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English Escape! Using breakout games in the intermediate to advanced EFL classroom

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Key points

- **Background:** Breakout games can provide opportunities for cooperation and collaboration in the target language.
- **Aim:** The aim of this paper is to identify factors we need to consider when designing breakout games for the EFL classroom.
- **Methods:** We developed and playtested four EFL breakout games, and reflect on the lessons learned.
- **Results:** Breakout games provide opportunities for cooperation and collaboration. Key challenges in designing breakout games are: balancing difficulty, encouraging target language use, and dealing with attempts at 'game hacking.'
- **Conclusion:** We make some practical suggestions on how to support cooperation and collaboration, balance game difficulty, encourage target language use, and reduce 'hacking' the game.

Tweet synopsis

Breakout games rock — not as a poorly gamified collection of worksheets, but as opportunities to cooperate and collaborate in the target language, to engage in metalinguistic discussions, and to identify one's own strengths and weaknesses. #edubreakout #llp

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1 Background

1.1 The “English Escape” seminar

This paper is co-authored by a group of university students and their lecturer. It is based on a university seminar, in which these students developed and tested breakout games as part of a teacher training program in TEFL.

One key aim of the “English Escape” seminar was to create breakout games (see section 1.2.1) for the EFL classroom that supported intermediate and advanced players in developing their language skills in a playful, enjoyable way — breakout games that are inviting to many different players with different player types (Bartle, 2003, pp. 130-148), different proficiency levels, and different talents. At the same time, as this was a university TEFL seminar, we also attempted to teach/learn more about teaching English as a foreign language in general. We did this by studying theory, experiencing breakout games and escape rooms as players, designing our own breakout games, playtesting them, and reflecting on our experiences.

Each game (see Section 2 and the Appendix: Section 7) was developed in a small group, playtested with fellow students, and finally playtested with the target group (secondary school learners). This second round of playtesting was conducted in a range of settings (see Section 3). During playtesting, the game designers functioned as game masters and/or observers of gameplay. As game masters, their role was to facilitate gameplay, e.g. by setting up the game material, introducing the breakout games, ensuring adherence to rules on the side of the players, and modifying difficulty. They observed gameplay in order to better understand the strengths and weaknesses of their game design, and, in some instances, collected additional feedback from the players. This paper is about the ‘lessons learned’ derived from this process.

1.2 Theoretical background

1.2.1 Escape games: Breakout games and escape rooms

Escape games — either in the form of tabletop **breakout games** or of live-action-style **escape rooms** — have become very popular. But what exactly are they? An escape game consists of multiple puzzles which must be solved in order to win the game. In the case of escape rooms, the clues to these puzzles (paintings, odd objects, UV light sensitive writing on the wall, etc.), as well as different locks, doors or safes to open, are distributed in one or more physical or, more rarely, virtual reality, rooms. In the case of breakout games, they consist of smaller items, such as envelopes, booklets, or jigsaw puzzles, as well as physical and/or virtual locks that need to be opened. Both types of games usually involve time limits.

Escape games generally have a story surrounding the game, to which the players are introduced to from the beginning. This story can merely contribute to creating the game’s atmosphere but it can also be essential for solving the puzzles. Either way, it is an important part of the game. The stories chosen often revolve around escaping a place (e.g. a prison), hence the name “escape game.” Many other storylines are possible, though (Nicholson, 2015, pp.13-16).

In commercial escape rooms, many different objects can be part of the puzzles (Nicholson, 2015, pp. 19-20). In print-based breakout games, these objects can simply be depicted (e.g. pictures of a room), and/or puzzles can be paper-focused in the sense of using the specific affordances of the material ‘paper’ (e.g. pages that need to be folded according to instructions to yield a form that gives away the needed code, or a booklet page into which you cut a specific pattern of holes to find the code based on the text in the page below, visible through the holes; for additional examples, also see Feneart, Nadam & Petit, 2019). Both commercial and educational breakout games can include small objects, QR codes, links to websites or social media accounts, voice recordings (on a voice recorder, or playing when a specific phone number is rung), documents or videos on USB sticks and many more (see Figure 1 and 2 for examples of breakout game materials, based on two of the breakout games

discussed in this article). The structure of the game is often stacked, which means the players have to solve several puzzles in a more or less complex order, one after another, as each solved puzzle gives the players access to a new puzzle, or parts of new puzzles to solve (cf. Nicholson, 2015, pp. 16-18).

