

Speak → ER



Escape Rooms and languages, a perfect match



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Chapter 1

Introduction to gamification and escape rooms

Theory of educational gamification

An escape room, also known as an escape game, is first and foremost a game. Depending on one's experience with teaching or playing any form of games, it might sound more or less natural to join games and education, or to use games in an educational perspective. In any case, a statement that anybody could agree on regardless of their own experience is that teachers and educators generally use games with younger students and abandon their use with older students. This reveals a contradiction: while the educational value of games is generally recognized, it is ignored in later stages of education, as if they would somehow lose their value. We beg to differ. This is why in this guide we propose to explore the educational value of escape games in the context of secondary education, applied to language learning in particular. We will start with an introduction to gamification by tackling 6 topics: first, we need to explore what makes a game a game, the main different types of games that exist, and who the players are. This will allow us to move on to the concept of gamification, to playing versus learning, and to mention the case of serious games.



1. What is a 'game'?

The history of games is probably as long as that of humanity, which makes defining games a complicated task. One superfluous word or statement in a definition can exclude a lot of existing games. Arjoranta (2014) explored the scientific debate about the definition of games, and argues that an agreement regarding the definition of games might not be necessary to talk about games in the first place. Therefore, we propose to explore common dictionary definitions rather than scientific papers to start exploring the notion of what games can be. Let us start with one of the most encompassing definitions:

'An activity of a physical or mental nature, not imposed, not intended for any utilitarian purpose, and which is carried out for entertainment and pleasure.' (translated from Larousse French language dictionary, 2021)

Let us quickly explore the ideas listed in this definition to start our reflexion about games:

- » 'An activity (...) which is carried out for **entertainment and pleasure**': the primary goal of playing is always entertainment. It is not primarily about learning (for instance when children mimic adults' behaviour), although learning can happen.
- » 'An activity [that is] **not imposed, not intended for any utilitarian purpose**': again, games are first and foremost played for entertainment. In that sense, players must feel like they are given an opportunity to play without being forced to. Otherwise, in the context of school, it could end up being like any other mandatory exercise.
- » 'An activity **of physical or mental nature**': soccer, chess or video games are all different forms of games. Some games combine the physical and mental aspects of games, such as construction games which involve planning and motor skills.

Having explored this definition, you might think that there is more to defining games than merely saying it is 'an activity done for fun'. What about the rules of a game? What about the interactions between the players? What about winning and losing, or competing?



All these aspects are game components. It is difficult to include them in the definition of games because they might reduce the scope of the definition.



To support this idea, let us take a look at other definitions to explore why they can be too narrow for our approach.

- » **Encyclopaedia Britannica** defines the word 'game' as 'a universal form of recreation generally including any activity engaged in for diversion or amusement and often establishing a situation that involves a contest or rivalry'. Games such as Monopoly or hide and seek clearly have winners and losers. However, narrative games do not always have winners or losers, as the goal is sometimes simply to collectively create a story. An example is 'Alice is Missing' (Henters Entertainment, 2020), a narrative game in which the players write the story by sending text messages to one another, prompted by the timer and the cards they pick along the way.
- » **Collins Dictionary** defines the word 'game' as 'an activity or sport usually involving skill, knowledge, or chance, in which you follow fixed rules and try to win against an opponent or to solve a puzzle.' The notion of competition or opponent can be challenged by cooperative games, as in such games the players try to defeat the situation proposed by the game itself rather than compete against each other. A classic video game such as Super Mario Bros (Nintendo, 1983) requires the 2 players controlling Mario and Luigi to win



together against the game, which is won together or not at all. The key in this definition is the word 'usually', which highlights that the authors did not go for an all-encompassing definition.

- » One last definition to look at can be the one from the **Cambridge Dictionary**: 'an entertaining activity or sport, especially one played by children, or the equipment needed for such an activity'. This definition is written for learners of English as a foreign language, so it is understandable that it aims at being specific enough to be understood. Nonetheless, it is interesting to see that it mentions that games are especially children's activities, as it reveals our common perceptions of games as being something somewhat childish.

The bottom line is that the safest thing to think about is that games are first and foremost recreational or leisure activities that are engaged in primarily to be fun.



2. Who are the players?

As mentioned above, when we think about someone who plays, we think about children, or about sports players. Basically, a player is anybody involved in a game activity. Then, all these examples we often have in our mind are true: be it a child playing with blocks, a teenager playing video games, an adult playing board games with friends or an old person doing crosswords or playing cards.

We are not writing this just to state the obvious, of course. After all, some games are often more appealing to some audiences than others, considering factors such as age, culture, technology savviness or taste in game genres. Yet, this is less true in the case of escape games: Nicholson's survey of escape rooms revealed that as they require teamwork and various skills, escape games are played by a heterogeneous group of players, both in terms of age and gender (2016).

Therefore, if you are a teacher looking to bring escape games into your classroom, it should be easier for you to include your students in this activity compared to other forms of games that would make students compete against one another, that would value a high level of skill or that would come with a stereotypical image about who plays this kind of game.





3. What is gamification?

While the definition of games is not as easy as it sounds, dictionaries, education and marketing professionals alike agree that gamification consists in applying mechanics or principles from games to something that is not a game. The intended effect is generally to increase participants' engagement in an activity.

What we mean by mentioning mechanics or principles from a game can be very broad: basically, it can be anything that makes something that is not a game look like one. Some examples could be using playing cards to decide speaking order at a meeting or giving badges to people who complete challenges not directly related to their jobs or education. Ice-breaking activities in a group are a good example: the primary objective is not for participants to have fun, but to get to know one another. It does not mean that they cannot have fun in the process of course, but it is not the main goal pursued.

The intended effect of putting effort into making an activity look more like a game is to increase participants' involvement in it. For instance, if you are in a meeting and the speaking order is prompted by picking playing cards, you might be more alert as to when your turn could be. If you are a student and your class has a Friday cake competition, it might not increase your grades, but at least you would be happier to go to school on Fridays.



4. Is it really possible to play and learn?

One inherent contradiction in playing versus learning is that if a game is supposed to be just for fun and no other purpose, then it might be difficult to know how to avoid making what you intended to be a game as just another exercise that students feel forced to complete.

This is particularly important when researching gamification: a lot of practices that are widely used are not extremely fun. Giving badges to participants completing a task is one of the most common examples of gamification. For instance, if you have a smartwatch, you might not be passionate about the badges you receive when you walk a set number of steps per day. It might motivate you to take the stairs rather than the elevator some days, but it does not transform you into an athlete either.

In that sense, if you wish to bring some form of game to your students, do it because you want them to have fun along the way, not just to trick them into learning. Or, as Nicholson (2013) puts it: 'The concept of meaningful gamification is not to provide external rewards, but rather to help participants find a deeper connection to the underlying topic'.

For instance, Kapp and al. (2014) identifies five wrong or overrated reasons to bring games into learning: games are cool, everyone is doing it, it will trick students into learning, everybody loves games, and games are easy to create. While we cannot explore these ideas in depth right now, for now just bear in mind that there is more to bringing games into education than these five aspects.



5. Serious games versus common games

You might have heard about serious games. In short, they are games that are not only meant to be fun but that should also have a 'serious' outcome, such as learning about something. Something tricky about serious games is that sometimes they are so serious that they have no fun left in them, which can be counterproductive. Therefore, bear in mind that common games or approaches can be very beneficial to the learning process, while some serious games do not always reach the goal of learning while having some degree of entertainment.

The concepts we have mentioned might still be blurry for now, but the next part should make them clearer as you are about to explore the good reasons to use (escape) games in the classroom.



