introduce the game room to your participants try to let them enter in the role and also prepare the introduction as a real storytelling line which explains the scenario they are going to enter. In the case of an online game ensure that in the introduction of the game there will be a storytelling intro explaining scenario.





## DURING

1. During the EER, in the case of the offline format, you need to monitor the learning process of participants by observing it and taking notes. In the case of the online format, you can set up certain standards to collect data and behaviour of the participants, unless they are playing the EER with the phone in the room with your presence.
2. You can decide how to provide hints or if you want to keep being an active part of the EER, the best way is to observe and try to allow the participants to enter in their role and have as much as possible an immersive experience. The hint can be provided in advance before they do it or during the adventure. Pay attention to how you plan the hints because you need to balance the time and the way on how to give them. To provide hints too early may turn frustrated the participants, and in case you don't provide them at all or you provide too late, it will also turn frustrated to them.
3. Be ready to intervene in case of need of the participants or in case someone is not feeling well in the implementation of it.

## AFTER

1. Straight after the educational escape room, it is important to give time to your participants to cool down and decompress from the experience, either offline or online.
2. Then after cooling down and stepping out of the role they had in the escape room they will be ready for the debriefing which could be run in different ways (up to you how to do it). We will provide you some examples on how to run the debriefing through questions or dynamics.
3. This part is going to be important for the reflection on the learning for the participants, supporting them to discover what they have learnt out of the experience. Stimulating questions and other ways of reflections will be useful to facilitate that process.



## 6.4 Reflecting on the learning

The reflection on the learning is on the base of the educational escape rooms and in our case on the base of non-formal education purposes. Non-formal and informal learning need a self assessment and reflection on the learning achievements in order to make the young person aware of what has been learnt.

Take a "selfie". What do you see? How much do you know about that person? What do you like? What don't you like? Looking at the "selfie", can you tell how much that person knows or how they learn? How do others see you? How is that different from what you see? These are complicated questions, even for mature adults. For young people in the process of defining their identity, these questions are even more complicated. If you are in the position of supporting individuals in their learning, it's useful to bear all of this in mind.

L – Live it!

E – Experience it!

A – Awareness develops!

R – Record your findings!

N – Name your learning!

SOURCE: (ONE 2 ONE. Supporting Learning Face-to-Face. Youthpass.eu)

Connected to all the explanations of individual reflection and support to reflect on the learning, it is very important to find the right way on how to track your learning and especially explain to young people by providing them templates and samples which may facilitate the process.

Starting from the fact that everyone has a different timing and approach to learning, we will try to provide you with some templates and tips on how to support that important process with young people in educational escape rooms.

The phase of learning is also tied to the explanation of what is competence.

A competence is made by 3 different elements:

- 1) KNOWLEDGE: every information you acquire, concepts, practices, ideas, studies related to a certain topic;
- 2) SKILLS: all the practical part, everything which you train, and you put in practice;
- 3) ATTITUDE: through reflection you change or gain behaviours especially by



interacting with others.

Try to make sure that for the young people you are working with, there is a clear understanding of what a competence is, since it will help them in their reflection on learning.

In the debriefing you are going to start this process of reflection which will be made in group, and it will be passed later on to individuals.

In the group debriefing, it will be important to stimulate reflection on learning through:

- Verifying the doubts of participants of different steps and puzzles, supporting their reasoning and reflection on the process. This will let them learn new things and improve their errors;
- Make them reflect on what were the biggest obstacles, the way they have managed to overcome them and which was the process;
- Connect the competences and learning outcomes they have shared with real examples in daily life and other contexts like the work environment and many others;
- Ask them what they would improve in the game. This will help you and them also on the reflection;
- Facilitate for them the connection of their initial learning plan and what are the real achievements. The part of group reflection will be relevant because it will help them to enter into the individual learning reflection with more questions and clearer ideas of what they have learnt;
- Provide them feedback at the end of the debate and discussion. They will appreciate it and of course try always to finish the feedback with something positive which may stimulate them to go further in the development of certain competences;
- The individual reflection provides them templates and examples on how to track their learning with guiding questions and other schemes which will help them;
- To understand better the effectiveness of your Educational Escape Room, make an evaluation Google form which allows you to also understand their learning achievements and measure them, especially for improvements of the tool created.

