LUOVA

USING ONLINE ESCAPE ROOMS TO BUILD CREATIVE THINKING SKILLS

Introduction and Aims

Education in formal and non-formal settings can be benefitted by the technological innovations which have brought significant opportunities to the sector. In particular, the utilisation of online software and tools for the design of digital learning material has the potential to reach younger generations by taking advantage of their immersion in technology.

One of the most popular activities of young people in the digital age is digital gaming which characteristics have been adopted in areas beyond entertainment. An emerging strategy that is gaining ground in this area is gamification. From an educational perspective, gamification can be effective when it is used to encourage learners to progress through content, motivate action, influence behaviour, and drive innovation.

This Module aims to support front-line youth workers to harness the potential of game-based learning environments to build high-value skill sets within their marginalised target groups. In detail, the Module will provide insights on the teaching and learning processes which can be supported by the digital escape room methodology. Additionally, at the end of the Module, youth workers can find a rich pool of resources for the application of the digital escape room methodology to formal and non-formal educational settings.

In particular, upon the completion of the Module adult educators will be able to:

- Describe the benefits of gamification in education;
- List the game mechanics and describe their use;
- Identify the characteristics of game-based learning;
- Apply learning theories to the development of digital escape rooms;
- Apply the principles of gamification to the development of digital escape rooms;
- Utilise the digital escape room methodology to support non-formal and informal training opportunities for youth.

1. Non-formal and informal education

According to the Council of Europe non-formal education "refers to planned, structured programmes and processes of personal and social education for young people designed to improve a range of skills and competences, outside the formal educational curriculum"[1]. In particular, educational programmes that have been designed for non-formal education include any organised educational activity, which takes places either individually or as part of wider activity, aiming to reach specific educational goals at a specific target audience. For example, non-formal education programmes can take place in areas where young people meet, such as youth organisations, sports clubs, hobbies and interests' groups, social and cultural events. It is important to note that, non-formal education achievements are usually difficult to certify.

According to the Council of Europe non-formal education should also be:

   voluntary
   accessible to everyone (ideally)
   an organised process with educational objectives
   participatory
   learner-centred
   about learning life skills and preparing for active citizenship
   based on involving both individual and group learning with a collective approach
   holistic and process-oriented
   based on experience and action
   organised based on the needs of the participants.

On the other hand, informal education is considered a lifelong learning process whereby people learn through several life experiences. Such experiences may be related to educational influences and resources upon which a person comes across on his/her own environment and/or to daily experiences which are obtained through interactions with people and objects. Such type of learning is often unplanned and unstructured[2] and may result to the development of one's attitudes, values, skills and knowledge. Informal learning is free from regulations and restrictions and as such it can take place anywhere, e.g. during family gatherings, in the market place, at the library, at various social events, at work and through playing, reading and sports activities.

In today's societies, due to the rapid production of new services and tools, the risk of knowledge becoming obsolete is more probable than ever before. In this regard, both non-formal and informal learning bring value and significance to people who wish to remain at the forefront of technological change. Additionally, technological innovations have brought significant opportunities to the education sector which can support instructors to increase motivation and participation to both types of learning. One such example is gamification which according to Tang and Hanneghan (2015) offers "*a viable alternative to existing computer-aided learning technologies that can assist in persuading and encouraging digital natives to acquire knowledge*" (p. 581).
The digital escape room methodology can be utilised to reach youth in both non-formal and informal settings. In particular, in non-formal settings, the methodology can be applied to the development of activities which can be supplementary to already existing programmes. Such activities may be used, for example, as ice-breaking activities, or activities that support knowledge application and assessment of learning. Additionally, the digital escape room methodology can be employed holistically to support the development of programmes as a whole; such programmes can be structured to support both individual and group learning.

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[1]   Council of Europe (n.d.). *Non formal education*. Retrieved from:
https://www.coe.int/en/web/european-youth-foundation/definitions
[2]   Council of Europe (n.d.). *Informal education*. Retrieved from:
https://www.coe.int/en/web/european-youth-foundation/definitions

On the other hand, when designed to support informal learning, digital escape rooms should offer young people a number of choices to take up learning on their own initiative. In particular, educators can utilise mobile technologies and online spaces to which young learners are accustomed to, e.g. social media, in order to share a number of interesting resources. To add, educators, can create digital escape rooms which support reflection activities that prompt learners to ask questions, do some research on a topic and/or communicate their thoughts and opinions via the use of an online forum or a chat room. Lastly, educators can create digital escape rooms for special occasions, such as youth competitions, training seminars, happy hour sessions, etc. which can provide the necessary conditions for knowledge transfer. In order for informal learning to be successful, educators need to first and foremost take into account their learners' profile, learning needs and interests.

> *Reflection activity:*
> **Which topics can motivate young people the most in order to take up learning on their own initiative?**

2.Gamification: benefits and characteristics

The adoption of new technologies by younger generations has significantly changed the ways they work, communicate, socialise and play. At the same time this immersion in technology has also affected the way younger generations learn. In order to attract and retain diverse groups of learners, educators need to embrace the learners' digital cultures and address the additional challenges in providing high-quality education (Tang, Hanneghan & Rhalibi, 2009).

One of the most popular activities of young people in the digital age is digital gaming. While the paradigm of adopting games in some form can be traced back to the earliest civilizations existed hundred thousand years ago (Clarke et al., 2016), according to Prensky (2001), computer games are potentially the most engaging pastime in the history of mankind. Additionally, he suggests that such engagement is the result of the combination of twelve elements:

1. Games are a form of fun, which gives us enjoyment and pleasure.
2. Games are form of play, which gives us intense and passionate involvement.
3. Games have rules, which gives us structure.
4. Games have goals, which gives us motivation.
5. Games are interactive, which gives us doing.
6. Games are adaptive, which gives us flow.
7. Games have outcomes and feedback, which gives us learning.
8. Games have win states, which gives us ego gratification.
9. Games have conflict/competition/challenge/opposition, which gives us adrenaline.
10. Games have problem solving, which sparks creativity.
11. Games have interaction, which gives us social groups.
12. Games have representation and story, which gives us emotion.

During the past years, the digital game medium has been adopted in areas beyond entertainment. An emerging strategy that is gaining ground in this area is gamification

(Seaborn & Fels, 2015). In particular, gamification has been a trending topic in different contexts, from academic to managerial and business environments (Hamari, Koivisto, & Sarsa, 2014). Zichermann and Cunningham (2011) offer a number of examples on how companies are utilising gamification principles to meet their objectives, from loyalty cards to rewards and cash prizes which can be redeemed by costumers.

The term gamification refers to the application of game design techniques to non-game contexts (Deterding et al. 2011). It also refers to the process of using elements of games, such as points, badges and challenges in order to "*encourage learners to engage with content and to progress toward a goal*" (Kapp, 2012, p. 56). From an educational perspective, gamification can be effective when it is used to encourage learners to progress through content, motivate action, influence behaviour, and drive innovation (Kapp, 2012).

During the design process, the elements of gamification can be utilised in different ways. According to Kapp (2012) instructors can gamify either the content or the structure in order to make it more "game-like". Examples of gamification elements which can transform the instructional content include, among others, the creation of a storyline and characters and the incorporation of multimedia elements, such as music, sound of graphics into the game. On the other hand, structural gamification refers to the application of game elements to guide learners through the content without changing it (Boskic & Hu, 2015).

The game mechanics

The term game mechanics describes the particular components of the game which are made up of a series of tools that aim to elicit a meaningful response from the players (Matallaui, Hanner, & Zarnekow, 2015). Some of the common game mechanics include the points, the leaderboards, and the levels (Zichermann & Cunningham, 2011). Its element is described in detail below.

Points

Points are used as a reward system. They are awarded to players for successfully completing the tasks within the game. The point systems can be shared among players but this is not obligatory. Their importance lies in the fact that they provide valuable feedback to the game designer on how the players are interacting with the game (Zichermann & Cunningham, 2011).

Leader boards

The leader boards are related to the social aspect of the game as they offer players the opportunity to compare themselves to other players in a given ordered list. The use of leader boards is ubiquitous, as a very low score may discourage a player to abandon the given goals. For this reason, their design is considered a very delicate task.

Levels

The levels indicate progress. In particular, they are showing how the player has progressed during the game play from the simplest levels to the more progressive ones. Some examples of such mechanics are the progress bars and the badges. The levels do not have to evolve in a linear manner, and the designer could often substitute their use by integrating a badge system.

The game design

The creation of original educational programs can create new opportunities to promote and support processes or goals, such as personalised learning and active participation. Properly designed games with the help of web-based programs can enhance the adoption of instructional innovations and bring significant changes in the learning process. In particular, the characteristics of game-based learning can support adult educators to improve their teaching practices.

Tang, Hanneghan and Rhalibi (2009) have shared the characteristics of game-based learning as follows:

> motivating and engaging but not necessary entertaining;
> requires participation from learners;
> has clear learning objectives defined in the game-play and scenarios presented while knowledge can be imparted through storytelling and narrative;
> scenarios defined are reflective and transferable to the real-world experience;
> provides freedom to interact in the game world through a set of defined actions;
> provides clearly defined feedback for every action taken;
> both assessment and lesson can take place during game-play;
> matches learner's pace and intellectual ability;
> highly scalable so can be used for educating large numbers of learners concurrently (Tang, Hanneghan & Rhalibi, 2009, p. 3).