History of pedagogical escape rooms

1. A short background history of games

As games can be summarised as 'any activity engaged in to have fun', it is easy to say that games are as old as humanity itself. The first ever board game was created in Ancient Egypt, for instance (Nicholson, 2013).



Games come in all shapes, media, and sizes. We all know more about some types of games than others. Here is a list of some types of games to give more context as to what escape games are and where they come from:

- » **Board games or tabletop games** encompass all games that are played with specific tools. In that sense, they can range from card games, dice games, to any sort of game played on a board or table, such as chess, Scrabble or miniature game Warhammer.
- » **Video games** can be broadly defined as entertaining human-computer interaction programs. The first video game was 'Tennis for Two', created in 1958 by physicist William Higinbotham (American Physics Society, 2008). Because of technical and commercial development, video games started to spread later in the 1970s. Today they can be played on computers, consoles, phones and other devices. Examples of video games genres include action games, platform games, puzzle games, and adventure games.
- » **Role playing games (or RPGs):** a game in which players take imaginary roles and collectively create or play a scenario while generally being overseen by a coordinator or storyteller, also known as the game master. The most famous and one of the first role playing games is Dungeons and Dragons, created by Gary Gygax in 1974 (Britannica).



- » Two role playing games subgenres are worth mentioning in relation to escape games: live action role playing games and murder parties. **Live action role playing games** (also known as LARPs) are events generally spanning over several days gathering groups of people constantly playing an imaginary character. Among the most impressive are Conquest (<https://www.live-adventure.de/en/>) and DrachenFest in Germany (<https://www.drachenfest-larp.info/>), both gathering over 5000 people. A **murder party** is a shorter event generally lasting from one evening to a full night, in which players have to investigate who among them murdered the character whose death starts the game. You can think of them as Cluedo like events with role playing.

Escape games gather characteristics from all these types of games, as defined by Nicholson (2015): 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'.

To know more about the history of escape games, you can also take a look at the Pedagogical Guide from the Erasmus+ project STEAMER (<https://steamerproject.eu/pedagogical-guide/>).

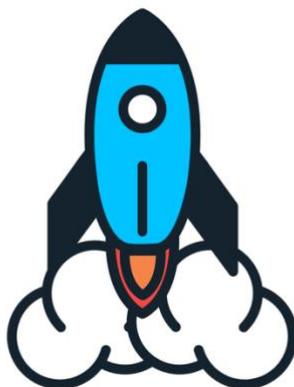


2. The growth of the game industry

When taking into account all forms of games, games are considered to have grown as an industry over the past 50 years, and their growth has been increasing over the past few years. Consider the following facts and figures:

- » In 2018, global turnover for video games increased by 13% in one year (MBA MCI, 2020).
- » As for board games, the market grew by 10% in 2019 (Boursorama, 2020). In addition, having board game nights among adults is becoming more and more common.
- » In 2020, the lockdowns throughout the world have led to sales hit record in the video game industry as it is not only a form of leisure accessible at home, but also a way to connect with others (BBC, 2020). Several board games were adapted to be played online as well.
- » International fairs and competitions exist for all types of games. The most striking examples are the rise of professional esports leagues worldwide. In the case of escape games, the first world competition was held in 2017 (BGNlab, 2017).

Considering the growing interest for games and how their use has spread, it is not surprising that there is now a good opportunity for dialogue between escape games and education.





3. From recreational to educational escape games

The popularity of escape games created for recreational purposes is at the origin of teachers' interest in bringing them to the classroom. It is not too surprising when you consider that games can make teaching and learning more engaging, and that teachers are pushed by their administrations and students alike to find more participatory ways of exploring lesson topics to modernise the curriculum.

Educational escape games have been created since the 2010s, either by teachers themselves, or by game companies that were asked by teachers to create ad hoc escape games for them. Researchers have started investigating the educational uses of escape games rather recently: the most well-known is without a doubt Scott Nicholson, professor of game design and development at Wilfrid Laurier University in Ontario, who started researching this topic after 2010.

What do recreational and educational escape games have in common? The first point in common is the escape game format, according to Veldkamp and al. (2020):

'Like recreational ERs, these ERs combine hands-on and minds-on activities to be achieved with a team in a limited time. In a classroom setting, teachers try to create authentic environments with meaningful activities and room for failure. For education, each of the ER characteristics is not unique on its own. However, their combination seems unique and appealing to teachers.'

The second similarity between both types of escape games stems from the fact that escape games place the solving of puzzles and enigmas within a narrative. While an escape game will rarely require the players to come with specific previous knowledge, even a recreational or commercial escape game can transfer knowledge about our world. For instance, you could play in a story related to a scientific discovery, a historical landmark, or a piece of art. In short, while all educational escape games come with learning objectives or topics, it is not mandatory for recreational ones but grounding the



enigmas into the real world makes the enigmas all the more credible and the game all the more immersive.

4. Where can one find educational escape rooms?

This question is tricky to answer, but we will try. As always, teachers share escape games they create on the usual platforms and networks, such as national teacher resources platforms or Facebook groups. To our knowledge, two examples stand out from the crowd:

- » **Breakout EDU** (<https://www.breakoutedu.com/>): this is a commercial platform created in Canada in 2015, and it is considered to be the first source specialised in educational escape games. It also hosts a community of 40000 teachers and educators worldwide.
- » **S'cape** (<https://scape.enepe.fr/>) is a platform created in 2017 by the digital innovation branch of the French Ministry of Education to provide free resources to teachers who want to create their escape games. It also acts as a repository of educational escape games created by teachers.

In a sense, the history of educational escape games is still early in the making, so there is no doubt that other valuable sources are emerging as we write these lines. This is even more true now that schools are either closed or mix in class and distance learning with the current COVID-19 pandemic: games can make teaching more entertaining, more engaging, and can also provide a way for people to connect even when they are forced to stay apart.



Advantages of pedagogical escape rooms

As explained previously, gamification or Game-based learning (GBL) is the process of creating a learning experience using games in order for the players to develop their skills and knowledge. It has shown to be a great tool to enhance the students' engagement and motivation, thus fostering better opportunities for learning.

As escape games are going to be used in language education in this project, this section of the booklet will focus on the specific advantages that pedagogical escape games can have for a language class.

1. Immersion, engagement, and motivation

Immersion is an essential characteristic for a successful language learning experience. In recent studies, game-based learning and more specifically escape games have shown to enhance the immersive aspect of learning experiences for the students by providing a context in the form of a story that will make players feel like they need to fulfill a purpose in a narrative. Of course, escape rooms in real-life format will often be the most immersive ones compared to a virtual format for instance. However, all formats can be developed to foster high levels of immersion and engagement as well. Some characteristics of an immersive pedagogical escape game include a clearly established narrative, defined roles and objectives for the players to fulfill, puzzles that are consistent with the scenario and the players' roles, as well as a defined game master role in the game.

“Consistency” would be the keyword to create an immersive experience, as lack thereof could lead players to detach from the game and to over-notice its pedagogical aspects. Storytelling can greatly help in improving the immersive aspect, which is why Nicholson (2016) recommends creators “asking why” at all stages of the game design. Establishing a clear purpose of all elements in the game will make players get a real sense of responsibility and coherence in the narrative.



By providing an immersive learning experience, escape games also help enhance students' participation, engagement, and motivation as they are key to give them a sense of responsibility for the fulfillment of the game's objectives. Of course, there are also several additional criteria for a game to meet to be engaging, such as providing a multisensory approach of the material, meaningful and motivating puzzles, giving players responsibility for the advancement of the story, establishing connections between the different puzzles and including characters of the story in the puzzles.