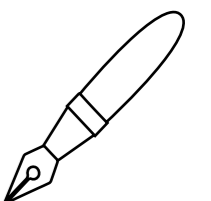
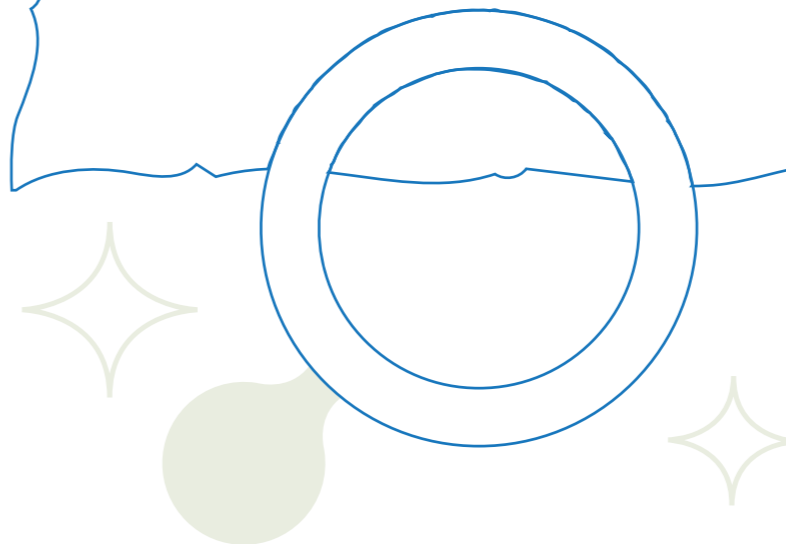
Here are some templates you can provide young people for the individual reflection:



Here are some templates you can provide young people for the individual reflection:

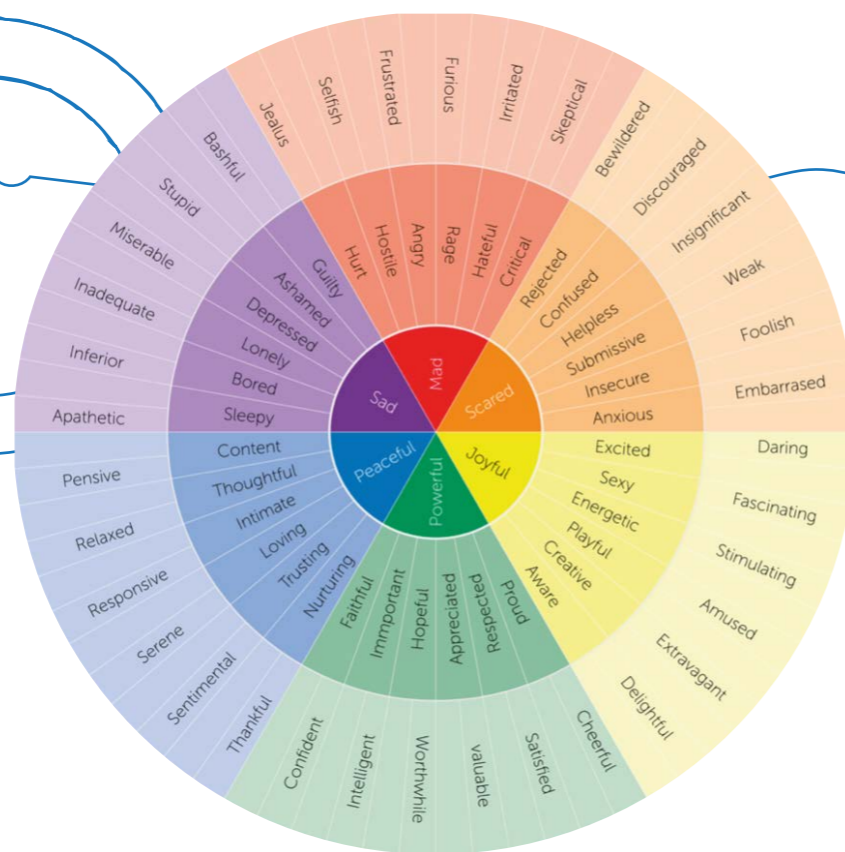
Try to reflect about the educational experience you had in this escaper room.  
Here some guiding questions:

