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Creating Engaging Escape Games for the Classroom

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As students file in, they are surprised to see their classroom transformed. Desks have been arranged into circles, and in the middle of each circle is a box with multiple locks. On top of each box is a folder that says "Classified." The room is dark, and at the bell, a video begins to play informing the students that they have been selected to use what they have learned over this semester to help solve a case before the suspect's flight out of the country leaves in thirty minutes. The evidence file has been provided, and the recovery team has found a locked box. They do not know if it is safe to open, however, so the challenge is to open the box safely and decide if the suspect needs to be detained for further questioning.

The clock starts ticking down from 30:00 and the student groups devour their Classified files. Soon they find themselves using what they have learned during this history class to follow the trail of evidence of the suspect, some of which is true and some of which is false. They begin to suspect something is going on when they find a hidden message from the suspect with a note of innocence asking for help, and imploring someone with a kind heart to follow the trail of falsehoods to open the box. Each puzzle uncovers a series of facts, one of which is not true, and as the students discover the lies, they are able to open the box. Inside, they find... well, that would be spoiling the ending, now wouldn't it?

Escape rooms are "live-action team-based games where players discover clues, solve puzzles, and accomplish tasks in one or more rooms in order to accomplish a specific goal (usually escaping from the room) in a limited amount of time" (Nicholson, 2015). These rooms have been growing in popularity around the world, with the first one in North America opening up in 2013 and over 1800 escape room facilities across North America midway through 2017 (Spira, 2017). One of the reasons for their popularity is that they are cooperative challenges that take place in the physical world, which gets players out from behind their screens and working with each other directly. Escape Rooms are one type of Escape Games, which are narrative-based challenges that use puzzles, tasks, and a time limit, but may be table-based paper puzzles (such as a Puzzle Hunt) or working to get a locked box open (such as Breakout Boxes). Escape Games are a type of Live-Action Games, which are games where the player and the in-game avatar the player controls are the same thing. Rather than controlling something on a board or screen, in Live-Action Games, the player is directly in the game and engages directly with the game world.

Why use Escape Games in a Classroom?

Live-action games, such as escape games and simulations, are ideal for in-person classrooms, as

they can be developed to require little technology and can take advantage of the shared physical space in which classrooms are set. Unlike screen-based games, live-action games bring the players in face-to-face contact with each other and immerses them directly into the game world, which is the physical world the players inhabit.

Escape games are cooperative games, so the players work together to win or lose as a team. Having a shared environment in which players are working together on a game designed around specific learning outcomes sets the groundwork for active learning and social constructivism. The team of players takes the prompts and artifacts and brings them to life by engaging with them and with each other to explore a narrative-driven challenge.

Another reason that the escape games work well for classrooms is the time limit. Recreational escape rooms give the players around an hour to complete the challenge. Escape games for the classroom can be built around a timer that allows for the essential reflection after the challenge is complete. Adding a timer creates an urgency that drives student teams to engage with the content in a way that a traditional activity structure may not.

Finally, escape games are based on solving puzzles and accomplishing tasks. Unlike many screen-based games that are based around hand-eye coordination or board games that are based on strategy and luck, escape games are built around using the mind to solve challenges. They are a natural match to the learning environment of the classroom and the types of activities that students already do, and can result in more engaging educational games than shooting asteroids that match the answer to a math problem or answering trivia questions from cards.

Educators have already taken advantage of escape games for classroom use. However, as this is a relatively new phenomenon, we are in the early days of exploring how escape games fit in the classroom. The remainder of this article explores three different ways in which educators use escape games.

Breakout EDU (<http://breakoutedu.com>)

Launched in 2015, Breakout EDU is a platform to help educators create puzzle-based boxes for their classrooms. Founded by James Sanders and Andrew Bellow to enable teachers to create engaging in-class activities, the concept of Breakout EDU is that the students solve a series of puzzles and challenges that allow them to open a series of locks and open a box. When asked what inspired him, Sanders explains that “Breakout EDU was inspired by a trip a group of educators and I took to a local escape room. Upon being locked in the room, we were blown away by how engaged the students were in problem solving and how they persevered through setbacks. These are characteristics we're constantly looking to cultivate in our learners.”