Gamification or game-based learning integrates effective and desirable learning approaches for adults along with the utilisation of the newest technologies like computers and mobile devices. These learning approaches include active learning, experiential learning and situated learning (Tang, Hanneghan & Rhalibi, 2009).

Active learning

Learners need to participate to activities which have been designed to engage and maintain their interest. Such type of activities should encourage them in the act of doing and thinking what they are doing and should allow them to explore and develop their own understanding of the subject area presented.

Additionally, game-based learning should provide opportunities for practice and experimentation while learners approach the game challenges.

> *For more information on active learning visit the following webpage:*
> **https://cft.vanderbilt.edu/wp-content/uploads/sites/59/Active-Learning.pdf**

Experiential learning

The term experiential learning is associated with Kolb's "Learning Cycle Theory" which describes a model of the adult experiential learning process. This model suggests that expertise is a continuous process of four stages: Concrete Experience, Reflective Observation, Abstract Conceptualisation and Active experimentation.

In game-based environments the experience is important in the process of learning. In particular, by participating in interactive activities in the form of challenges which apply causal-effect relationships, learners can develop their knowledge and skills.

> *For more information on experiential learning visit the following webpage:*
> **http://tru.uni-sz.bg/tsj/Volume2_4/EXPERIENTIAL%20LEARNING.pdf**

Situated learning

Situated learning in game play should offer experiences which are placed in a context in which they are developed and used. Such type of learning should aim to bridge the gap between the learning of theory and the application of knowledge.

Game-based learning can provide meaningful learning experiences that are embedded in authentic situations, and provide learners the opportunity to practice their knowledge safely in the game environment.

> *For more information on situated learning visit the following webpage:*
> **https://core.ac.uk/download/pdf/11237436.pdf**

> *Reflection activity:*
> **Which software tools can support the incorporation of game mechanics to the learning process?**

3.Applying the principles of gamification to the development of digital escape rooms

Escape room games refer to the process during which players must escape from a room that includes a number of challenges, usually within a specific time limit (Wiemker, Elumir & Clare, 2015, p. 2). In non-formal and informal educational settings, digital escape rooms can be developed in a competence-oriented way and incorporate challenges that will allow learners to solve them while utilising the knowledge and skills from an area of competency.

In this section we present a set of recommendations in order to support adult educators to create effective educational escape rooms for different skills areas.

Incorporate problem-solving tasks

Games can provide a framework for problem solving which focuses on strategies to solve problems during the challenges. While the nature of challenges that constitute the problem can vary greatly, in general, all games present a goal which calls for problem solving actions. Some examples include the following:

- Find a way to get more points than the other team.
- Find a way to get to the finish line before the other players.
- Find a way to complete this level.
- Find a way to destroy the other player before he destroys you (Schell, 2008).
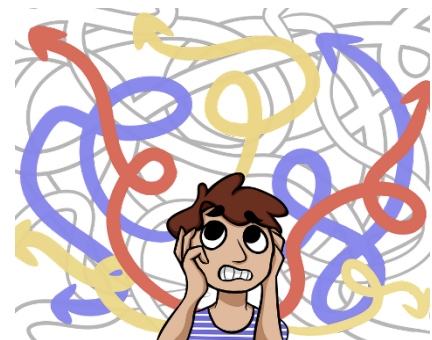
Digital escape room challenges should incorporate the mental mechanisms people use for problem solving. In particular, the game itself may be presented as the big problem that is composed of smaller causally linked problems. Generally, a problem can be anything that involves the player to investigate something in order to progress in the game. The problems can be classified into well-structured or ill-structured problems:

- **Well-structured problems:** these are the problems that have definitive answers.
- **Ill-structured problems:** these are the problems people normally encountered in real life. As such, they present incomplete information and they have unclear goals. The best solutions to ill-structured problems depend on the priorities underlying the situation (Kiili, 2005).

The process of problem-solving during play can be associated with discovery learning. In this regard, educators can utilise the game environment as a means to offer possibilities to learners to set personal goals, to actively handle and gather information, and monitor and evaluate problem-solving processes (Kiili, 2005).

Present unifying themes

The theme refers to what the game is about. It is the idea that ties the entire game together along with all the elements that support it. Most game themes are experience-based which means that the aim of the design is to enhance the player's experience.

Educators need to decide on the game theme as soon as possible, because the sooner they have settled on a theme the easier would be to decide which information belongs to the game or not: The information that reinforces the theme, stays; the information that doesn't, goes. Sometimes the theme emerges as educators are working towards the creation of the game.

By placing an emphasis on a single theme, educators can add elements that will reinforce one another toward a common goal.

Schell (2008) advises game designers to learn about their audience preferences in order to strengthen the power of their themes.

Create a meaningful experience

Salen and Zimmerman (2003) in their book "Rules of Play" focus on one important concept in making a successful game which is *Meaningful Play*. The concept of meaning play in escape room challenges can be applied as follows:

- the actions a player take have to be **discernible**: the player understands the result of what they are doing;
- the actions a player take have to be **integrated**: the actions the player takes in the game make a difference (Nicholson, 2016).

In practice, educators need to create challenges which have a purpose and they are tied into the larger narrative, giving players a way to find meaning in their actions; thus avoid incorporating puzzles and tasks are not simply there to be barriers to winning the game (Nicholson, 2016).

Nicholson (2016) proposes educators when designing the game to apply as simple strategy called "Ask Why". In detail, a designer should look at each element of an escape room game and ask *"Why is this here?"*. This process will ensure that each puzzle, task, and item in the escape room is there for a reason that is consistent with the overall concepts behind the design of the game (Nicholson, 2016).

Additionally, games should provide an engaging learning environment which will allow the players to explore phenomena, test hypotheses and construct objects by reflecting on their experiences. Kiili (2005) stated that games that are based only on trial and error, do not enhance learning.

Balance the narrative to engage learners

One fundamental part of the game design is the narrative. While almost every game has some sort of story attached to it, the story should be presented in small pieces without overwhelming the player with lots of information at once.

In particular, the narrative of the game should unfold progressively in order to allow the players to develop a deeper understanding of the game settings, as they progress from one challenge to another. If, already from the beginning, the game requires a deep engagement with the setting, the players may be confused. For this reason, it is important for the backstory to be partly exposed to players through the game challenges. According to Nicholson *"if the game does not create the situation for players to get more deeply engaged with the setting, then the player can be forgetful of the role they are supposed to be taking" (p.7)*. The story content needs to be balanced in small pieces instead of placing lengthy story texts during the pre-game narrative (Nicholson, 2016).

According to Van Eck (2006), games *"thrive as teaching tools when they create a continuous cycle of cognitive disequilibrium and accommodation while also allowing the player to be successful"* (Van Eck, 2006, p. 5).

Provide instant feedback

Feedback is very important in the game play, especially if it is provided instantly. In particular, the provision of quick feedback can encourage the learners to modify elements of their strategy in order to progress through the game.

Feedback can also take place in the form of "hints", especially when a particular challenge requires a specific approach (López-Pernas, Gordillo, Barra, & Quemada, 2019). Through the provision of hints educators can support learners in overcoming one challenge and move on to the next.

"Games are the only force in the known universe that can get people to take actions against their self-interest, in a predictable way, without using force."

Gabe Zichermann

Reflection activity:
Think of an example of a problem-solving task that can attract the interest of young people in the learning process.

4.Recommendations for utilising the digital escape room methodology to formal and non-formal educational settings

Below there is a recommendations list on how to utilise the digital Escape Room methodology in formal and non-formal education settings.

Technical features:

- When applied in non-formal settings, perform the game activity in a single session for all participants whenever possible to promote discussion and exchange of experiences;
- When applied in informal settings, make sure that the user interface is easy to navigate and appealing;
- Use a points system, in order to motivate learners to review their progress;
- Keep track of the learners' performance using a progress bar;
- Use feedback-oriented approaches; provide and collect feedback to improve future editions.

Content development features:

- Use narrations and real-world contexts in line with the learners' personal interests;
- Design activities that will promote intrinsic and extrinsic motivation and will encourage learners to take action, e.g. towards climate change;
- Design stimulating challenges that will present "role models" and will enhance learner's curiosity to explore more;
- Create/use meaningful stories to promote emotional involvement, e.g. empathy;
- Enhance the game environment via the use of multimedia elements to present an appealing story.