- 1) What were the highlights while doing the escape room?
- 2) What was your role within the group?
- 3) What were your biggest challenges?
- 4) What were your biggest learning achievements?
- 5) Was there anyone who supported your learning and gave you some inspiration? Someone from the group?
- 6) What was the key object/clue in the escape room?
- 7) What do you believe you need to improve about yourself?
- 8) Did the learning achievements were the ones you expect to reach? Did you overreach any learning objective?



This is an emotions wheel which encloses all the emotions and feelings a person can feel. It is divided into 6 main categories which then have sub categories of feelings. By following the emotions wheel try to follow these guiding questions to reflect about your feelings and emotions connected to the activity you just did.

- 1) What was the first feeling once you have started this escape room?
- 2) Make a list of at least 5 feelings/emotions you had during the activity.
- 3) What was the feeling you had once facing challenges?
- 4) What was the feeling at the end of the escape room?
- 5) What are the feelings you believe you can control more and you could improve?
- 6) What are the feelings/emotions you believe they may support you in your personal and professional growth?
- 7) Please describe one of the emotions you felt and what was your reaction to that.



## 6.5 Time concept of the educational escape room

The time concept in EER is a really important characteristic to consider once you are developing one. In Escape Rooms, playing time is constrained due to the fact that it's a task related game where participants have the pressure to accomplish challenges and solve any issue within a defined time. In the Educational Escape Rooms it is important to consider the educational and learning process of the participants. This will bring a bit more difficulties in the time restrictions and decision of how long should last your EER. Time also raises hidden characteristics of the participants, so you need also to consider that. In education, it's important that the learners will reach the learning goals foreseen in time to prevent frustration and dropping out behaviour by them which will not have a positive effect.

Once planning your EER timing, you should consider different phases:

### 1) INTRODUCTION AND EXPLANATION

In this part, you will have to consider if the young people you are involving are already a group, and they know each other or they just met. This will make a huge difference and in that case you will have to consider running some name game or activity to let them get to know each other a bit (unless you would like to experiment an escape room among people who do not know each other, but it wouldn't be as effective as a group who already exists). Moreover, you need to explain all the rules of the game, introduce the scenario with a storyline and be sure that all the learners have understood rules, roles and tasks.

### 2) EDUCATIONAL ESCAPE ROOM PLAYING ACTION

As mentioned above, you need to understand the playing time once preparing your EER and according to the level of difficulty of it. The average one is 60 minutes, used by most of the developers of escape rooms.

### 3) DECOMPRESSION TIME

You need to give them around 10/15 minutes of break to get out of the role, and assimilate the experience they have just lived.

### 4) DEBRIEFING

The debriefing is an important moment for the reflection of the playing time and what they have learnt. It would be nice to make it as a group, with 20





minutes for debate and discussion by providing feedback to them. Then provide them another 10 minutes of individual reflection. If they need more reflection, everyone has his/her own timing.