The Breakout EDU website hosts hundreds of games developed by teachers for specific learning outcomes, so that once a teacher has the Breakout EDU kit, he or she can print out game content, combine it with the lockable boxes, letter locks, combination locks, black light, and other supplies in the kit to have a game ready for the classroom. There are two prevailing

models for the use of these breakout boxes. The first is to have one kit for each small group of students with identical contents, and the students work with a team to solve the challenges and open the box. While this is ideal, this can also be expensive, as the hardware for the boxes costs about \$100 USD each. Another model is to use a single box at the front of the classroom, and require groups to write down the code they wish to try in a lock on a ticket, and then queue up to try their code on a lock. While not as immersive as having one box per group, this model can serve an entire classroom with just one breakout box.

In order to become familiar with the kit, I created [Ballot Box Bumble](http://breakoutedu.com) for Breakout EDU (available for free after registration at <http://breakoutedu.com>). In this game, designed to help players learn about concepts of Canadian federal election and election fraud, players are trying to get a ballot box open before Elections Canada calls for preliminary results. As they explore the back office of the manager for help, they learn that the manager of the polls was involved with different forms of election fraud, and end up in a moral situation. While the box began as the focus of the game, by the end the players find themselves with a very different focus. It is this narrative-driven approach that I encourage others to consider in order to elevate locks and a breakout box from being simply a way to check answers to a platform for immersive narrative.

The cooperative team-based aspect of escape games is a key aspect of what makes Breakout EDU a powerful tool for the classroom. “In the coming years, I see tools like Breakout EDU playing a greater role in the teaching and learning process” explains Sanders. “When we look at the skills required to succeed professionally in the near future, the ability to work collaboratively with a diverse group of peers to solve complex problems, like those presented in a Breakout EDU game, will become more and more important.”

Education Immersion Center (<http://toddlich.wixsite.com/ciceic/eic-simulator>)

On the other end of the spectrum from bringing a box into the classroom is the Education Immersion Center, created by Todd Lichtenwalter, a teacher at the Colegio Internacional de Carabobo, a private school in Valencia, Venezuela, that uses an American curriculum. Lichtenwalter has created a series of science-fiction scenarios that his learners use to explore a variety of topics over a three-day immersive experience. Students develop characters and costumes as they become a part of an ongoing narrative, using real-world content from areas such as computer programming, biology, engineering, mathematics, writing, and video editing as they respond to Todd’s adventures.



Figure 1: The Education Immersion Center from <http://dreamflightadventures.com/wp-content/uploads/2015/06/Artemis-Charger.jpg>

Todd uses a variety of game and simulation platforms for these adventures. Students use Minecraft to explore planets, play tabletop games to discover resources, and use a flight simulator to explore the galaxy. But these adventures are not just in the future – the Lusitania scenario has players traveling back to 1915 to explore World War I, 20,000 Leagues Under the Sea, and refugee crises (Colegio Internacional de Carabobo Education Immersion Center, 2017).

The Education Immersion Center model shows that narrative-based live-action games don't just need to revolve around unlocking locks on a box, even though Breakout EDU is part of his toolkit. Videos from these inspirational adventures can be seen at <http://dreamflightadventures.com/about-dream-flight-adventures/videos/>

While the Education Immersion Center is impressive, a teacher wanting to incorporate these concepts can do so in his or her classroom by using an ongoing narrative and a variety of challenges. Live-action games can take many forms; by allowing students to develop characters in an ongoing world where their actions have impact on an ongoing narrative empowers them to be more engaged than if the games are over in an hour. Encouraging the students to keep journals and help write the narrative from their character's perspective builds empathy and helps them understand that history has many perspectives.