Engagement and motivation come from the feelings of immersion, responsibility, curiosity, and consistency. Developing the narrative through the resolution of interconnected puzzles will foster a growing curiosity and motivation in the students that will lead to their engagement in the proposed activities, to the fulfillment of the game's objectives, and ultimately to the learning goals.



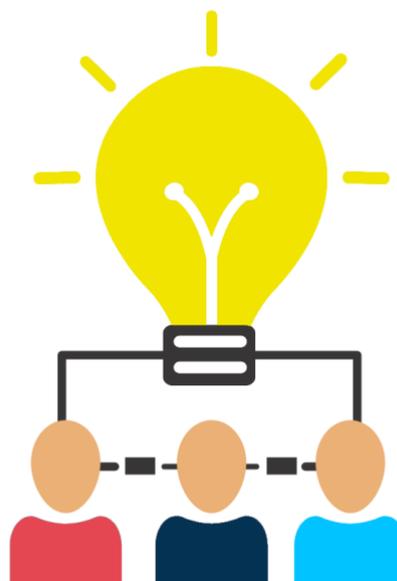


2. Development of soft skills

Soft skills are often additional to the ones included in the curriculum. They are not always defined in the lesson plan but remain essential for the students' preparation to adulthood and professional life. With escape games, the teacher can not only include content from their course, but can also ensure the development of certain soft skills, such as:

- » **Time management:** by giving them several puzzles to solve in a limited time, students will feel time pressure and organize their tasks around within the timeframe.
- » **Communication and collaboration:** all students in a team will not work on the same task at the same time, they will therefore need to collaborate and organize their work together by communicating efficiently during the game.
- » **Critical thinking:** students will develop their analytical and critical thinking skills by extracting relevant information from the clues and using it to solve puzzles.
- » **Problem-solving:** students will need to approach challenges and puzzles in the most efficient way to reach their objectives on time.
- » **Creativity and adaptability:** by entering a narrative, having to play a specific role in a new context, and finding their way through it, students will need to adapt and find creative solutions to the problems encountered.

Throughout the game, the students will learn to allocate the right task to the right team member, which will allow them to show their strengths. The collaborative aspect and the final debriefing of the game can also foster peer-learning and bring the students to a more balanced level of knowledge and skills in the classroom.





3. Innovation and advantages for the teachers

Pedagogical escape games are beneficial for the students but can also bring several advantages for teachers. The first one would of course be the innovative aspect of these games, which could bring the teachers to get out of the routine and find more enjoyment in their lesson preparation.

The possibilities in terms of pedagogical objectives are endless and can be customized by teachers themselves, which allows for a high level of flexibility. The format is also advantageous as its possibilities include virtual games, cards, books, printable material, or more complex physical escape rooms. Some features of these formats can also be combined and all of them are achievable on a low budget.

By including elements of your course in an escape game, you will be able to provide an experience in which students learn and put theory into practice immediately in playful settings, therefore allowing for better integration of the learnt material. Escape games remain adaptable to the different functions you want to give them, whether you decide to use them for revisions or the discovery of new material.



Chapter 2

Teaching English through escape rooms

Language skills: reading / writing

5. Introduction

Reading and writing are two of the four language skills. Reading is an interactive process and a complex activity that involves both perception and thought.

'Reading is fundamental to the development of full second language competence. Reading can provide a wide range of language input unavailable to learners in other ways.'

(Horwitz, 2008)

Writing skills include all the knowledge and abilities related to expressing ideas through the written word. 'Among the four language skills of English, writing is considered the most complex skill for the English Language Learners to acquire because of its complexity in grammatical structure, vocabulary, spelling and pronunciation.' (Rao, 2019)





6. Escape rooms and the role of reading and writing as essential language skills incorporated in the classroom

In Escape rooms (ER) the students are attracted by the idea of playing and pulled forward by curiosity to learn more or win the game, and by being engaged in writing and speaking activities they can improve these skills. Through Escape games, students practice vocabulary, using new words in both spoken and written form. This is not just an enjoyable experience for students, but also very useful for their future implementation of the foreign language.

Nowadays, these games are used as means of practicing skill acquisition. This chapter will focus on reading and writing skills and how Escape games can help develop them. Escape rooms are a relatively modern phenomenon among educators. Usage of Escape rooms and gamification in general in foreign language classes has a great potential. Luckily, there are more and more teachers who are willing to implement gamification in their classes, and in order to attract students' attention with appealing lessons and reward them with improved knowledge and language skills. Escape rooms are a means of using gamification methods in a non-gamified environment such as the classroom, in order to motivate the students' engagement. Escape games are ideal for classrooms, as they can transform them into a 'room' without necessarily using many technological tools, using the benefit of classroom setting. "GBLL can enhance communicative skills and student engagement" (York & William, 2018). By playing these games students are in the position to work on their social skills, communication and cooperation, all by using the above mentioned language skills. (York & William, 2018) Instead of having students play an escape game, it can be more challenging to divide them into groups, where the first group will write scenarios and create the game, while the other group can read the rules, once again improving their reading and writing competences.



According to Rodriguez (2014), gamification in ESL (English as a Second Language) classroom develops a positive attitude among students, which is improved in the field of: cooperation, experiential learning, self-image and motivation, competitiveness as a motivation tool, autonomy and error tolerance.

Educational systems meet a lot of new challenges and requirements and teachers should be the ones to advocate game-based learning of foreign languages through escape room scenarios, brainstorming new ideas, writing scenarios, reading tasks, but also incorporating speaking activities.

According to the recent questionnaire and the study of ER game implementation in one specific classroom, it is shown that the most frequently used language skills are reading and speaking.

MOST FREQUENTLY USED SKILLS IN THE GAME

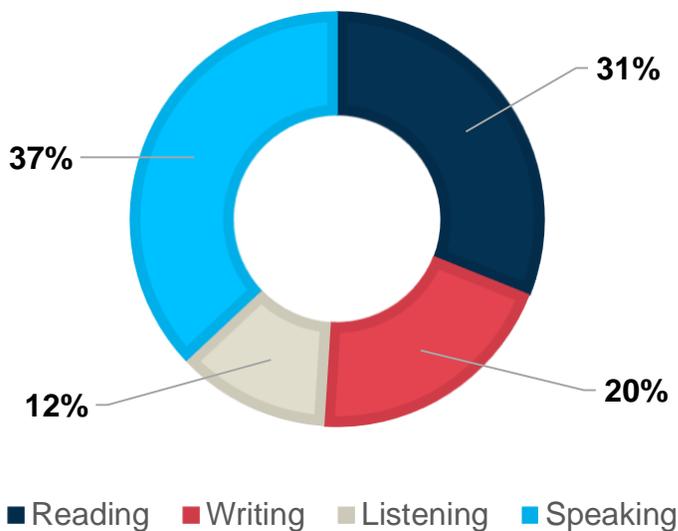


Figure 1. Most frequently used skills in the game (Santamaria, 2019)



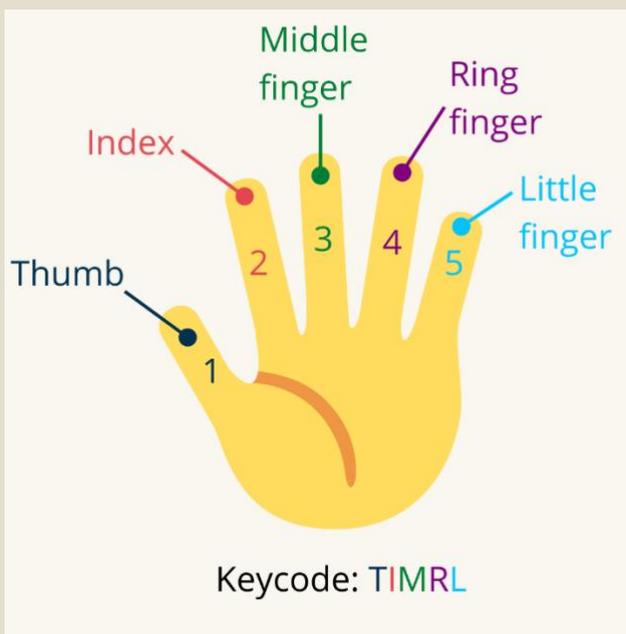
As seen in Figure 1 (Santamaria, 2019), the language skill mostly used in escape games is speaking, probably due to the need for communication among students. Reading comes second, as students have to read all the tasks in order to understand them. Writing, on the other hand, is not the most common language skill practiced in existing escape games.