#### 5) EVALUATION

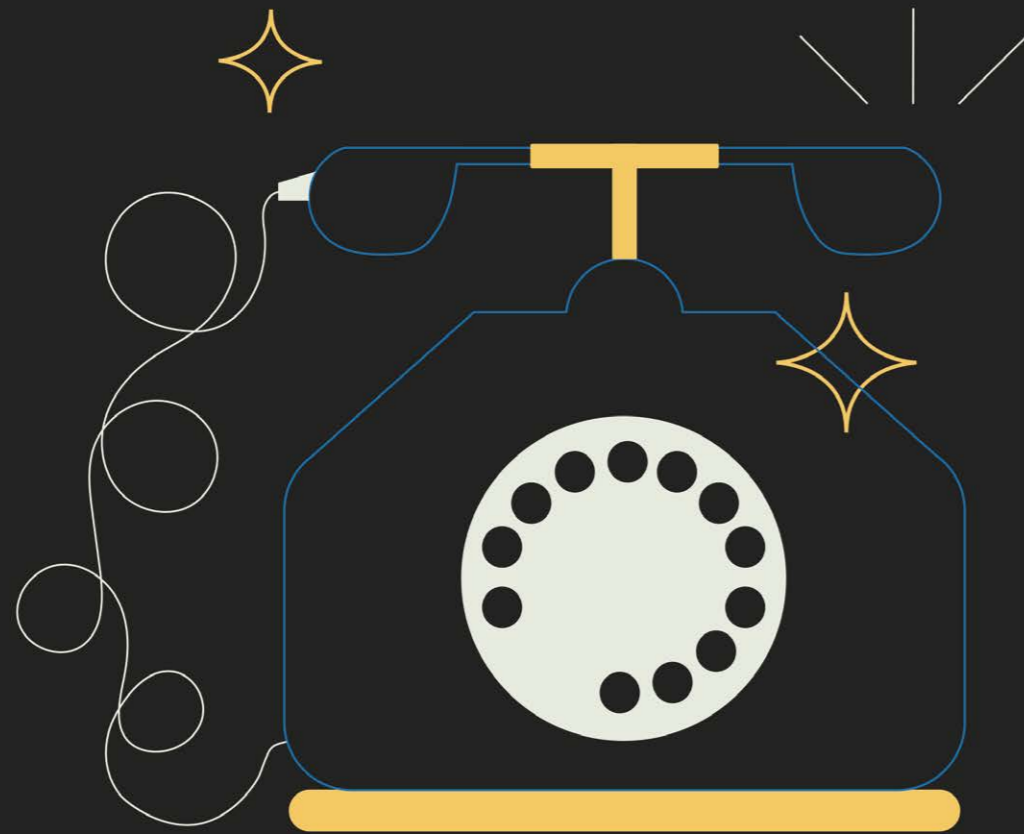
Try to provide them a Google form or something which may support you in the evaluation of the experience they just had. This part may also take 10 minutes on average.

An average EER would last, with all its phases, 100-120 minutes. The majority of escape rooms in playing time lasts 60 minutes, but you can decide to let them last less than 60 minutes or even more than 60 (but consider all the different elements).





# 7. ESCAPE ROOMS SCENARIOS



This chapter provides you with inspiration for creating your own educational escape room in the virtual space. You will have an opportunity to look at 3 escape game stories that address various social issues with ideas for puzzles. We invite you to take these game concepts as sources for inspiration and a starting point to design your unique escape game in the virtual field.


## 7.1 Where/how to use these scenarios

We have prepared 3 scenarios for virtual escape games that should on average last around 20 minutes for a team of 3-4 learners to play through. These game concepts can be applied and used in the classroom or with a youth group in any training program. To play these games, groups will need at least one laptop or PC with access to the Internet and one phone with a QR code scanner app.

In order to apply these scenarios in your practice, first of all go through the whole suggested scenario, adjust the provided template documents, create social media accounts, play test the game yourself and prepare to introduce and debrief the game with your group of young people.



## 7.2.1 Escape Game: The Missing

 **Topic:** Mental Health

 **Learning Outcomes:**

- To show what could be a reason for mental health problems;
- To learn the difference among most common mental issues of teenagers;
- To learn what first steps could a person take when they feel bad due to mental issues;

 **Age:** 14+

 **Group size:** 3-6

 **Playing time:** 30 minutes

 **Players:** Group of friends of Isabella and Marek.

 **Intro story:**


Hello dear friends! Today we are going to play an educational escape room about the topic of mental health. Your friend Isabella was very stressed last week, she was acting weird and very angry, you noticed it because it's not natural for her. You are afraid that because of the problems at school she might have burnout, anxiety or other issues. Suddenly her ex-boyfriend Marek called you and asked if you can help, because she disappeared, and he is worried about her. Marek is now in another city, so he asked you to figure out what happened. Isabella's parents let you in and here you start an investigation. Make sure to send Marek information where Isabella is right now.