Digital Resources for Learning Theories Applicable in Gamification

Resource Title: **Studying Gamification: The Effect of Rewards and Incentives on Motivation**

Learning Theories: *Needs-Based Theories, Social-Based Theories, Rewards-Based Theories*

URL:http://www.meydalle.info/meydalle/ganit/9783319102078-c1.pdf

Resource Title: **Gamification from the Viewpoint of Motivational Theory**

Learning Theories: *Motivational Theory*

URL:https://pdfs.semanticscholar.org/2eb4/74f1f35e85bc47642c0e2cd4a9dbeed69495.pdf

Resource Title: **Gamifying education: what is known, what is believed and what remains uncertain: a critical review**

Learning Theories: *Self Determination Theory, The Theory of Gamified Learning*

URL:https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-017

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Resource Title: Digital game-based learning: Towards an experiential gaming model

Learning Theories: *Experiential Learning Theory, Flow Theory*

URL:http://www.savie.ca/sage/articles/940_300027-kiili-2005.pdf

Resource Title: A Theory of Gamification Principles Through Goal-Setting Theory

Learning Theories: *Goal-setting Theory*

URL:https://uwspace.uwaterloo.ca/bitstream/handle/10012/13720/2018-A%20Theory%20of%20Gamification%20Principles%20Through%20Goal-Setting%20Theory.pdf?sequence=1

Resource Title: Gamification: State of the Art Definition and Utilization

Learning Theories: *Self-determination Theory, the Flow Theory*

URL:https://d-nb.info/1020022604/34#page=39

Digital Resources for Creating a Escape Room Challenges

Resource Title: Resources For Creating Digital Breakouts: Ideas For Making Your Own Activities

Description: *This resource includes useful ideas about for the creation of activities for digital escape rooms using text, articles, video, songs, questions and visuals.*

URL:http://www.meydalle.info/meydalle/ganit/9783319102078-c1.pdf

Resource Title: Breakout EDU "Build Your Own"

Description: *This resource provides different examples on how to create digital escape room activities through a series of screen casts.*

URL: https://sites.google.com/site/digitalbreakoutjb/how-to

Resource Title: Digital Escape Rooms With ThingLink & Google Forms

Description: *This resource presents two examples of digital escape rooms for the*

subjects of Physics and Chemistry.

URL:
https://www.instructables.com/id/Digital-Escape-Rooms-With-ThingLink-Google-Forms/

Digital Resources for Using Multimedia Elements in Game Design

Resource Title: WISC ONLINE Game Builder

Features: *creation of online games: bingo, flashcards, trivia, crossword, handmoon, matching game., memory match, sequence, jeopardy, spin to win, time out,*

URL:https://www.wisc-online.com/gamebuilder

Resource Title: Classtools Net

Features: *creation of online games: random name picker, fakebook (imaginary profiling), the vortex (sorting game), fling the teacher, arcade game, QR treasure hunt, crossword*

URL:https://www.classtools.net/

Resource Title: DISCOVERY EDUCATION

Features: *creation of online games: word search, criss-cross, double puzzles, fallen phrases, math squares, mazes, letter tiles, cryptograms, number blocks, hidden message*

URL:http://puzzlemaker.discoveryeducation.com/

Resource Title: Badge Creator

Features: *design digital badges*

URL:https://www.accredible.com/badge-designer/

Resource Title: KeepTheScore

Features: *online software for scorekeeping*

URL:https://keepthescore.co/

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LUOVA
YOUTH GANG
TRUST
LOVE
"Street Art"

LUOVA

USING ONLINE ESCAPE ROOMS TO
BUILD CREATIVE THINKING SKILLS

Introducing Online Escape Room learning

As educators and as humans we are surrounded by challenges – they are large, small, local, global, short, and long term etc. Some we rise to, some we dread, some we try to address, some we try to ignore.

Ultimately, how we individually and communally respond to challenges will ultimately determine our future. The often-hectic pace of school, work, family, and social life rarely gives us time to consider different perspectives and design thoughtful solutions.

When and how do we learn how to address challenges and create sustainable solutions?

Without an effective and efficient framework to think more deeply, we often repeat the same mistakes and can overlook innovative ideas. As problems become increasingly complex and intertwined the need to develop a generation of engaged and critical learners equipped to identify different challenges and develop innovative and sustainable solutions is crucial.

Challenge-based learning – of which online escape room learning is one example - is an effective learning framework first initiated at Apple, and now used in universities, projects and institutions around the world. The framework can empower learners, students, teachers, administrators, and community members to address local and global challenges while acquiring content knowledge in a whole range of subjects.

Through Online Escape Room Learning, students and teachers can make a difference and prove that learning can be deep, engaging, meaningful and purposeful.

For the hundreds of millions of people involved in formal education all around the world – the majority of these learners are focused on acquiring the knowledge and skills necessary to move to the next educational level and eventually enter the world as a productive member of society. Online escape room learning provides a framework for participants to accomplish this while building 21st century skills, developing a framework for life-long learning, and making an immediate impact on the world.

Imagine millions of empowered learners focused on creating solutions to local and global challenges as part of their schoolwork. We have the power to make the world a better place.

This document will provide the following **key learning outcomes**:

- Understand the technical requirements needed to make a digital escape room

- Use Google Forms or Google Sites software, to create challenges, puzzles and activities

- Find appropriate resources to build digital escape room challenges

- Acknowledge the different types of puzzles and challenges

- Use several ways to generate ideas for online challenges

- Have tools/apps to boost creativity

Get ready!

1. We are all learners – We are all teachers

By moving beyond the traditional hierarchy of the school and classroom, we can create environments where all stakeholders can work together to meet academic objectives while solving authentic challenges around us.

Online educational escape rooms are just some of the tools that have been developed by pedagogic and game-theory experts, as vehicles to present challenge-based learning content to learners of all ages and abilities. While we are all familiar with traditional escape rooms; the benefits of transferring escape rooms online and using them for educational purposes is that firstly, there is no cost requirement as these resources are typically built on Google Forms or Sites and these are freely available. In this sense, the only limitation placed on developing these online challenges is the imagination of the creator of the challenges! In addition, by bringing these challenges online, you also have the potential to develop the digital skills of young people, and to support them to apply their digital skills to enhance their own learning.

When we speak of the theory behind developing online educational escape rooms, the pedagogic theory which supports these resources is the theory of challenge-based learning. Challenge-based learning emerged from the "Apple Classrooms of Tomorrow—Today" (ACOT2) initiated in 2008 to identify the essential design principles of a 21st-century learning environment. Starting with the ACOT2 design principles, Apple, Inc. worked with exemplary educators to develop and test challenge-based learning.

Challenge-based learning provides an efficient and effective framework for learning while solving real-world challenges. The framework is collaborative and hands-on, asking all participants (students, teachers, families, and community members) to identify big ideas, ask good questions, discover, and solve challenges, gain in-depth subject area knowledge, develop 21st-century skills and share their thoughts with the world.

Challenge-based learning, as presented through online educational escape rooms, builds on the foundation of experiential learning and leans heavily on the wisdom of a long history of progressive ideas. The framework is informed by innovative ideas from education, media, technology, entertainment, recreation, the workplace, and society.

When faced with a challenge, successful groups and individuals leverage experience, harness internal and external resources, develop a plan and push forward to find the best solution. Along the way, there is experimentation, failure, success and ultimately consequences for actions. By adding challenges to learning environments the result is urgency, passion, and ownership - ingredients often missing in schools.

Challenge-based learning, through online educational escape rooms, is a flexible framework; with

each implementation, new ideas surface, the framework is reviewed, and the model evolves.

2. Challenge-based learning, a multi-faceted learning tool

Challenge-based learning provides a significant list of advantages, when compared to traditional learning approaches. These include:

- A flexible and customizable framework that can be implemented as a guiding pedagogy or integrated with other progressive approaches to learning.
- A scalable model with multiple points of entry and the ability to start small and build big.
- A free and open system with no proprietary ideas, products, or subscriptions.
- A process that places all learners in charge, and responsible for the learning.
- An authentic environment for meeting academic standards and making deeper connections with content.
- A focus on global ideas, meaningful challenges, and the development of local and age appropriate resources.
- An authentic relationship between academic disciplines and real-world experience.
- A framework to develop 21st-century skills.
- Purposeful use of technology for researching, analysing, organising, collaborating, networking, communicating, publishing, and reflecting.
- The opportunity for Learners to make a difference now.
- A way to document and assess both the learning process and products.
- An environment for deep reflection on teaching and learning approaches.

A consistent vocabulary is critical to the success of all frameworks and plans. If there are disagreements, stated or unstated, about language at the beginning, the end results will be unsatisfactory.

3. Everyone is a learner

Ubiquitous access to information creates the opportunity to break down the traditional hierarchical structure of learning environments. In this new paradigm, all stakeholders become teachers and learners. The learners (young people, youth workers, teachers, administrators, families and community members) actively share the responsibility (and workload) for creating and participating in the learning experience. The framework does not diminish or demean the role of teachers, youth workers and other adults in the learning environment as they still have the primary responsibility for a successful learning experience. It does relieve the burden of having to do all of the work by deeply involving young people throughout the entire process. Youth workers continue to teach and lead the group sessions, but now have the freedom to learn with the young people in their group. Young people continue to learn but now share in the responsibility of defining the journey, aligning to standards, acquiring resources and teaching.

4. Moving beyond the four walls of a classroom

Involving community members in the process expands resources, creates opportunities for authentic learning and moves the responsibility of education to the larger community.

5. Learners inspired; Learners directed

Meaningful connections are made between content and the lives of learners. The more passionate learners are about the content, the deeper the learning, the more control all participants have over the process, the higher the level of ownership.

6. Challenges

Challenge are posed to the learners as situations or activities that create a sense of urgency and spur action among learners to complete the task.

7. Content and 21st century skills

Authentic learning experiences foster in-depth content knowledge and help students organically develop 21st-century skills such as creative and critical thinking, collaboration, communication, information literacy, flexibility… These skills do not become "one more thing" to be addressed by the teacher but emerge from the challenge experience.

8. Boundaries of Adventure

Boundaries are provided to guide the way and provide freedom for learners to take ownership of the process. At the beginning or in specific situations, the limits will be narrow, but the goal is always to move towards more freedom and responsibility for the learner.

The idea of "Boundaries of Adventure" comes from experience guiding wilderness trips. When coming onto camp, the guides set boundaries of adventure to provide the campers with enough space to have an adventure while keeping them safe. As the trip progresses and the campers became more skilled, the boundaries increased until the campers set their own boundaries.