4. Methods for engaging students with pedagogical escape rooms

If you want to make your students learn, review and practice reading and writing skills in a pedagogical escape room, the best way to do it is to take advantage of the clues. The solution for each clue must be a short word (or series of random letters) or sequence of numbers. These words or numbers will open the locks or solve the enigmas that you have set up, which then leads students to the next puzzles. Here are some examples of how you can do it through various tasks:

- » Provide students a printed copy of a hand with blanks for each finger to be labelled. The key code can be the first letter of each label, in the order the labels are numbered.

Example





- » Filling in blanks is another simple activity that can be used in pedagogical ERs. The teacher can set up questions, and have students fill in the answer to each question in blanks, one blank for each letter.

Example

Which river flows through the Grand Canyon?

C O L O R A D O

In which ocean are the Seychelles?

T H E I N D I A N O C E A N

key code: **LDNC**

- » Multiple Choice questions can be made into key codes as well. Teachers can use them to practice and review both grammar and vocabulary content.

Example

If you set up multiple choice questions and the correct answers are – A, C, D, A, B, you have just created a key code that opens the lock – ACDAB!

- » You can make your students practice writing skills in a pedagogical ER by offering them jumbled sentence worksheets. A key code may be included in the sentence or you can go a step further and ask them to create a key code themselves by giving a correct answer.

The example below is not adapted to students with learning disorders

Example

INVOLVED COUNTRIES MANY FIGHTING EACH OTHER AGAINST WORLD WAR II
THE GLOBE AROUND
BECAME
GLOBAL AFTER THE WAR POLAND A CONFLICT MILITARY GERMAN
THE POLAND INVADED
WAS IT WHEN



At the beginning your students might be confused, but they will soon realize that once they unscramble the sentences and answer the simple question, they will be able to unlock a four-digit lock.

Example's answer

World War II involved many countries around the globe fighting against each other. The War became a global conflict after Germany invaded Poland. When was it? Of course, 1939 will open 'the lock'.

To complete tasks in a pedagogical ER, you can use a set of different reading and writing strategies and techniques. We will mention some of them.

1. **Scanning** is the act of reading rapidly to find a specific piece of information. You can give your students a short text and a key code can be, for instance a number included in the text. Of course, your students will need to use their imagination to come to a conclusion.

2. **Skimming** is the act of fast reading to get the main idea. Having a background story makes things more interesting for students and sets up the purpose of pedagogical escape rooms. Any escape game contains a background story or scenario: teachers can offer the background story as a text to read at home to set students out on an amazing journey even before playing the game. They might be searching for a lost treasure, saving endangered species, or even finding a new planet but the background story will definitely be an excellent reading exercise.

Apart from these two language skills, in the next chapter there will be more information on usage of listening and speaking skills in escape room.



Language Skills: Listening / Speaking

7. Defining the skill: listening

Researchers such as Thomlison (1984) and Hamouda (2013) have defined listening as 'the ability to recognize and understand what others are telling' (as cited in Gilakjani, A.P. and Sabouri, N.B., 2016), including the capability of understanding pronunciation, grammar, vocabulary, the meaning behind the speaker's message, as well as being able to select necessary information and to remember it.

Lundsteen (1979) stated that children develop listening skills before speaking, which indicates that listening is the first skill to appear in the process of learning a language. Furthermore, according to Doff (1995) and Ziane (2011), 'we cannot develop our speaking ability unless we develop our listening skill'. Therefore, activities such as listening to the radio, watching films or even communicating to a native speaker (in both written or oral form) become easier for the learners who have a good listening ability in English.

Hedge (2000) suggested that when people are engaged in communication, '9 percent is spent to writing, 16 percent to reading, 30 percent to speaking, and 45 percent to listening, which shows the significance of listening in the communication process'. As modern society changes, the tendency of moving from printed media towards sound is clearly visible, which indicates that listening has a significant role in foreign language learning and classrooms should be fitted to develop this skill (Hedge, 2000).





8. Defining the skill: speaking

Speaking is the skill that the students will be judged upon most in real life situations' (Brown and Yule 1983).

Therefore, teachers ought to bring students closer to real conversational contexts and develop their ability to speak fluently by using not only correct grammatical points and appropriate vocabulary, but also their knowledge of the target culture. This can be achieved through the use of creative materials such as ER activities, roleplay and scenarios which will improve the students' ability to communicate in English, by understanding the message and reproducing it correctly.

Dewi Sri Kuning (2020) talks about the importance of teaching speaking skills through modern technology and highlights that 'learners often evaluate their success in language learning as well as the effectiveness of their English course on the basis of how much they feel they have improved in their spoken language proficiency'. Even though teachers acknowledge its importance and relevance, teaching speaking in the classroom has been underrated and English language teachers have been using repetition of drills or memorization of dialogues as a method of improving students' speaking. As Dewi Sri Kuning (2020) states, 'the goal of teaching speaking' skills should be to improve students' communication skills and to teach them to 'express themselves and learn how to follow the social and cultural rules appropriate in each communicative circumstance'.



9. Escape rooms and language skills

Out of the four skills of language learning, most students and teachers tend to find listening as possibly one of the most challenging to teach and learn, although listening is one of the fundamental areas that need to be acquired to improve second language learning. This complexity of listening as a language skill does not undermine the fact, as Rost (2001) states, that there is no spoken language without listening. Students, when facing any kind of listening activity, get lost in some way as they feel they do not comprehend the conversation. This causes the confidence of the language student to diminish, and there is a constant request for frequent repetitions of the spoken text among themselves, making the understanding of a foreign language a demanding and, in some cases, stressful situation.

Escape rooms feed on the idea that there is a need coming from teachers and students to find activities that are motivational for both of these entities that share the learning process. Teachers are faced with situations where students have an overwhelming amount of external elements that distract their attention from the learning process, and the use of traditional methodologies of language learning just makes them feel more alienated from their own learning disposition. Therefore, ERs can be used as a tool to gain back the attention of the student by making it possible for them to learn using contemporary tools in teaching.

Following the ideas presented by Slobin (1985) foreign language teachers need to use linguistic materials that attract the student's attention as way of fostering their motivation making the student learn linguistic aspects through interest. In ER activities, the use of authentic material with listening will make the student pay attention and becomes a more productive way of helping with the teaching of listening skills. This helps the learner to cultivate its aptitude to listen and understand the essence of the oral text (Field, 2002)

Here is an example of a listening activity in an ER that sets the narrative of the game, the deactivation of an explosive artifact:



The activity started by presenting the students with an introductory video screened in the computer lab in which one person appears in the middle of a dungeon, in an uncomfortable chair, hands and legs tied. In the video, this person presents himself as “the professor” and explains that he has discovered that some teachers from the electronics department were building a bomb to blow up the whole school and they found out that he was developing a software application to deactivate it.