 **Ultimate mission:** To send a message to Marek with information about Isabella's location.


 **Starting point:** Players enter the room. They can find few items:


- A poster on the wall with a scary picture;
- Pieces of a day schedule of Isabella's day ripped apart and spread around the room;
- A locked pencil case;
- A Laptop (with Isabella's account locked);
- A phone locked with a password;





 **Puzzle 1:** Players find all pieces of Isabella's day schedule. Then they need to put it together, turn it around and they will find a maze with «start» and «finish» points. At the same time, they will find a poster on the wall with a scary picture and a lot of words "anger" on it. The task is to write the word **ANGER** on a word lock (pencil case). In this case players will find a UV flashlight. With the flashlight they need to look at the maze. Out of it they will find arrows – combination for the directional lock (**code UP, UP, Left, Down, Left**)


 **Puzzle 2:** With a directional lock they will open a locked book (literature about mental health) which has a task inside (glued on a paper). The task is on both sides of the turn. On one side four sets of "symptoms" (each set is written in a different color) , on the other side – names of the issue (each has a different number). The task is to combine right symptoms and names and get a code (6037). In addition, in the book there is a glued note with a sentence "The best way to start working with your mental health is meditation and self-reflection". This is both advice and a "bridge" to the next puzzle. The laptop has four stickers of different colors – an order for the code (6037)

 **Puzzle 3:** With the code 6037 players open a laptop, which has a voice message – Isabella's meditation. Inside of the message there are such sentences as: "slowly breathe in and breathe out 5 times", "Raise your hands to the sun 2 times", "imagine 4 fire balls flying around you and the fire calming you down", "When I count to 7 – open your eyes". Out of the message players can find a code - 5247.

 **Puzzle 4:** With the code 5247 players open the phone where they find that Isabella was talking with her therapist and the therapist gave her advice of changing location and joining some activity. In the last message Isabella sent to her therapist four emojis – cat, giraffe, panda, tiger – CGPT. This is a code from the final box.

 **Puzzle 5:** in the box, players find 4 different tickets and only one has her name. The task here is to find the right ticket, understand where Isabella went (Norway), and send a message to Marek with Isabella's location. (Players can find his number from Isabella's phone contacts inside of her phone).

 **Endgame:** The game ends once the gamemaster receives the message.

 **Rules:**

- You are about to play an educational escape room on the topic of mental

health;

- This game is linear which means that you can move to another puzzle only after solving the previous one;
- Everything in the game is used once, except the phone;
- No excessive force is needed, everything is closed for a reason;
- If at any moment in the game you feel stuck, ask for help from the game master;
- In the game you might find a directional lock, to operate it you need to click twice on the upper part & then input the correct directions. To restart you need to click the upper part twice again;



#### Debriefing questions:

- How did you feel while playing?
- What story did you unravel in the room?
- What was Isabella's mood based on her room? Why did she feel stressed or angry?
- How people behave/what they feel when having mental health issues?
- What steps did she take to make herself feel better? (Reading literature about the issue, meditating, talking with a therapist, going somewhere to change location)
- Have you ever been in a similar situation & how did you cope with it?
- How do you think young people who experience mental health issues can help themselves?



#### Material list:

- 1x printed poster on the wall with a scary picture
- 1x set of Isabella's day schedule pieces
- 1x a pencil case which can be locked
- 1x UV flashlight (and UV marker for preparation)
- 1x word lock
- 1x directional lock
- 1x book which can be locked
- 1x printed task for symptoms and names (glued inside of the book)
- 1x 4 digit – 4 colors lock
- 1x printed note about meditation (glued inside of the book)
- 1x laptop with a voice message
- 1x set of 4 sticker of each color - 6037
- 1x phone
- 1x small box
- 1x phone card inside of the phone to make participant able to send a message