9. Space and Freedom to Fail

Provides a safe space for all learners to think creatively, try new ideas, experiment, fail, receive feedback, and try again. All the phases of the framework include opportunities for iteration.

10. Slowing for Critical and Creative Thinking

To ensure full participation and to provide opportunities for deep thinking, the learning process is intentionally slowed down at times.

11. Authentic and Powerful Use of Technology

Technology is used to research, communicate, organise, create and present information. The use of technology allows learners to own and transform the learning experience.

12. Focus on Process and Product

The journey to the solution is valued as much as the solution. Throughout the challenge-based learning experience there are opportunities to evaluate and assess both the process and the products and outcomes of the learning.

13. Documentation

During each step of the challenge process, the learners document and publish using text, video, audio and pictures. These artefacts are useful for ongoing reflection, informative assessment, evidence of learning, portfolios and telling the story of their challenge.

14. Reflection

Throughout the process, learners continuously reflect on the content and the process. Much of the deepest learning takes place by considering the process, thinking about one's learning, and analysing ongoing relationships between the content and concepts.

The Framework

An incremental process

The challenge-based learning framework is an incremental and flexible process which can be divided into three interconnected phases, as follows:

- **Phase 1**: Engage,

- **Phase 2**: Investigate,

- **Phase 3**: Act.

Each phase includes activities that prepare learners to move to the next stage. Supporting the entire process is an ongoing process of documenting, reflecting and sharing.

Phase 1: Engage

Through a process of essential questioning, the learners move from an abstract idea to a concrete and actionable challenge.

'Big Ideas' are broad concepts that are explored in multiple ways and are relevant to the learners, and the larger community (e.g. health).

Essential questioning allows the learners to contextualise and personalise the 'Big Idea'. The end product is a single essential question that is relevant to the individual or group (e.g. What do I need to do to be healthy?)

Challenges turn the essential questions into a call to action by charging participants to learn about the subject and develop a solution. Challenges are immediate and actionable.

Phase 2: Investigate

All learners plan and participate in a journey that builds the foundation for solutions and addresses academic requirements.

- Guiding questions point towards the knowledge the learners will need to develop a solution to the challenge. Categorising and prioritising the questions create an organised learning experience. Guiding questions will continue to emerge throughout the experience.
- Guiding activities and resources are used to answer the guiding questions

developed by the learners. These activities and resources include any, and all, methods and tools available to the learners.
- Analysis of the lessons learned through the guiding activities provides a foundation for the eventual identification of solutions.

Evidence-based solutions are developed, implemented with an authentic audience, and then evaluated based on the results.

- Solution concepts emerge from the findings made during the investigation phase. Using the design cycle, the learners will prototype, test and refine their solution concepts.
- Implementation of the solution takes place within a real setting with an authentic audience. The age of the learners, and the amount of time and resources available, will guide the depth and breadth of the implementation.
- Evaluation provides the opportunity to assess the effectiveness of the solution, make adjustments and deepen subject area knowledge

Before diving deeper into challenge-based learning, through tools such as online educational escape rooms, some thinking about planning and preparation is necessary.

A flexible approach

Challenge-based learning is to be flexible, customizable and allow for multiple points of entry. The approach can extend current practice, serve as the framework for specific capstone events during the academic year, and act as an overarching framework for strategic planning, decision making, and learning.

Types of Challenges

Challenge-based learning should not be "one more thing" added to youth worker or young person's full plates. The framework is designed to provide structure for current best practices and make logical connections.

Challenge-based learning becomes the framework that holds everything together. For example, a STEM Challenge is combined with service learning resulting in community-based solutions that involve coding or products created in Maker Spaces (a makerspace is a collaborative work space inside a school or a library facility where young learners have an opportunity to explore their own interests; learn to use tools and materials, both physical and virtual; and develop creative projects.)

Here you see that ideas are provided for putting challenge-based learning into practice. These ideas build on each other and provide the scaffolding to move from individual challenges to organisation-wide implementations.

When considering challenge-based learning, through activities such as online educational escape rooms, think about how the framework fits with personal and institutional learning goals and how it can be implemented and supported.

At the macro level, challenge-based learning through these online resources is an overarching philosophical approach that uses a framework of challenges to inform and guide strategic decision making, curriculum development, and classroom practice.

Challenges create a **sense of urgency** and **spur action**. In challenge-based learning, they include a specific structure (engage, investigate and act), vary in duration and intensity and can be incorporated or adapted to most learning environments. Designed variations of challenges that have emerged include:

Nano Challenges

Nano challenges are shorter in length, focus on a specific content areas or skills, have tight boundaries and are more teacher or youth worker directed. Learners typically start with the challenge without identifying a big idea or essential question. The process includes the investigation and act phases, but at a significantly lower level of intensity and often stop short of implementation with an external audience. Typically, Nano Challenges are used as scaffolding leading to more significant challenges or during longer challenges to address specific concepts. Online educational escape rooms are examples of nano challenges.

Mini Challenges

Mini challenges widen the boundaries and provide learners with an increased level of choice and responsibility. An increase in duration allows the learners to start with a big idea and work through the entire framework. The research depth and the reach of their solutions increases, and the focus can be content specific or multi-disciplinary. Taking a "show me what you can do" perspective, Mini Challenges are good for intense learning experiences that stretch the learners and prepare them for longer challenges.

Standard Challenges

Standard challenges are longer and allow considerable latitude for the learners. Working together, learners can identify and investigate big ideas, develop challenges, do extensive investigation across multiple disciplines, and take full ownership of the process. The framework is used from start to finish, including implementation and evaluation of the solution in an authentic setting.

Capstone Challenges

Capstone Challenges are standard challenges used as a culminating academic and intellectual experience for the learners. Examples include a grade level challenge that ends the year in a content area or a senior project that acts as a "thesis" for graduation.

Strategic Challenges

Strategic challenges are for planning at the institutional level. Any organisation can use the framework to define the mission, identify Challenges, create a common language and developed strategic plans. Big ideas like time, achievement, learning, technology and school culture are perfect for starting deep and important conversations. Strategic challenges can be used with young people to encourage them to visualize the future of youth-work, for example.

This list is not designed to be an exhaustive or prescriptive set of challenge approaches. The framework is adaptable to meet the needs of your context.

Examples of Challenge-based Learning through Online Educational Escape Rooms

COMMUNICATION & SELF-EXPRESSION

Introductory level
https://docs.google.com/forms/d/e/1FAIpQLSeaq-2GGzR8Wp-i_HgWKG6FeTq7AAhdV5NfHp9SOkRVJWnmDA/viewform?usp=sf_link

Advanced level
https://docs.google.com/forms/d/e/1FAIpQLSd5v2OWkaFNlmYgF4yoykvPaoKjpAo1nVREBD-JeHTyCz6E1g/viewform?usp=sf_link

MOTIVATION

Introductory level
https://docs.google.com/forms/d/e/1FAIpQLSfnP31BWSAkVQPyDJ1UHndR3TKe2gFhsUTd2GjmZQEaNxUUEA/viewform?usp=sf_link

Advanced level
https://docs.google.com/forms/d/e/1FAIpQLSeigK6-LwxP-Cwnm010TGolHx5am50XrYVru0PzJRGPlC9BOQ/viewform?usp=sf_link

COLLABORATION

Introductory level
https://docs.google.com/forms/d/e/1FAIpQLSe6ziFLPsBBv-LdxoEBgIOQSZo2ybFl6xWf2o9aqd3aaN-YaA/viewform?usp=sf_link

Advanced level
https://docs.google.com/forms/d/e/1FAIpQLSdEjr63n4U3WsS3Bz_1Y3d3TdZLxxjkj7GxaLbUKPYZxuEcHQ/viewform?usp=sf_link

IMAGINATION & ORIGINALITY

Introductory level
https://docs.google.com/forms/d/e/1FAIpQLSdu9wpUwzmV3yB3angjex5znY_eTH1n2uVb5kBQVgnM7jUwdg/viewform?usp=sf_link

Advanced level
https://docs.google.com/forms/d/e/1FAIpQLSevMpSzKL7VZF7U4ClmXik0cp3fu0DB6LIK266wZKqigOTsyA/viewform?usp=sf_link

MENTAL FLEXIBILITY

Introductory level
https://docs.google.com/forms/d/e/1FAIpQLScFSZ-H2V3Sh9pgcFqZdn2XvtC8uG5hzisXnPku8h6YyJoUnw/viewform?usp=sf_link

Advanced level
https://docs.google.com/forms/d/e/1FAIpQLSeQjxyN6BlTHaPhGRS6sgrNApJWqvBEF5ovB43zTWhJsiIV3Q/viewform?usp=sf_link

DECISION-MAKING

Introductory level
https://docs.google.com/forms/d/e/1FAIpQLSfeI_hgthUYZkneFnaeDWRWi8Yb8jKkadECTeciRW4IxpviMw/viewform?usp=sf_link

Advanced level
https://docs.google.com/forms/d/e/1FAIpQLSfvnfppk7IM_eNHN9ctiEwL7XHqoX3R87IUt25pWo5030Xbbw/viewform?usp=sf_link

More examples are available on the LUOVA e-Learning portal:
https://luovaproject.eu/index.php/e-learning-portal-2/

A step by step quick start to developing Online Educational Escape Rooms using Google Forms

Step 1 – Set up a <u>Google account</u>.