Lopez-Pernas et al (2019, pp.31727)

Jones’s idea (1996, p.12) that in speaking and listening ‘we tend to get something done, exploring ideas, working out some aspect of the word or simply being together’ is clearly visible in escape rooms. Students have the chance to practice what they have been learning in the classroom with the aim of finishing tasks, exploring the room, finding clues, solving riddles, etc, all of which is done together as a team. Language learning moves from the individual in the classroom to peer learning in the ER.

The ER setting provides the language learner with a sense of ‘talk as interaction’, where students have to speak to their teammates in the foreign language. In a classroom setting they might feel a loss of words when they have to face real-life situations, but the ER environment gives the student the chance to face the language in a more natural and enjoyable way, as they have to practice small talk, turn-taking and even joking. Not only talk as interaction is developed in the activity, but also ‘talk as transaction’, where the main focus is on what is being said and also done. The central focus is being understood clearly and accurately, as this is needed to be able to perform the different activities and finally escape the room. Students have to develop speaking skills such as describing an object or situation, justifying their opinion, agreeing and disagreeing.

An example of the use of speaking interaction in these two ways is the use of riddles, such as one of the steps of obtaining a code for a lock, or as a step of approaching the next activity in the room. In this case, team members need to come up with the answer of a riddle such as: ‘What gets wet by drying?’ (answer: a towel). Different oral aspects are now an active part of the game. Language students face the task of getting the



answer right so turn-taking, agreeing, and disagreeing and small talk are present. Once they think they have found the correct answer, they must communicate with the game master. In the case the answer is wrong the game master might give them a clue, and then the speaking activity starts all over again.

With these types of activities, we promote the usage of speaking and listening outside of the classroom and expanding the use of gamification outside the standard games or apps that students are getting used to. In this chapter, we defend the idea that escape rooms are a useful tool to adapt the listening and speaking activities to a more contemporary approach to teaching. Students are starting to evaluate their success in the learning of a foreign language on the basis of how well they perform in oral skills. Teaching speaking and listening is still undergoing a methodological debate in which educational escape rooms can be implemented as an effective and promising educational activity.

An interesting example found on the promising effects that ER have on the student's second language learning experience and the sense of improvement in speaking and listening is the study carried out by López (2019) on the use of escape rooms and language learning.

Her results portrayed the image of the ER as a valuable resource for learning English (31%), due to the need to use the target language in order to interact between the different teammates and solve the clues presented in the activity. As we have said in this chapter, the students were presented with 'real' activities and they feel that language usage was more real and contextualized, which fomented communicative skills (15%) and therefore raised their level of motivation (29%).

This ER and its results also determined that they had felt more comfortable using English in the escape room than they had in a classroom context. Students participating in the escape game also highlighted that they mainly worked on oral skills such as speaking and listening (67%) above the others (33%).



Chapter 3

Escape rooms in the EU

Since 2007 when the first recreational escape room was created in Japan, around 5000 escape rooms have been designed in about 75 countries throughout the world. Over the last years, educators have been particularly interested in adapting the escape room concept to satisfy the needs of their students in various learning situations in both physical and online learning environments.

Literature suggests that escape rooms have been extensively used as a tool for various pedagogical purposes, to enhance learners' subject-related background, to develop their soft skills, such as teamwork, communication and critical thinking, or even to develop participants' professional capacity. In the first part of the chapter, we will get acquainted with specific escape room scenarios and their context to showcase the way in which escape rooms are used in educational settings in several EU countries. In the second part, specific escape room practices will be presented as good practices related to certain criteria. Hopefully, these escape games will inspire you to implement escape rooms in your own teaching situation!

Let's start our tour and find out about escape room practices throughout Europe!



Escape rooms in the European context

As has been highlighted in the first chapter, the use of escape rooms for educational purposes is growing in popularity worldwide mainly due to the positive effects it brings in learning and teaching environments. It has been suggested that ERs can effectively address both hard and soft skills, while increasing students' knowledge, motivation and attitude change. On the whole, educational escape rooms can provide an enjoyable experience since students are actively engaged in the learning environment.

Additionally, they enhance students' teamwork, creativity, decision-making, leadership, communication, and critical thinking skills. ER activities are found in most European countries. However, some EU countries have developed a deeper interest in the escape room methodology than others. Here are some examples of escape games throughout Europe.

1. Belgium



Let's start our tour with a virtual escape game that you can even play on your own. Are you good at treasure hunting? This is your chance to prove it! The MUMONS Museum (the Museum of the University of Mons) in collaboration with the 'Jeunesses Scientifiques de Belgique' (Young Scientists of Belgium) offer a series of virtual escape games involving all fields of STEAM, '**Mystère à Mons**'.

If you want to find the treasure the secret society of UMONS has hidden, you have to solve a series of puzzles (e.g. chemistry, IT, mathematics, geology, human sciences), gather all the clues and find the place where the treasure is hidden and unlock the padlock. The treasure is all yours!



2. France

Would it be possible to use escape rooms in **chemistry** classrooms? It seems that not only is it possible, but it is also a very effective educational tool as well. It was back in 1775 that the French Academy of Sciences offered a prize of 2400 livres for the development of a process that would enable people of that time to produce soda ash from salt.



What does it have to do with the escape room? In 1780 **Nicolas Leblanc**, a young French scientist, accepted a position of private physician to the household of the Duke of Orleans. There is an escape room scenario that takes participants into Leblanc's office in order to find the secret of his discoveries and solve the game (Dietrich, 2018). By means of scientific puzzles, such as using the periodic table, balancing a reaction, performing simple mole calculations, the students advance in groups and find the 5-letter combination corresponding to the steps of the process before they are able to exit the room.

The game provides a complementary teaching method and helps the students to associate the basic concepts of chemistry with simple access enigmas in an immersive and entertaining environment. The game implementation actually showed that it served as a refreshing tool to increase motivation and team-building, as well as a method of discovering a specific chemist, the basics of chemical engineering and its consequences on pollution.



3. Greece



In Greece, escape room scenarios were developed as an educational tool to increase students' **disaster preparedness** (Kazanidis et al, 2020). The use of active learning activities using escape room concepts proved much more effective compared to lecturing for the achievement of the project's pedagogical purposes. All three educational games ('Disaster Master', 'The emergency suitcase' and 'House of Disasters') use interactive escape rooms for disaster preparedness and response training to affect students' motivation and engagement. The debriefing suggested that such a game-based learning approach achieve the pedagogical goals set in the beginning of the game in the most efficient way.

4. Netherlands

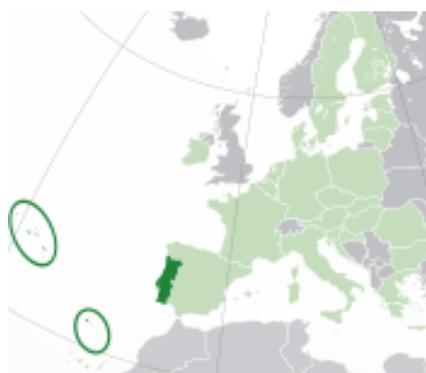
Escape rooms were applied to educational contexts as a way to enhance students' awareness of the effects of **climate change** on people's lives (Ouariachi and Elving, 2020). The majority of climate-change related escape rooms in Europe have been designed in the Netherlands, mainly due to fact that frequent weather extremes have an enormous impact on the country. In the 'Blue Mirror' project, participants are asked to change every factor influencing climate change so that by 2050 they will not suffer from any bad experiences of this kind. Moreover, the '**Watersnood Impact**' escape room challenges students to employ complex policy, planning and implementation strategies in order to react effectively to emergency situations.