- 1x printed set of plain tickets
- 1x white note with UV phone number on that




#### Restart list:

- Step 1: Make sure the phone is working correctly and is fully charged (make sure that players can find conversation with Isabella's therapists and phone number of Marek in contacts) ;
- Step 2: Put a note with a UV message, UV flashlight, and plain tickets inside of the final box. Lock the box with word lock – CGPT, and make sure to have put other letters after it;
- Step 3: Put the laptop to sleep, make sure it is charged;
- Step 4: Make sure stickers are attached to the laptop;
- Step 5: Make sure all the notes are glued inside of the book. Close the book with directional lock (press on it to reset the lock);
- Step 6: Put a UV flashlight in the pencil case and lock it with a word lock – ANGER and make sure to have put other letters after it;
- Step 7: Hide around the room pieces of Isabella's schedule;
- Step 8: Put the poster on the wall;

All game materials are available [here](#)



## 7.2.2 Escape Game: The kidnapping

 **Topic:** Media Literacy

 **Learning Outcomes:**

- To get to know news verification tools such as C.R.A.P. & know how to apply it;
- To learn about credible sources for media & information literacy;
- To reflect on personal media consumption & verification habits;


 **Age:** 14+


 **Group size:** 3-6


 **Playing time:** up to 45 minutes

 **Players:** Interns who are investigating an office of a missing colleague;

 **Ultimate mission:** Find out what has happened to Paul Davis

 **Puzzle 1:** Players need to find 4 pieces of a printout (1.1) that are lying around the room (moderately hidden). When put together the printout points to a folder (1.2), date of document & code location (green folder, 27.09.2021, bottom left); this is the code for the laptop case (386);

 **Puzzle 2:** Once the laptop case is open players find a laptop with a sticker (2.1) on it (sticker with cork & photo camera). Players need to look at the corkboard that has pictures & sentences (2.2) connected by string, which provide a number code (0128) when zooming out and looking at the strings. This is the first half of the laptop password. Then players look for a wall that has photos (2.3) stuck to it. The photos have fake & real pictures and the players should spot the fake pictures using hints from other places (2.4) to make the second part of the laptop password (3575). Putting two answers (cork + photo camera) the players unlock the laptop (01283575).

 **Puzzle 3:** On the laptop players find a folder (3.1) with pictures from reporters without borders & a link to the ranking in the missing link file or freedom index list (3.2) (<https://rsf.org/en/ranking/2021#>). They click on the website and based on rankings they solve the puzzle with flags (3.3) with the help of the poster with flags if necessary (3.4) (freedom).

 **Puzzle 4:** In the folder that unlocks players get a voice message (4.1) where the



investigator tells them that this is a test and that they are in the last step, which will define whether he will work with them (the message finishes with a simple Morse code puzzle (8643). They have to take the locked folder from the shelf (which has a Morse code (4.2) decryption on its front)



**Puzzle 5:** When they open the folder they get a set of documents assessing media bias and credibility (5.1). Here they have to open the box that has the spectrum line (5.2). When they understand the spectrum line code (0392), they open the four digit lock on the box.



**Puzzle 6:** When the box (are next to a poster with C.R.A.P. method introduction (6.1) is opened players ready the instruction note (6.2) and the four articles (6.3) to choose from.



**Endgame:** If the players send the correct code (98437) then the facilitator sends the victory email (7.1), if they send any other code, then they receive the loss email (7.2).



**Debriefing questions:**

- How satisfied are you with the result?
- What was challenging about the game and why?
- What new things connected to media literacy have you discovered in the room?
- Have you ever heard of the media freedom index, media bias or the c.r.a.p. method?
- How do you usually consume media & news?
- Have you ever questioned your sources, why?
- How can you be sure to act in a more media literate way in your daily life?



**Game Rules:**

- You are about to play an educational escape room on the topic of media literacy;
- Everything in the game is used once except a technical appliance that you might find;
- Ceiling & floor are not used in the game;
- Big objects should not be moved & no excessive force is needed;
- If at any moment in the game you feel stuck, ask for help from the teacher.



**Intro story:**

Hello! Today you are taking up a role of interns of the "The Bureau of Investigative Journalism". And you have recently been assigned to help an investigative journalist to work on a fraud case. The journalist (Paul Davis) has asked you to come to the office early, so that he can brief you in. But when you enter the office he is not there. Your task is to understand what has happened.