Step 2 – Conceptualise the problem. What kind of skills should the game improve? Which competences are you going to focus on?

Step 3 – Reflect on your target group. Who are they? What is their background, age and interests?

Step 4 - Develop a <u>storyline</u>. Keeping your target audience in mind, think about the theme or genre of your game. Where does the story take place and what kind of story is it? Some good inspirations are popular films, books, or games. Take your time with the narrative to make sure it is compelling and engaging. Explain the challenges to the learners so that they know what they have to do to pass to the next level. These can be presented using media-rich video files and then answered in a Google Form.

Step 5 – Start creating a digital escape room via <u>Google Forms</u> *(template provided in the next section)*. Formulate questions that are presented as digital clues for the purposes of the game using attached images, YouTube videos, hyperlinks or links to other <u>Google Docs</u> documents. Adapt them to the required difficulty level.

Step 6 – Base the answers to these questions around different types of digital clues:

- digital competence: QR codes, YouTube videos, Google Maps coordinates, identifying locations, word count in a file, etc.
- civic competence: history/date of origin
- critical competence: mathematical tasks, abstract reasoning, lateral thinking,
- creative competence: ciphers and coding systems (Morse code, binary code…), foreign alphabets (Cyrillic, Arabic)
- Text - crosswords, word-searches, words written backwards, text written in white on a white sheet, text written in foreign languages, Google translate, anagrams.
- Photographs – naming famous sites, picking the odd-one-out, naming flags, counting items in a photograph.
- Online puzzles – making a jigsaw, patterns, and sequences.
- Navigation puzzles – reading an old map, calculating distance, using Google Maps

Step 7 – Select one of the options for collecting answers. Choose short answer text with

response validation to make sure your target audience can only proceed to the next step after correctly solving a puzzle. They would normally be asked to type in a number or text equal to value. If you think the clue might be too difficult, provide them with an additional clue in form of custom error text displayed in case of an incorrect answer. Open text answers might be considered as a way of collecting answers to puzzles requiring discussions on an advanced level challenge.

Annexes

- Templates to prepare an Online Educational Escape Room Challenge

To facilitate the structuring of a Online escape room learning, learners can follow the following template guidelines which will help them to build their Google form challenge using the tutorial in the next step.
Also, it is recommended to divide the learners into groups where some could focus on the scenario while others could build the actual breakout into google form using this template.

Breakout challenges can be made at 4 different levels: **Introductory, intermediate, advanced and expert** and below are the recommended standards for the challenges.

These can be used to adapt later resources for the Final Platform.

Introductory – 3 simple challenges – to include some images, video files, etc.
Intermediate – 4 more complex challenges – to include some images, videos files and prompts for independent research.
Advanced – 5 more sophisticated challenges – to include some prompts for independent research, QR codes and short quizzes.
Expert – 6 challenges – including quizzes and games.

Remember to consider the following key points when developing resources:

- Keep the text to a minimum – this will reduce the amount of translation required.
- Ensure the resources are useful in other countries and contexts.
- Refer back to the Value Propositions to ensure learning is embedded into the materials
- Numbers don't need translating!

BLANK GOOGLE FORM TEMPLATE

Form title:

Room title	Topic & level	
	Title	
	Description	

To be used once per escape room challenge.

Form content:

Section #	Title	
	Description	

To be used once per section.

Section contents:

Normal paragraph	Title	
	Text or Media	

Question paragraph	Question	
	Short text	
	Answer	
	Hint	

This can be used as many times as required depending on the resources or level.

Each section could end by saying **"congratulations!"** – in this section, reward the learner for solving the problem, riddle or puzzle posed – and progressing to the next level.

Example of a completed GOOGLE FORM Template

All section can be completed depending on the level of details desired and the number of sections the breakout will contain.

If the Online Educational Escape Room Challenge is about developing entrepreneurial skills, then the title could be chosen in relation to that topic, for example.

Form title:

Room title	Topic & level	Ex. *Entrepreneurial skills – Introductory level*
	Title	Project no. 41R
	Description	

Section 1	Title	Chapter 1. The beginning of the way.
	Description	

Normal paragraph	Title	You are an MI6 spy. You need to a specific location in the USSR to investigate some mysterious experiments taking place.
	Text or Media	[image1]

Normal paragraph	Title	Further instructions will be provided.
	Text or Media	Are you ready?

Section 2	Title	Crossing the border
	Description	

Normal paragraph	Title	You have been sent to Finland where you are about to cross the border without being caught. You need to meet your contact at a famous place somewhere in Ленингра́д…
	Text or Media	[image2]

Question paragraph	Question	Where is your contact?

	Short text	
	Answer	Hermitage Museum
	Hint	2 words, 9 and 6 letters each, both starting with Capital Letters.

Section 3	Title	Did you know?
	Description	Source: Wikipedia 2018.

Normal paragraph	Title	On 1 September 1914, the name of the city, Saint Petersburg, was changed to Petrograd, on 26 January 1924 to Leningrad, and on 1 October 1991 back to Saint Petersburg. During the periods 1713–1728 and 1732–1918, Saint Petersburg was the capital of Imperial Russia. In 1918, the central government bodies moved to Moscow.
	Text or Media	

Normal paragraph	Title	The State Hermitage Museum in Saint Petersburg, Russia is the second-largest art museum in the world, it was founded in 1764 when Empress Catherine the Great acquired an impressive collection of paintings from the merchant from Berlin, Johann Ernst Gotzkowsky.
	Text or Media	

Normal paragraph	Title	Antonio Canova's statue The Three Graces is a Neoclassical sculpture, in marble, of the mythological three charities, daughters of Zeus – identified on some engravings of the statue as, from left to right, Euphrosyne, Aglaea and Thalia – who were said to represent youth/beauty (Thalia), mirth (Euphrosyne), and elegance (Aglaea).
	Text or Media	

Section 4	Title	Route through Voronezh
	Description	

Normal paragraph	Title	After your contact gave you a new identity and Soviet documentation, you have been sent to Воронеж. At the railway station you receive a letter containing a map with a hidden message...
	Text or Media	[image3]

Normal paragraph	Title	Use the map
	Text or Media	https://www.google.ru/maps/@51.676436,39.2025939,16z
Question paragraph	Question	What is the name of the square where you will meet?
	Short text	
	Answer	Lenina
	Hint	1 word in Latin alphabet, 6 letters starting with a Capital Letter.

Section 5	Title	Did you know?
	Description	Source: Wikipedia 2018.

Normal paragraph	Title	Nikolay Gennadiyevich Basov (14th December 1922 – 1st July 2001) born in Voronezh was a Soviet physicist and educator. For his fundamental work in the field of quantum electronics that led to the development of laser and maser, Basov shared the 1964 Nobel Prize in Physics with Alexander Prokhorov and Charles Hard Townes.
	Text or Media	

Section 6	Title	Finding your contact

	Description	

Normal paragraph	Title	Once in the square, a kid gives you this message from your contact...
	Text or Media	[image4]

Question paragraph	Question	What feature does your contact have?
	Short text	
	Answer	Beard
	Hint	First letter is a Capital!