Climate-change escape rooms can offer experiential and immersive learning, problem-solving and critical thinking skills, and a sense of collaboration and urgency. The study suggests that escape rooms have to focus on parts of the whole climate-change picture given their limitations in scope and time.



5. Portugal



The School of Education of the Polytechnic of Porto, Portugal, has undertaken the **'Escape 2 Educate'** project and the escape room methodology in the **foreign language classrooms** (Cruz, 2019). In particular, students participate in puzzle tasks in which they have to decipher messages written in English that serve as revision activities in the end of their school year. The escape room activity of this type develops students' 'creactical' skills, that is to say the fostering of critical thinking and creativity within collaborative, social and meaning negotiation contexts, in which language plays a double role, being both the means and the target of learning.

6. Romania

Interesting escape rooms on physics examples can be found in Romania (Vörös and Sárközi, 2017). There is an educational ER focuses on the **physics of fluids**, which is not included in the Romanian high school curriculum. In this case, however, the game does not follow the traditional 'break-out format' (escape the room) but a **'break-in'** instead: the participants have to open a multiple-locked box that the teams have to open by finding the right codes of the locks in order to reach the final goal of the game.



The evaluation phase of the project revealed that students found the activity very useful to get knowledge in a new field through a very engaging and pleasant learning experience.



7. Serbia



Do you think that educational escape rooms can only take place within classrooms? In Serbia, the first educational escape room to be played in a museum was organised by the Museum of Vojvodina. The escape room, called **'Escape from the Museum - The Secret of Immortality'**, constitutes an innovative project conceived by experts in the field of archaeology, pedagogy, conservation and IT. The project asks escape room players to solve interesting puzzles about the nature. The escape room enthusiasts immerse into the wealth of cultural heritage and gain valuable knowledge on the topic in this extra-curricular setting.

8. Spain

Are you wondering how can we combine escape rooms with **algebra**? In this example from Spain (Jiménez et al, 2020), secondary school students review all the algebra contents of their curriculum through their escape room experience. More particularly, students need to solve algebraic questions in order to escape from a horrifying



mansion. The results of the experience showed that the application of the educational escape rooms for learning equations and algebraic functions was highly motivating for the students and enabled them to show the progress they made.

Let's stay in Spain for a little while more. Escape rooms can also address social issues very effectively. The **'Refugee ER'** is used to raise awareness about the social and health challenges faced by vulnerable immigrants as well as to provide an effective intercultural competence and self-efficacy training for the hosting community (Ruben Moreno, Wylie and Serre-Delcor, 2019). This game, created in 2017, consists of two



parts. In the first part, knowledge gaps concerning several aspects of migration and health are addressed, while in the second part the participants have to overcome several bureaucratic challenges at a fictional border control exercise in order to succeed. Refugee escape room constitutes a promising awareness-raising, competency-building gamification tool that can be easily adapted to various immigration contexts.

9. Switzerland



Can escape rooms be used as a teaching tool in the context of **educational robotics**? To this end, a **prototype** of an escape game was developed and tested. The main learning objective was to introduce the players to the **Thymio** robot and to visual programming language (Giang et al, 2020). According to the escape room scenario, the local energy supply had been attacked and the task for the group was to reactivate the main energy source, a battery powered by mobile robots. The recorded results revealed that most participants were very positive about their escape room experience, the educational value of the game and the positive social interdependency it imposed. Also, the participants' motivation to comprehend and solve the given problem situation was such that imposed a less active role on the game master and more autonomy for the players.



Good practices of escape rooms

Anyone interested can find an abundance of escape room cases for inspiration, depending on their own teaching situation. One can even purchase escape rooms from the internet (<https://www.breakoutedu.com/>) or can find free web escape room resources for implementation in their own teaching context (<http://www.school-break.eu/escape-rooms>, <https://scape.enepe.fr/-les-tresors-.html>)

The following good practices in the EU have been identified in the relevant literature and are presented below.

1. Different subject areas and escape rooms

- » **MathEscape** is an escape room with tasks connected to the **mathematical content** of a particular teaching unit. It was conducted for second-grade students of a Croatian Grammar school program and 4th-year students of the Department of Mathematics and Computer Science Education (Glavas and Stascik, 2017).
- » The **Digital escape room** was created on Genial.ly, in Spain (Jiménez et al, 2020) to deal with low interest in **algebra** among secondary level students. The use of different technologies, as well as gamification in the classroom, were recorded to help teachers meet this goal.
- » We can find many applications of escape rooms in **tertiary education**. One of them, **Room Escape at Class**, was conducted in the Engineering School in the Autonomous University of Barcelona, Spain to help students improve their performance on the subjects of Computer Networks and Information and Security (Borrego et al, 2017).



2. Cross-curricular teaching and escape rooms

- » Two examples of escape rooms in this category are thematically related to **Greek mythology**. In the first escape room, called **Save Odysseus**, the students use their knowledge of geography and mathematics as well as their collaboration skills in the school context. The second one was based on the Experience Pyramid Model and was called **Theseus's tour to Crete**. It engaged primary school students in an experience that required them to use their knowledge on history, robotics and programming in an experiential and playful way (Karageorgiou, Mavrommati and Fotaris, 2019).

3. Soft skills and escape rooms

- » What about an escape room in **augmented reality**? Here is an example from Austria. In this game, the players have to save the future from becoming a fake nightmare by preventing the fake news in the present and protecting themselves and others from misinformation (Ouariachi and Elving, 2020). The Escape Fake escape room in Austria is an augmented reality escape room where players advance through the game by interacting in the augmented reality environment to solve puzzles, become better informed and responsible citizens, and learn about current issues like the European Union and the environment.
- » A framework for creating interactive games for higher education learning and soft skills development was developed by Coventry University in England (Clarke et al, 2017). **EscapED** was used for the design and development of interactive experiences in education settings, as well as to provide engaging alternatives for learning and soft skills development amongst higher education staff and students. EscapED provides a hybrid environment within which physical spaces play a crucial role in creating a creative context to learning activities, personified by puzzle-solving, digital means, connecting clues, teamwork and communication.



4. STEM-based skills and escape rooms

- » **CrashEd** is an interactive learning experience using escape rooms' characteristics (Bassford et al, 2016). The players work together, applying **STEM-based** skills and knowledge, to solve a crime and stop a ticking bomb. CrashEd has proven especially useful to improve the learning cycle, empower and motivate pupils identified as detached from education and engage talented STEM students.

5. Special educational needs and escape rooms

- » An escape game was designed for the teaching of **mathematics** and specifically for approaching the concept of length to 3rd grade elementary school students in Greece with **visual impairment** (Arvanitaki and Skoumpourdi, 2019). The game was suitable for supporting mathematical activities and autonomous action even for blind students to supplement primary or even nursery school teaching curriculum.

6. Students designing escape rooms themselves

- » When we think about escape rooms, we come with the pattern of teachers designing escape rooms for their students. Well, there is also the possibility of **students creating escape rooms** for other students, instead of just playing them (Escribano, 2019). Throughout the creation of the escape room, students have to rely on their background knowledge learnt in different subject areas to create the tasks for the escape room. They also have to rely on their group members for exchanging information, thus improving their teamwork and cooperation skills. Moreover, students' creativity, collaboration, problem-solving and critical thinking skills were also put into action.



Conclusion

The practices presented in the chapter show that escape rooms can be very promising educational tools that can be used in a variety of learning situations. The results of research found in literature suggest the positive impact of escape rooms in effective teaching and surely compensate for the amount of time needed for their creation.

However, special attention has to be paid so that ERs exhibit those qualitative features in order to guarantee the best possible teaching results.





Chapter 4

Merging subjects

“The main hope of a nation lies in the proper education of its youth”.