**Material list:**

- 1 x 3 digit lock
- 1 x 4 digit lock
- 1 x laptop
- 1 x green folder
- 8 x assorted color folders
- 1 x corkboard
- 1 x laptop case
- 1 x lockable folder/book with Morse code sticker
- 1 x lockable box with spectrum sticker
- 1 x printed flag puzzle
- 1 x printed flag poster
- 1 x A3 printed Freedom Index Map
- 1 x A3 printed c.r.a.p. poster
- 1 x printed photo collage
- 1 x printed briefing note
- 1 x torn printout
- 1 x laptop sticker
- Internet connection



**Restart list:**


- Step 1: Delete the incoming/outgoing emails (if players used the laptop to send an email);
- Step 2: close any open tabs, files on the laptop & put the laptop to sleep;
- Step 3: put the laptop in the case & lock it with a 3 digit lock;
- Step 4: Put the 4 articles & briefing note in the box, lock the box with the 4 digit lock;
- Step 5: Put the media bias printouts together and lock in the folder with the 4 digit lock;
- Step 6: Put the folder on the shelf;
- Step 7: Check if the correct paper is in the green folder & place the colored folders on the shelf;
- Step 8: Hide 3 printout pieces around the room and leave one piece on the floor close to the entrance;
- Step 9: Check all posters to have nothing written on them & replace if necessary.

All game materials are available [here](#)





### 7.2.3 Escape Game: Be brave, Maria!

 **Topic:** Cyberbullying


 **Learning Outcomes:**


- To learn what are the steps a person can take if they face cyberbullying;
- To show what a person feels and how behaves when they are a victim of cyberbullying;


 **Age:** 14+


 **Group size:** 3-6

 **Playing time:** 30 minutes

 **Players:** Students of a Social Communication school who were invited to investigate a change of Maria's behavior.


 **Intro story:** Hello. Today you were called as students of Social Communication Academy. This is going to be your practice. Dance class teacher Teresa called to the academy and seeked help. Her best student's behavior began to change swiftly. She almost stopped communicating with classmates, shudders when she hears a message signal, and begins to withdraw herself from any interaction. Maria used to be a very active girl, but currently she does not even want to participate in a new picture for the class website. Teresa assumes that something might have happened to her, but Maria doesn't say anything. Your task is to understand what happened to Maria and collect evidence if someone else is involved.


 **Ultimate mission:** To understand what is happening with Maria and collect evidence.


 **Starting point:** Players enter a room. They find few items:


- A box locked with a key lock;
- An alphabet;
- A key (hidden somewhere in the room, that players can easily find and take it);
- Ball string lights with no batteries inside;
- Notes from the dance class students stuck to walls, desks etc. (the notes are not hidden, as it will explain behavior of Maria from the perspective of mates and the coach)





 **Puzzle 1:** Game master gives players a note, which the trainer took when Maria accidentally lost it. Note has a sentence: "They all think I am FAT ". Players also open a box with a key and find a list of words that people often hear when they are bullied. Each word has a code, except the word "fat". The task is to understand what the word's code is. (fat = 6120; F is the sixth letter in the English alphabet, A- first, T – twentieth)

 **Puzzle 2:** With a code 6120 players now can open a backpack. Inside they can find Maria's ID card, batteries, a closed bag for cosmetics and a closed laptop bag. They insert batteries inside of the ball string lights and switch it on. Only lamps with letters – AWFUL light up. Players insert the code AWFUL into the word lock of the cosmetics bag.

 **Puzzle 3:** Inside the cosmetics bag players find a lot of screenshots of direct messages from people with bad comments, wishes and hate speech about Maria's looks. Inside of the texts we can find such phrases as: «It is understandable why such a bogeyman had the father left the family», « it's up to you, but if I were you, I would wear a bag on my head» « your boyfriend was right when he left you, how could he even date someone that ugly» «Seems like you put down roots in KFC». Each sentence has a date and time when it was sent, and the task is to put them into chronological order and then insert the directional code into directional lock (code here: left, up, right, left, down).