- Practical steps to create Online Educational Escape Room challenge

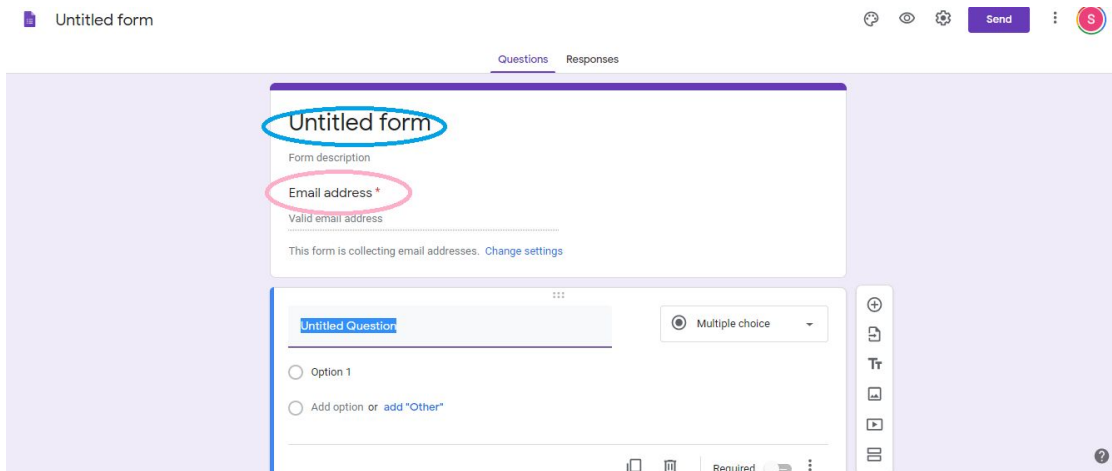**Step 1**: Create a Google account
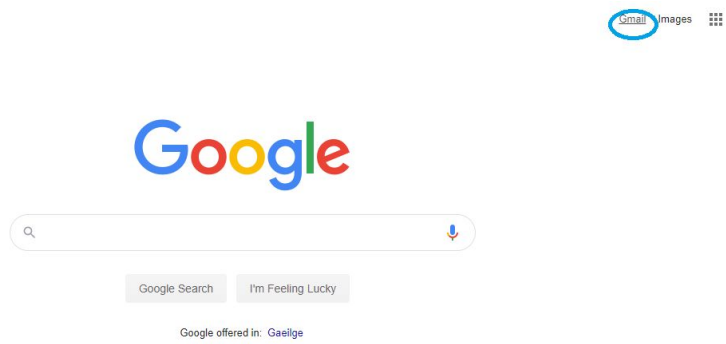
Step 2: Google search for "Google forms"
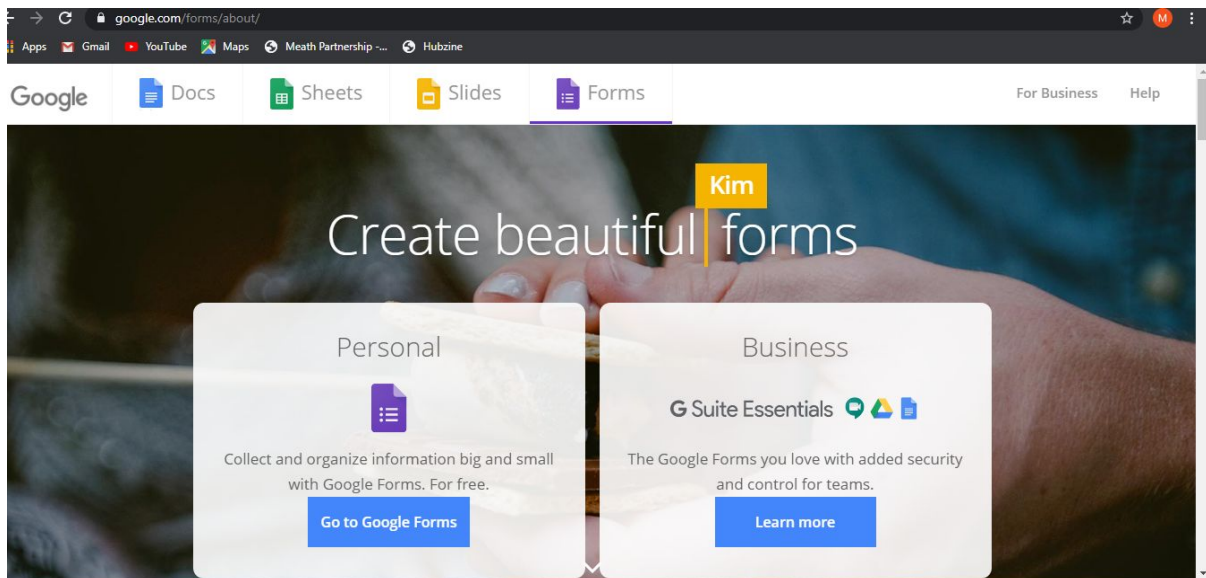
Step 3: Select "Start a new form"
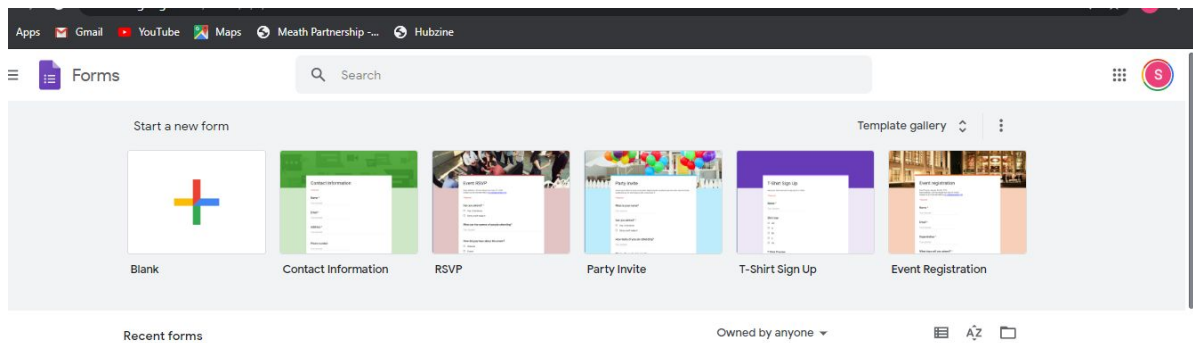
Step 4: Start creating your Online escape room

1- Name your Online Escape room
2- Enter your email address

**Step 5**: Add a section to introduce your Online escape room

storyline

1. Select the "TT" button to add a section
2. Name this section (optional)
3. Write down your story line, explain the challenge so the learners know what to do
4. Include videos, or images, or GIF clicking on the sliding menu at the right-hand side to make it more engaging and fun
5. Play around to find out all possible options
6. You can delete any option at anytime clicking on the "delete" icone
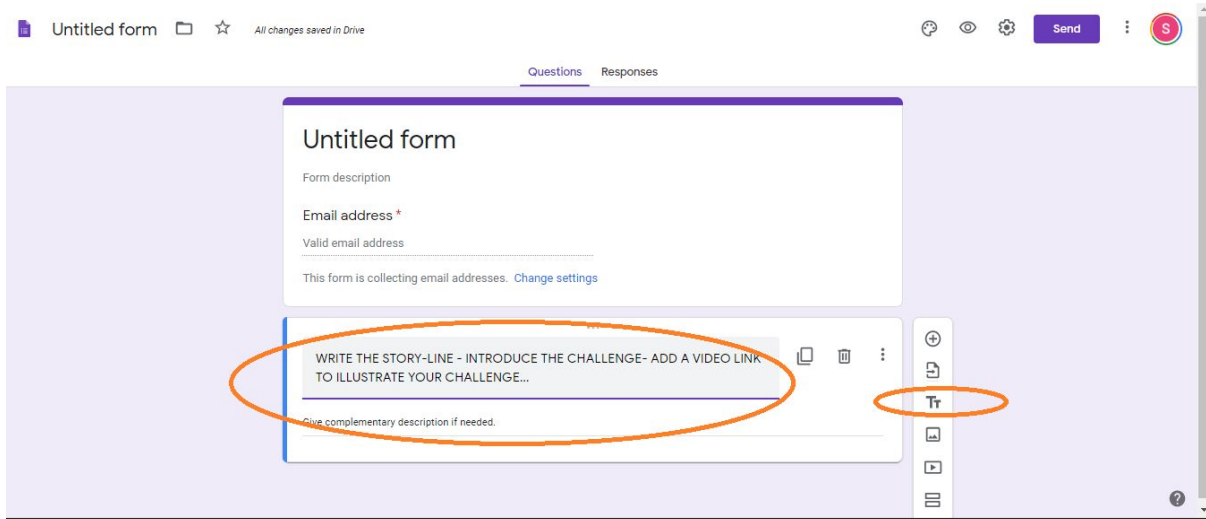

Step 6: Formulate your question

1. Base your question around different types of digital clues (see step by step section above)
2. Select one of the options for collecting answers (short paragraph, multiple choices, checkboxes, short answers…)
3. Indicate if this format is requested or not to move on to the next level
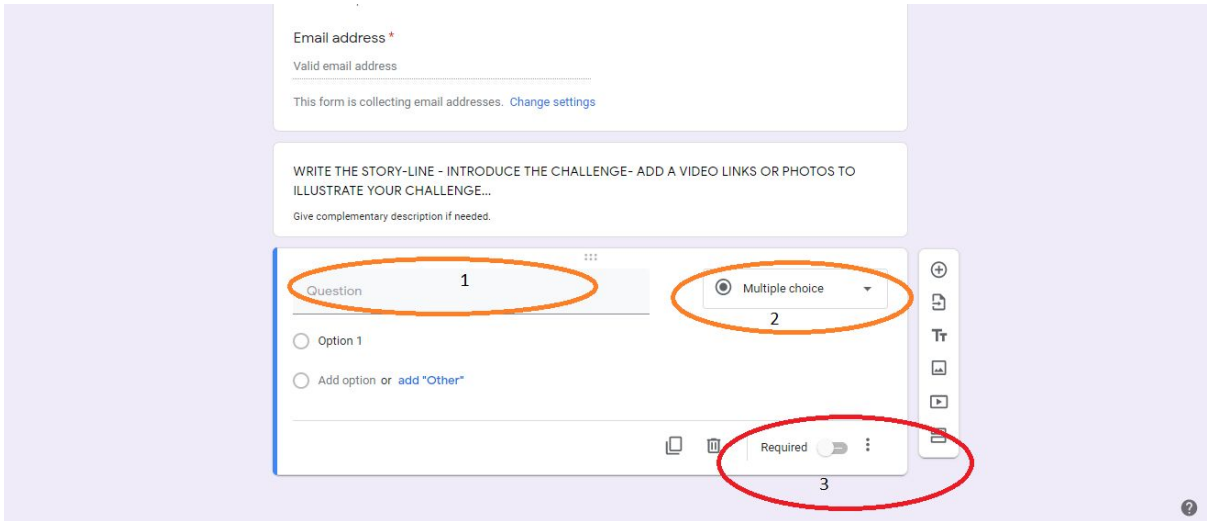
Step 7: Add a new section and build the structure of your challenge by repeating the previous steps.
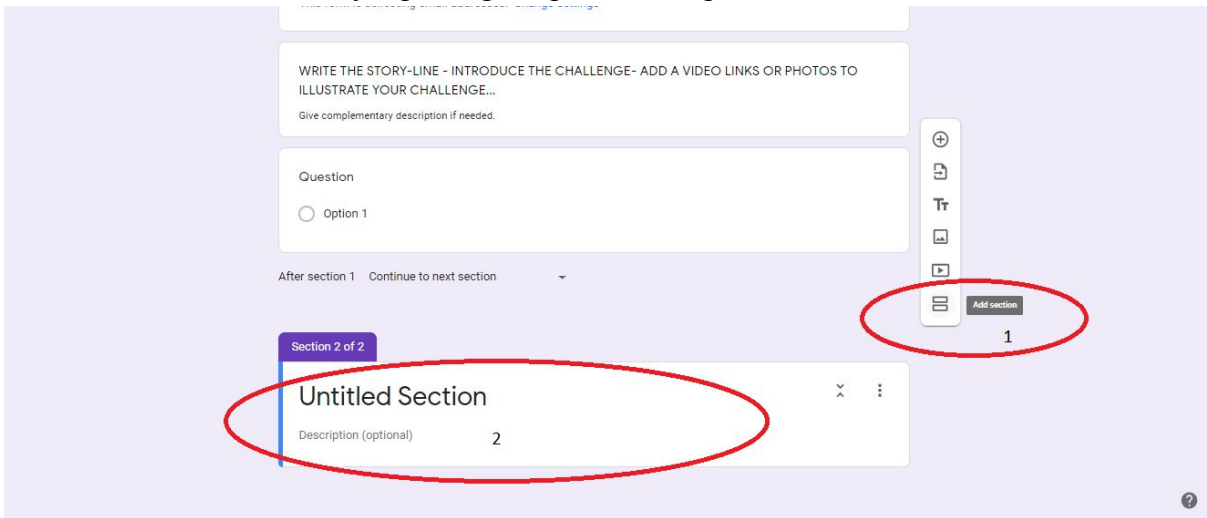
LUOVA