Erasmus

Introduction – the interdisciplinary and multidisciplinary teaching approaches

Teaching is an art, and it can only be done majestically by those who are passionate about their subject and about the greater aim of their job: education. To achieve success, one must metamorphose, and it is widely known that teachers are the best at doing it. They must adapt to the new contents of the subjects they teach, to the new curricula, to each student's needs and to new ways of teaching, just to mention a few. As a response to all that, what used to be known as cross-curricular teaching, has now become the new and improved merged subjects teaching, which is a fresh approach that is revitalizing teaching and learning as well. They keep marching for students to work in pairs or in teams, this being a great way to prepare them for real-life situations, but isn't it time teachers gave it a try?

Interdisciplinary or multidisciplinary teaching is a method, or set of methods, used to teach across curricular disciplines or "the bringing together of separate disciplines around common themes, issues, or problems." Interdisciplinary instruction is often associated with or is a component of several other instructional approaches. For example, in a review of literature on the subject published in 1994, Kathy Lake identified seven elements common to integrated curriculum models: a combination of subjects; an emphasis on projects; the use of a wide variety of source material, not just textbooks; highlighting relationships among concepts; thematic units; flexible schedules;



and flexible student grouping. It is extremely powerful, as it can cross the boundaries of a discipline or curriculum with the aim of boosting the scope and depth of learning. Each discipline will shed light on a particular topic like the facets of a gem.

The advantages of adopting the interdisciplinary approach.

Real life itself is a complex interwoven pattern of disciplines. Traditional teaching methods have separated these disciplines and have given the curricula a neat and clear structure, but with little resemblance to what students will encounter once they begin their adult life. Therefore, merging subjects will take education to another level as real-world challenges are so problematic that they cannot be described or resolved through one specific discipline.

The benefits of implementing the interdisciplinary approach focus mainly on the student, who is the prime beneficiary of the teaching process.

First, if we merge disciplines, we will **increase students' motivation**. There are several types of learners and through this approach we can cater to most of them simultaneously. For example, if geometry and language learning are combined, this will respond to the visual learner and the verbal one at the same time. What is more, students will be encouraged to acquire knowledge through meaningful experiences that will resemble real-life situations when one theory cannot be proven by only one field of expertise.

Another gain is that merged disciplines will **boost students' creativity**, as they will learn how to use diverse subjects to discover or explain knowledge. They will be able to **make connections** as they will consider varied perspectives across different subjects. Also, it will enhance students' **critical thinking** and it will prepare them for real-life



debate situations, giving them the skills that they might need to support their opinions using various points of view.

For educators, interdisciplinary teaching is rewarding, and it can be done with minimum cost. It is true that it can be time-consuming, but the results will outweigh the efforts. What is more, once teachers get the taste of it, they will see that it is a way of continuous self-improvement as they will acquire cross curricular knowledge that will be useful in real-life situations.

The interdisciplinary teaching approach in escape room

Escape room or breakout games are ideal for unforgettable lessons because they are fun activities that require logical thinking, teamwork, and subject knowledge. There are endless possibilities when conceiving an escape game. Escape games can have different difficulty levels, but the ones that are truly challenging are generally those that will cover a variety of subjects. So, instead of creating an escape game on a particular subject, you can merge multiple subjects and come up with an activity that will cater to all the team members in terms of skills and knowledge. This way, the brain – teasing exploration will give teachers of different disciplines the opportunity to collaborate, create and design tricky enigmas for the players to solve to keep them motivated until the end of the activity. Merging subjects in a breakout game is also more engaging for the students than solving mysteries about the same subject. So, instead of looking at one issue from only one point of view, the students will be given the opportunity to discover, connect and deduct by using their knowledge about different subjects in one activity.

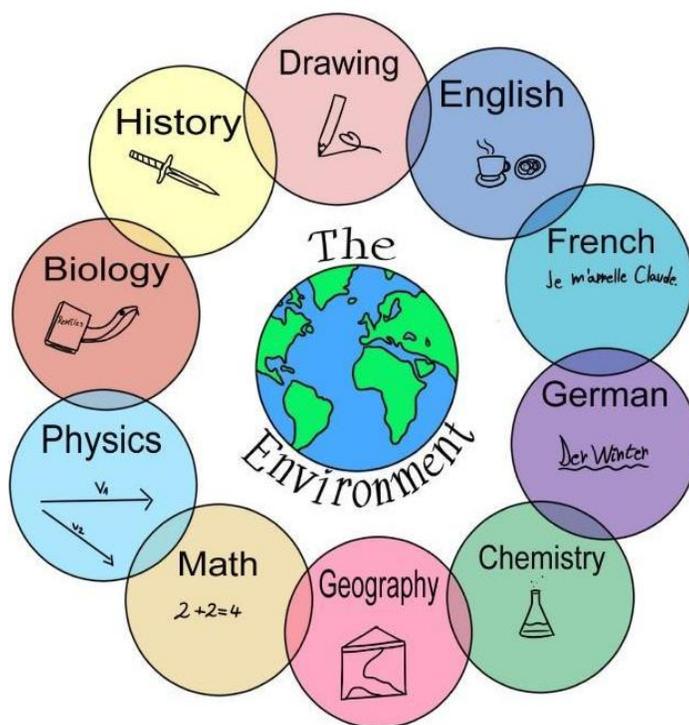
When looking at ER from an interdisciplinary point of view, it is necessary to adapt the content to the students' skills and knowledge. What might seem easy for teachers could



be too challenging for students and it is always advisable that several teachers play the role of game masters.

Putting theory into practice – an example of an escape room activity combining Subjects.

Planning an escape room activity is a complex task, as it involves deciding on a topic, a storyline, adapting the content to the number of students, deciding on a linear or a non-linear setup, on what the key concepts will be and on the type of puzzle or enigmas. To ensure the success of this type of activity, it is advisable to playtest it with a family member or a small group of students.





The following table illustrates the planning for an escape room activity in which we have included enigmas based on different school subjects on a common topic, The Environment.

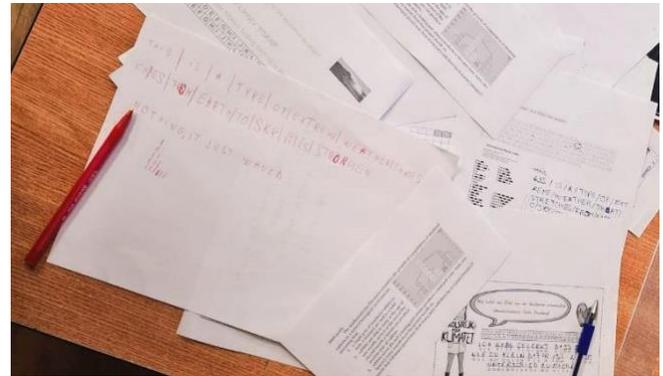
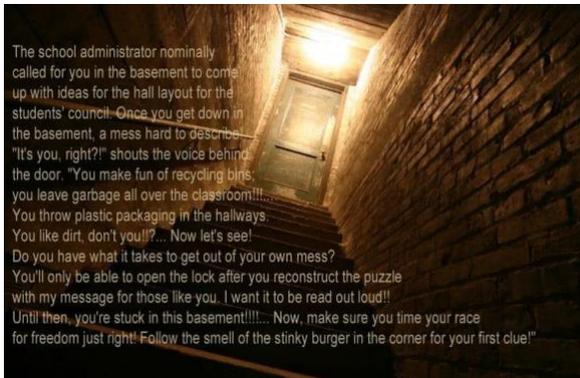
Subject	Enigma	Resources
English	Cryptogram	Printout of the cryptogram
French	Images decoder	Printout of the images and the instructions
German	Cryptogram	Printout of the cryptogram
Chemistry	Cipher	Printout of the cypher and the instructions
Geography	Morse code decoding	Printout of the enigma and of the instructions
Math	Math problem / riddle	Printout of the riddle
Physics	Physics problem / riddle	Printout of the riddle
Biology	Crosswords	Printout of the crosswords and the instructions
History	Crosswords	Printout of the crosswords and the instructions
Drawing	Cipher	Printout of the cipher

The game was played by 2 teams consisting of 3 members, aged 14-15, who major in humanistic studies and in the English language. The English teacher was the Game Master. The setup is non-linear and once the students found the solution to an enigma, they got pieces of a puzzle. The locks are imaginary. The pieces of the puzzle are in



envelopes and the students have to write the solution on the envelope to get permission to open it.