 **Puzzle 4:** With the directional lock players open a laptop bag. They need to open an account for Maria. The password is the date of her birth which they can find from her ID card (code: 22092007). If players cannot figure out the code, they can press on "forgot my password" and they will see the question "when is my birthday".

 **Puzzle 5:** Inside of the laptop they can find a screenshot of a post on social media with hate comments and a zip file (locked with a password). Some words in the comments are encrypted. The task is to decode them and write all together. (ug![e] – ugly, !0\$3r – loser, code = uglyloser)

 **Puzzle 6:** after opening the folder they will find a file inside that has a table. The table has four questions and Right or Wrong sections. Participants need to think if the sentence is right or not and based on the result they will get a code for the final box (a code = 1755). The sentences are dedicated to tips that will help victims of cyberbullying.



**Ending point:** Participants open the final box and find there an envelope with word "evidence" with all the screenshots inside. The game is over.

**Rules:**

- You are about to play an educational escape room on the topic of cyber bullying;
- This game is linear which means that you can move to another puzzle only after solving a previous one;
- Everything in the game is used once;
- Big objects should not be moved & no excessive force is needed, everything is closed for a reason;
- If at any moment in the game you feel stuck, ask for help from the trainer;
- In the game you might find a directional lock, to operate it you need to click twice on the upper part & then input the correct directions. To restart you need to click the upper part twice again;

**Debriefing questions:**

- How do you feel now? What was hard, what was easy?
- Looking at the storyline, what do you think was happening with Maria?
- How did Maria change because of cyberbullying? How do people usually behave in that kind of situation?
- What are the steps that a victim of cyberbullying can do to help themselves?
- What did you collect at the end of the room? Why is it important to collect this evidence?
- What would you do next with this evidence? What is better to do if you assume that somebody might be a victim of cyberbullying?
- Introduce local programs or services that work with bullying in schools and youth groups.

**Material list:**

- 1x key lock with a key
- 2x 4-digit lock
- 1x directional lock
- 1x word lock
- 2x small box
- 1x printed alphabet
- 1x Ball string lights
- 1x set of batteries for the ball string lights (maybe one in reserve)
- 1x backpack which can be closed
- 1x printed ID card



- 1x cosmetic bag which can be closed
- 1x laptop
- 1x bag for a laptop which can be closed
- 1x set of printed direct messages
- 1x printed list of words (1st puzzle)
- 1x printed note (1st puzzle)
- 1x set of printed thoughts of Maria mates
- 1x an envelope with a word «evidence» on it
- 1x set of screenshots that are represented as evidence

**Restart list:**

- Step 1: Put a set of screenshots that are represented as evidence in the final box and lock it with 1755. (Make sure to put 0000 on the lock);
- Step 2: Put the laptop to sleep mode and place it in the bag. Lock a bag with directional lock and press two time on it to reset;
- Step 3: Put hate message screenshots in the cosmetics bag and close it with a word lock- AWFUL. (Make sure to put other letters on the lock);
- Step 4: Put the laptop bag, cosmetics bag, batteries and the ID card inside of the backpack and lock it with 6120. Make sure to put 0000 on the lock);
- Step 5: Put list with words & numbers inside of a box, which will be closed with a key lock, hide the box;
- Step 6: Put the key somewhere in the room, so players can find it after a few minutes;
- Step 7: Stick the notes (set of printed thoughts of Maria mates) so players can see and read it during a a a game;
- Step 8: Put the alphabet poster somewhere on the wall;
- Step 9: Put ball string lights somewhere in the room (make sure not to have batteries inside);
- Step 10: Prepare the note that game master will give to players;

All game materials are available [here](#)



# 8. CONCLUSIONS



This Manual and publication has been created and prepared with the purpose to furnish youth workers, educators and anyone interested in educative escape rooms as an alternative educational approach for target groups they work with. We believe that this publication could be a useful resource available for everybody for free for the benefit of the society and our communities. We invite you to also use the mobile application form which will be created within the frame of our project and support the process of innovation in youth work.





# 9. CREDITS



We thank all the consortium of partners who have supported the creation of this Manual.

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