USING ONLINE ESCAPE ROOMS TO
BUILD CREATIVE THINKING SKILLS

Table of contents

Introduction and Aims

The Internet environment is something without which it would be difficult to imagine life now. The beginning of the Internet dates back to the late 1960s and the beginning of websites and web browsers to the 1990s. Since then, the fast-growing Internet environment has given us an infinite number of opportunities and potential for development in every area of life.

As is well known, the online environment is interactive. Thanks to the visualization of constantly developing functionalities of Internet technologies, it engages its users in making decisions and developing analytical thinking while searching for information resources and selection of collected data. The online environment is an attractive platform for sharing knowledge. Nowadays, more and more often we use the potential offered by the Internet environment and various applications for teaching both young people and adults. For this purpose, various types of e-learning tools are used which integrate different strategies and different scenarios for processing the presented data. The more strategies can be used, the more the learner can be involved at many levels of information processing and thus be interactive.

This Module aims to support front-line youth workers to harness the potential of the dynamic online environment and applications to build high-value skill sets within their marginalised target groups. In detail, the Module will provide insights on the teaching and learning processes which can be supported by the digital escape room methodology. Additionally, at the end of the Module, youth workers can find a rich pool of resources for the application of the digital escape room methodology to formal and non-formal educational settings.

Thanks to such rapid development of the Internet environment, new methods of knowledge acquisition and development of knowledge are being developed. One such example is the escape rooms. Thanks to expanding our digital literacy and efficient navigation in the Internet environment, social media and applications, we will be able to create our own escape rooms that will allow us to develop critical thinking and other key competence skills such as teamwork, decision making, results orientation or leadership.

In particular, upon the completion of the Module adult educators will be able to:

Describe the benefits of digital collaboration;
List the appropriate tools that boost creativity describe their use;
Identify the social media netiquette;
Develop digital literacy;
Knowledge of online risks, and how to stay secure;

1.Dynamic developing online environment

The modern understanding of the online environment in its social and technological nature refers to social networking concepts. The key to understanding social networks are not only the characteristics of individuals or their associated values, but above all the links between them and the structures created by their influence. The number of links between the entities forming this network is virtually unlimited. In this sense, the Internet is the physical or technological representation of the symbolic links present in all social structures.

According to the IGI-Global dictionary online environment is "The virtual space in which a computed defined system can function being connected to other(s) connected systems through a communication electronic channel and sharing content."[3]

Since 1991, when the project to create the World Wide Web was presented, the Internet environment has started to develop more and more rapidly. The breakthrough moment from which the rate of development and universality of the Internet environment grew at an astonishing rate was the creation of the google search engine in 1998. Since then, the online environment has become a common good for entertainment and learning.

Currently, the online environment has enormous potential and gives its users endless opportunities for development.

The policy of the European Commission supports a legal and innovation-based environment for Internet platforms in the EU. To achieve this goal, the Commission has identified key areas of interest in the May 2016 Communication on Internet platforms[4]. The guiding principles of this policy are as follows:

- A level playing field for comparable digital services;

- Ensure responsible behaviour of online platforms to protect core values;

- Foster trust, transparency and ensure fairness on online platforms;

- Keep markets open and non-discriminatory to foster a data-driven economy.

The Internet has a huge impact on education aimed at gaining knowledge, expanding creativity and acquiring skills. To achieve this you need a source of comprehensive information, which is the constantly developing Internet environment.

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[3]   https://www.igi-global.com/dictionary/online-learner-expectations/20966
[4]   https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1466514160026&uri=CELEX:52016DC0288

As a new medium, the Internet environment offers its users features such as:

- **Interactivity and cooperation**
  the student has the ability to receive all kinds of messages and respond to them both synchronously and asynchronously. Effective communication gives the possibility of data exchange

- **Multimodality**
  The Internet is a convergent medium - it contains messages in the form of text, image, animation film, sound. It is a polysensory medium

- **Hypertextuality**
  The Internet is a collection of information published in a non-linear way that facilitates efficient redirection to related topics and keywords

- **Simplicity of exploration**
  Internet search engines enable efficient access to the required and specially created tag systems help to organize and archive it

Digital collaboration

As technology becomes more and more integrated in our society, so does the phenomenon called digital collaboration. Digital collaboration is referred to as "the practice of people working together through online means such as software-as-a-solution (SaaS) platforms."[5] This allows people not only to work with each other through communication, but also provides digital tools to help achieve collaborative needs.
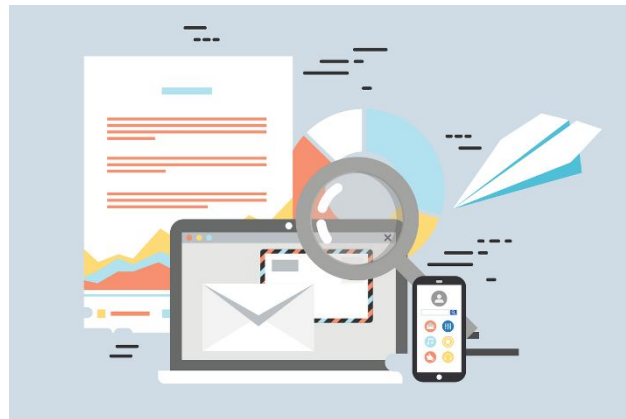
These tools will help learners not only to communicate but also to develop interpersonal skills, to improve digital literacy and creative thinking. According to a report presented by an American strategic management consultancy company - McKinsey - the use of appropriate tools and digital collaboration improves productivity from 20 to 30 percent. Here are examples of the digital tools most commonly used for digital collaboration:

Communication tools - There are many tools available on the market to support communication on the Internet and to improve digital collaboration. Taking into

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[5]   https://www.glasscubes.com/digital-collaboration/

account the variety of methods and trends related to online communication, among the examples below you will find tools that can be used to organize webinars, video and audio conferences and online trainings.

- Flowdock
- WebEx
- GoToMeeting
- Zoom

Tools for creation - Creating and designing a given project, e.g. an escape room, is usually not a task for one person. Thanks to the following tools, you can collaborate in creating a project together in an online environment:

- Google docs / Google forms
- Quip
- igloo

Tools for managing projects and tasks - project management tools are essential for shared digital collaboration. They improve the task management process, organise documents and monitor deadlins.

- Dapulse
- Asana
- Redbooth
- Wimi
- Milanote
- Dropbox

Reflection activity:

Reflect about ta situation in which you have exercised your interpersonal skills (Communication, Teamwork, Empathy, and Positive Attitude) through the use of digital tools. Were you aware that these activities allowed you to exercise them?

2. Social media and smartphones

With the development of the Internet, social media have become extremely widespread and are still gaining ground. Thanks to social media, the new segments of marketing, communication, sales, education and relationship building have been formed. Over the last 10 years, social media has practically tripled the number of its users, increasing from 970 million in 2010 to almost 3.81 billion in 2020. There are multiple different platforms, each have multiple different users and offer different possibilities.