The first photo illustrates the actual story the pupils received at the beginning of the activity. The second photo illustrates the materials the pupils worked on to solve the enigmas.



This escape game is physical, and the materials required are printouts of the enigmas, a whiteboard, a speaker to complete the atmosphere and smartphones connected to the Internet. The aim of the game is to collect all the pieces of the puzzle and the team that manages to write the message of the jigsaw puzzle on the board first is the winner, but they must do it within the time limit, one hour. The storyline is not too complicated, and it is relevant to the topic. The students found the activity extremely entertaining. Not knowing what subject would come next contributed to the enthusiasm. The teams were absorbed by the story and the competition was unexpectedly grand.



Chapter 5

Special Educational Needs and escape rooms

What are Specific Learning Disorders

Students with special educational needs (SEN) are students who encounter additional difficulties in their learning process and need specific adaptations to the learning content, format, and environment.

This project will mainly target the needs of students with specific learning disorders (SLDs), also often referred to as “Dys” disorders or differences which also include developmental disorders such as Dyspraxia and Dysphasia. The European Dyslexia Association estimates that between 9 and 12 percent of the European population has at least one learning disorder, which can overlap each other and co-occur with other developmental disorders such as ADHD.

Their cause is neurobiological and affects the way the brain processes information. They do not come from physical impairment, motor disability nor mental retardation. Some genetic and environmental factors can increase the likelihood of their occurrence. The consequences of these disorders can involve a change in the cognitive development as well as in the way the students receive, integrate, retain, and express information. Specific learning disorders are permanent and can manifest themselves differently in each individual. Professional monitoring is necessary to develop strategies to overcome these difficulties and know what adaptations are needed for each specific case.



Challenges and solutions to use escape rooms for students with SLDs

Students with SLDs need different adaptations according to the difficulties they encounter.

Here is a list of the most common Dys disorders and the challenges they face:

THE CHALLENGES OF DYS DISORDERS

	DYSLEXIA <ul style="list-style-type: none">• Reading• Language-processing• Memorization• Spelling		DYSGRAPHIA <ul style="list-style-type: none">• Fine motor skills• Handwriting• Spatial planning on paper
	DYSPRAXIA <ul style="list-style-type: none">• Fine motor skills• Coordination• Movement• Speech		DYSCALCULIA <ul style="list-style-type: none">• Counting• Math operations• Number (de)composition• Memorization
	DYSORTHOGRAPHIA <ul style="list-style-type: none">• Writing• Spelling• Memorization		DYSPHASIA <ul style="list-style-type: none">• Spoken language comprehension• Oral production



Some of these difficulties have a considerable impact on language learning and on some common game mechanics used in escape rooms, therefore it is important to highlight some challenges and the adaptations needed to overcome them in creating an inclusive escape game for people with SLDs. We would not advise to avoid written clues or locks altogether, but rather to make slight changes that will allow all students to participate equally in the experience.

1. Reading Difficulties:

There are several possibilities for the adaptation of written content for students with reading difficulties. We recommend using a sans serif font such as Arial or Open Sans, in size 12 for normal text and 14 for titles, with a space lining of 1.5 and the whole text aligned to the left. These adaptations allow for a clear separation of letters, words, sentences, and lines that will facilitate the reading process.

As this experience is meant to be a game, do not provide clues with long texts to read, which might discourage students with SLDs and cause a drop in motivation and excitement for others as well.

The use of letters, symbols and numerical codes is very common in escape games but try to remember that they might cause difficulties to some students. We advise you to keep the codes to decipher short and to provide supporting material to the students such as a cipher disk or grid.



2. Listening and Speaking Difficulties:

For students experiencing difficulties with listening comprehension, provide short audio extracts or videos of the best possible quality, avoiding background noise and music. If you decide to use sound to create an atmosphere during the game, make sure it is not too loud or invasive so students can communicate properly. For students who have difficulties in expressing themselves, provide a pressure-free environment for the speaking tasks. If you use a voice-recognition device, make sure it is of good quality and ask the student if they feel comfortable using it, or if they prefer to speak to you instead.

3. Memorization and Organization Difficulties:

As escape games require a lot of organization and memorization, students who have difficulties in such tasks could quickly lose interest in the game. In order to ensure a smooth experience for all, start the game by clearly explaining its goal and rules and provide reminders throughout the experience. Make small teams of students to make sure they all participate and communicate efficiently.

In most escape games, each clue or tool is used only once, or for one enigma. Therefore, one of the secrets to escape games is to gather the different elements and puzzles found during the game, and to sort them in one “to solve” and one “solved” piles in dedicated areas. Therefore, you could actually set up such areas with tape, and clearly brief the players about this. With younger students, you could even offer to assign one “clue manager” among the players, to make sure someone supervises what has already been used and what has not.

Regarding the content of the clues and puzzles, try to break them down into manageable steps or pieces of information. This will allow for a better integration of the guidelines and will help students to better remember what they have read or heard. For instance, you could provide the players with a simple logbook or track sheet in which they can write the solutions to the enigmas as they go. This way, they will be able to



remember what they found previously, even when they feel the pressure of the last minutes of the game.

The use of multisensory methods can also help students in retaining the information and will provide a more diversified experience for them to enjoy.

4. Fine Motor Difficulties:

Students with fine motor difficulties might need adaptations for writing tasks. These adaptations could for instance involve the use of a specific keyboard or adapted pen.

These adaptations should be discussed with the student(s) and their parents.

In terms of space management, we recommend using a large space allowing for a wide circulation flow in the room where the game is played.

The use of locks, puzzles, or small manipulative objects is very common in escape games. However, students with fine motor difficulties might struggle with their manipulation. In general, we advise to use material that is easy to manipulate, such as key locks. If you decide to use word locks, cryptexes or numerical locks, make sure that they are big enough as to ease their use. Directional locks are not advised as they can add a left-right differentiation challenge for pupils with SLDs.

5. Mathematical difficulties:

For tasks involving numerical codes or number locks, make sure that the numbers are big and visible enough to facilitate their recognition. As this project focuses on language learning, we would not advise using any tasks involving math operations.



Pedagogical advantages of using escape rooms for students with SLDs

As escape games allow for a diversified, multisensory, and adaptable experience, they can prove highly effective with Dys students. The learning process of these students can often be strenuous. Using a game for them to discover a new chapter of the course or to reinforce their language skills is therefore a good strategy to get them excited, motivated, and engaged in their learning process.

In addition, being able to see, hear, and touch the clues of the game and move through a gamified learning environment can increase their ability to memorize the information. If they are well adapted, escape games can allow Dys students to show their strengths in collaborative settings and to develop their skills just like any other student, therefore also increasing their self-esteem.

The environment of escape games also fosters collaboration between students in each team through peer learning, therefore helping in balancing the level of all students in the classroom.



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