Escape Game Design Challenge

Rather than have students play an escape game, it can be more engaging to have them create the game. This holds true for all sorts of educational games; game creation combines both the excitement of playing games with the challenge of understanding course content deeply enough to create challenges about it. Students can be given the challenge of creating an

escape game around course content, and then can watch as their fellow students work through the challenges.

The Georgetown County Library System in South Carolina has regularly hosted escape room workshops for both patrons and other librarians since 2016. Donald Dennis, Teen Services Librarian at the Waccamaw Neck Branch Library in Pawleys Island, South Carolina, ran an Escape Room Camp where patrons assisted library staff developing a game based on local history. This historic escape room helped players learn a local legend about the Gray Man Ghost, a man who raced against a hurricane to be with his fiancée but died on his way to the Island. Over one week, participants first explored escape room-inspired board games, and then worked with staff as they developed puzzles for the Breakout EDU platform. Dennis explains that “the key to success and usefulness in either creating escape experiences, or helping patrons to create their own, is to draw on patron interests, allow them to express their creativity, and facilitate the logical progression from one challenge to the next.”



Figure 2: Puzzle for historical escape game from Escape Room Camp (source: Donald Dennis)

These challenges can be used to explore class concepts or local history or could be done in partnership with a local cultural heritage organization. The history of an area is built on stories, and creating an escape game around history requires that the players understand the people, places and activities that created history. Another route to getting students engaged is that students could be enticed by learning that the best game will be played by students in next year’s class, so the stories they create will be enjoyed by others. The top games could be demonstrated at local school fairs or other events. If the game is good enough, the organization

may even choose to continue running the game on their own; this happened with a [game that I created with some of my students in 2015 for Fort Stanwix](#), a national park in upstate New York, that is [still being run in 2017](#). By connecting course content to local cultural heritage organization through game design, these projects can plant seeds for ongoing relationships between the school and the organization.

Avoiding the Superficial in Educational Game Design

A danger in using the trappings of escape games, such as boxes with combination locks, is that designers can focus too heavily on “unlocking boxes” as the primary goal instead of exploring a narrative. Locks are a way of mechanically checking a student’s work, and many of the educational escape games I have seen scripts for simply take the same worksheets and problem sets the students are already doing and substitute a lock for someone marking the assignment. Entering the numerical answer to a math problem to open a lock is a superficial use of these concepts, and while this might excite students the first few times they see it, it will end up being less powerful to game-savvy students.

We have seen this phenomenon of the superficial use of games in learning before. Many “educational” board games apply a “roll and move” mechanic to flash cards to create something that is not much better than traditional classroom activities. This holds true for digital educational games, where a simple mechanic taking from video games, like shooting, driving, or navigating through a maze, has simple trivia questions added in. These games simply aren’t going to make a difference in the minds of the players any more than using a lock to check the answer of a worksheet.

Conclusion: Make the Players Matter

The aspect that all of the examples presented here have in common is participatory storytelling. The players are involved in the story, and the puzzles, challenges, and locks are elements to help tell the story. Because live-action games engage the player directly with the game, they provide an opportunity to engage the player in the story behind the game. These games can have elements where the players have to make a choice with implications, and by doing so, create moments where the player is involved in affecting the storytelling experience. Making the players matter is a key design concept behind creating an engaging escape game.

By connecting the learning activities into the story in a meaningful way, these escape games can create memorable learning experiences that can’t be replicated by standard classroom activities. I’ve created a model called [Ask Why](#) for the escape room industry that educational escape game designers may find valuable in developing a narrative, using challenges to convey the narrative, and creating the opportunity for the players to engage with the narrative (Nicholson, 2016). By creating a game that is about the player experience and the story first, and uses challenges and locks to convey the narrative, escape games can inspire learners to want to know more, to help them reflect upon how the learning connects to their own lives, and can help them develop their intrinsic motivation to learn and explore more instead of just responding to the extrinsic motivation of grades.

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