Statistics clearly show that the use of social media in European countries has been increasing constantly over the years.

source: https://www.statista.com/statistics/271430/social-network-penetration-in-the-eu/
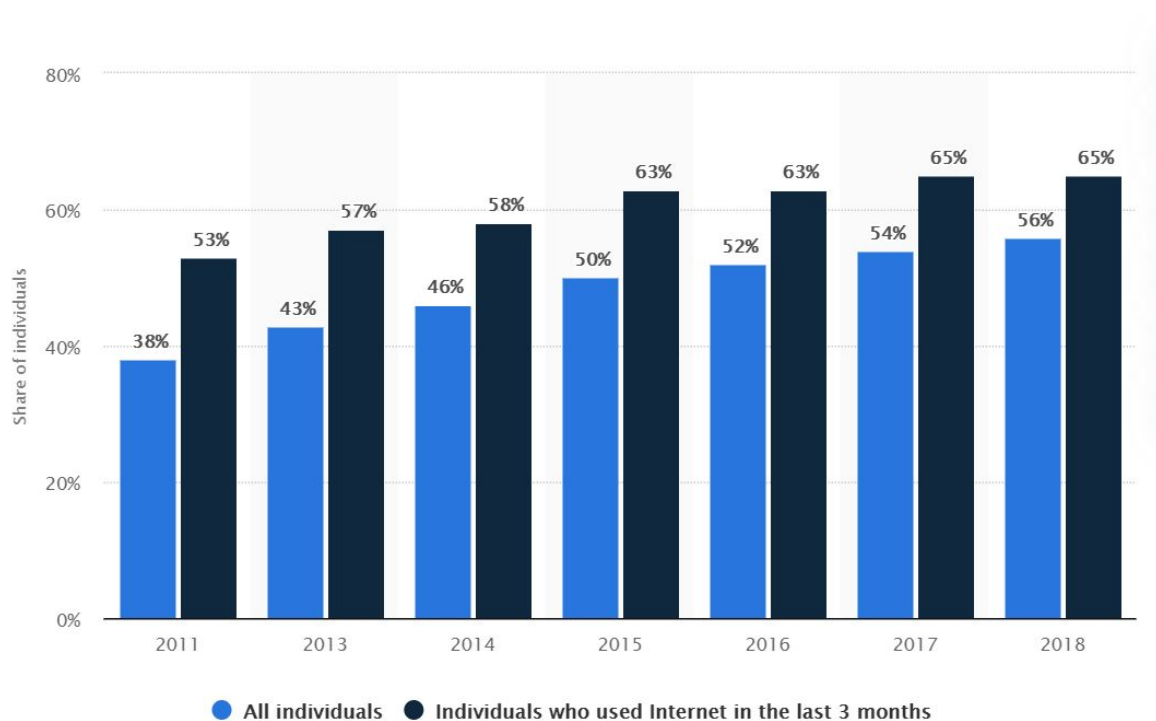
Here is a list of some of the most popular types of social media and the opportunities they offer:

Social networking (Facebook, LinkedIn) – Facebook is the most popular social media. has already collected around 2.5 milliard users. The very fact that it is the most popular social platform enables us to build relationships and reach a large number of recipients. It is also a powerful tool for building the

brand image and gives us the opportunity to monitor our activities. LinkedIn is a professional social media site where industry experts share content, network with one another, and build their personal brand

Video sharing (Youtube, Vine, Facebook live) - The video portals let individuals gain hundreds of thousands of subscribers innovative ideas are awarded on these channels, allowing some to turn their hobby into a career and make money.

Microblogging (Twitter, Tumblr) - Platforms like Twitter and Tumblr can be often used outside of the blogosphere. Twitter in particular has many accounts that have been set up by companies, organizations, media outlets, celebrities, politicians, etc. Users of both networks share different types of content (news, links, images, videos).

Social media netiquette

The prevalence of social media gives its users many opportunities for development but it is important to be aware of the risks it entails. Their universality makes proper authorisation often impossible, and you can come across so-called 'fake accounts', 'fake news' or simply scams.

In order to make the most of the potential and opportunities offered by social media, certain rules must be observed by learners, such as:

Being cultured

 In the social media, it is important to write and to announce opinions, which we would also announce outside the Internet - this is one of the most important principles to be observed when using the social

media. Inserting false information or rude statements can damage relations with important individuals or ruin the visitor's image, because information inserted into the Internet may never be permanently removed.

Use of polite phrases

Other Internet users, very often, voluntarily show courtesy by sharing their knowledge. Likewise, we communicate with them and make an effort to work together of our own free will. "Please" and "thank you" are forms of thanking people for their help.

Being concise

Long and complex explanations in response to a short question statistically discourage the audience from reading it and can create confusion. It is not always possible to answer briefly and concisely, but it is important to be aware of the specifics of social media in order for a successful and effective communication and networking to take place.

Taking care of the grammar and spelling

It takes a short while to make sure you don't make a mistake and it will be well received. It's all about showing respect for others, and your own image. Even the smartest statement can be perceived negatively if it contains obvious grammatical errors or typos.

Appropriate reference to statements made by others

When referring to the response of another internet user, it is important to write exactly which internet user you are referring to, e.g. by his or her name or pseudonym, by a link to his or her speech or by a tag. It is then easier for other participants to follow the discussion.

Showing respect for members of the community

If you do not agree with someone's statement, it should be done in a tactful and civilised way, using factual counter-arguments. Everyone is entitled to his or her own point of view on the matter, and disagreement should not be a personal attack on the author of the opinion, but an attempt to convince his or her right or to show that the problem is more complex.

Applying the principle of limited trust.

Networking and establishing new connections is a very important element of the Internet environment, but learners must remember about security. You should not

enter into suspicious links sent by strangers, nor should you give out your personal details about your private life.

New technologies and an constantly changing reality mean that learners still have to adapt to their environment and keep up to date with all trends. Learners need to be aware of how to comply with the rules, and of the essence of self-respect on the Internet in order to explore and best exploit the potential of the Internet and its potential for self-development.

3.Apps that boost creativity

There are many different ways in which personal development can be supported, including reading interesting guides, participating in training courses or meeting inspiring people. However, the purpose of this handbook is to show learners how to develop creative skills by using the Internet environment and applications. With the development of the Internet environment, mobile applications are also becoming increasingly common. Among them there are also many applications that can develop the interests of learners and encourage them to develop these skills by creating their own challenge based breakouts.

For this purpose, it is advisable to familiarise learners with the following applications:

Elevate – this app aims to systematically exercise our mind in several key areas: memory, estimation, counting, analysis and eloquence. First, the areas that you want to develop are selected and then you can adjust the difficulty level with a short test. Each exercise has its own time constraints, which adapt to the skills of the user.

Neuro nation - Downloaded more than 6 million times and considered one of the best applications of 2015. Neuro Nation starts with a short recognition of your needs - you choose the areas you want to develop - this allows you to adapt your training to your individual preferences. The creators of the application convince that the exercises included in the application were created in cooperation with universities from Berlin, Dortmund and The Hague. The application has many elements of gamification, i.e. engaging the user through various mechanisms of gaining points and unlocking additional levels.

Peak - As in the above examples, the user first selects which areas of development he is most interested in and takes a short test that will match the exercises to his skills. The application develops skills in five areas: intellectual fitness, concentration,

memory, language skills and problem solving. The creators of Peak ensure that the best results are achieved by using the application systematically, at least three times a week.

Lumosity - Lumosity is a joint effort of scientists and game designers, the aim of which was to create a tool to help stimulate the development of our minds. This application is also aimed at being systematic. Every day, users receive a new set of exercises prepared especially for pre-selected needs, and solving them helps to develop their creativity.

> *Reflection activity:*
> **Think of an problem – solving everyday activity, that boosts creativity and helps learners in developing interpersonal skills.**

For more information please visit this website:

https://project-management.com/improving-your-mobile-app-development-skills-through-personal-development/

4.Online safety

Online safety is one of the most important concerns of modern times. Almost everything is already in our computers and smartphones - we communicate with the world, buy, do transactions, use electronic banking, install various programs and applications. Unfortunately, there are also threats in cyberspace. It is necessary to be aware of them, and to use the Internet as safely as possible. It is estimated that worldwide losses from ICT crime will reach 2 trillion US dollars in 2019. Unfortunately, despite international campaigns to raise awareness of this type of threats, many organisations still have insufficient knowledge of the issue and do not apply appropriate safety measures.

Existing risks are constantly being replaced by new ones. Here are some of the most common ones:

DDoS attacks (distributed denial of service).

An attack on software or a website from multiple computers simultaneously to cause them to suspend or prevent them from operating online by sending too many requests. These can be prevented by using antivirus software, firewalls and filters.

Hackers

Persons responsible for external attacks trying to detect vulnerabilities in order to gain access to company systems. The purpose of such actions is to control or steal data. Regular updating of passwords and security systems is a necessary preventive measure.

Phishing and pharming.

Impersonating a trusted source (person or institution) to defraud confidential information. Phishing uses e-mail and pharming redirects to fake websites and web servers. It is essential that you tell your employees how to recognize such threats.

Bots and viruses.

Automatically installing (bots) or inadvertently installing malware (Trojans) to take control of your system or steal data. Regular updating of Internet-based data protection software and SSL certificates, installation of effective anti-virus software, and training in how to act can help prevent such threats.

Cybersecurity

Cybersecurity is the state of protecting and recovering networks, devices and programs from any type of cyberattack. What's the best defense? Well, ther is no one magic program or system that will protect you from every cyberrisk. In today's connected world, everyone benefits from advanced cyberdefense programs. At an individual level, a cybersecurity attack can result in everything from identity theft, to extortion attempts, to the loss of important data like family photos. Everyone relies on critical infrastructure like power plants, hospitals, and financial service companies. Securing these and other organizations is essential to keeping our society functioning.

Everyone also benefits from the work of cyberthreat researchers, like the team of 250 threat researchers at Talos, who investigate new and emerging threats and cyber attack strategies. They reveal new vulnerabilities, educate the public on the importance of cybersecurity, and strengthen open source tools. Their work makes the Internet safer for everyone.

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YOUTH GANG

TRUST

LOVE

"Street Art"

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