Figure 1: Photo of New York City breakout game material (after gameplay)

Escape games are fun and engaging, and are offered commercially as entertainment products and services. At the same time, they foster social skills, and escape rooms are therefore often used in business contexts, e.g. for teambuilding. In fact, Nicholson (2015) reports that 19% of escape room clients are corporate clients. The ability of escape games to foster social skills is, naturally, also of interest for educational uses (p. 7).

There is, at this moment, very limited research on breakout games for language learning. The systematic survey by Fotaris & Mastoras (2019) does not include any breakout games with a focus on the Modern Foreign Languages. Paulsen's (2017) Master's Thesis provides first glimpses into TEFL breakout games in an upper-secondary EFL classroom in Norway, which will be discussed with a focus on cooperation and collaboration below.

Figure 2: Photo of selection of *Saving Netplix* breakout game material

> There is, at this moment, very limited research on breakout games for language learning.

In the project reported here, all university students engaging in the development of breakout games had experience with commercially produced breakout games and escape rooms. Some of us very much enjoy these and play them regularly, others experienced them for the first time within this course. In designing these breakout games, we drew on those experiences, as well as on experiences with puzzle and riddle games.

1.3 Communicative Language Teaching and TBLT

To make breakout games relevant for language learning contexts, we drew on TBLT and Communicative Language Teaching. Communicative Language Teaching was coined in the 1970s. In contrast to former methods, this language teaching method focuses heavily on promoting communicative competence through interaction (Niemeier, 2017). Task-Based Language Teaching evolved out of Communicative Language Teaching. It is centered around tasks as classroom activities. Various definitions for tasks have been suggested. Nunan (1992) defines them as ”a piece of classroom work which involves learners comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than on form” (p. 10), while Ellis (2003, p. 12) describes tasks as having a clearly defined communicative outcome, the freedom of learners to rely on their own (linguistic and non-linguistic) resources for achieving this outcome, a primary focus on meaning, and “gaps” that can only be closed if learners focus on the semantic and pragmatic meaning of spoken and written texts. Prabhu (1987) further deepens this definition by identifying three gaps a task can have: the information gap, the reasoning gap and the opinion gap. Within a Task-Based Language Teaching classroom, these tasks can be embedded in a Framework often called a “task cycle.” This model was developed by Willis (2005) and consists of a

pre-task, the task cycle itself (combining task, planning and report) and a 'post-task' called "language focus."

Breakout games and tasks share some common features. The focus of gameplay is on winning the game, not on the language used to achieve this goal. Learners are required to communicate in order to solve the game since it is created to rely on cooperation and can hardly be solved individually. While playing a breakout game, learners interact in the target language and use the target language (comprehending written and spoken texts, form-focused work with language) to solve puzzles. During this, some form-focus can occur (e.g. when learners need to form the gerund to solve a particular puzzle), but the main focus is on using language to exchange ideas and discuss options. Within the game, multiple gaps exist, e.g. when opinions on how to proceed need to be exchanged in order to arrive at a decision, or information from different puzzle elements held by different learners needs to be combined. The outcome of the activity, winning or losing the game, is clearly defined.

Though we drew on TBLT and Communicative Language Teaching, we did not take a strict TBLT perspective (e.g. following Willis's "task cycle" framework). Instead, we aimed at creating a setting inspired by TBLT and CLT, in which learners depend on communication and collaboration - including communication and collaboration using the target language.

1.4 Cooperation and collaboration

The terms cooperation and collaboration are often used interchangeably. In the 20th century, the main differentiation in teaching and learning styles was that between cooperation, individual learning and competitive learning. In recent years, however, educational scholars have tended to make a distinction between cooperation and collaboration. Cooperation is defined as "working together to accomplish shared goals" (Johnson & Johnson, 1999, p. 5); hence tasks can still be accomplished individually as long as they benefit the group. Collaboration also means working together on shared goals. Unlike cooperation, though, it requires mutual engagement in a group rather than a mere distribution of tasks (Kozar, 2010, p. 16). Both cooperation and collaboration are skills that need to be practiced and developed. Of these two, collaboration is often considered to be more difficult. As a consequence of this, cooperation is said to be more apt for younger age groups whereas collaboration is the preferred option for older and thus usually more mature and independent learners (cf. Loes & Pascarella, 2014, p. 727). Research and empirical studies about collaborative language learning thus far have shown that cooperation and collaboration significantly benefit all learners, regardless of age and socio-economic background. It can facilitate communicative competencies and productivity (cf. Lucking & Manning, 1991, p.153). Additionally, it increases the learners' confidence as each of them individually feels they are an asset to the group, and knows that their efforts matter. If they are carried out correctly (i.e. if the necessities for positive interdependence, face-to-face interaction, individual accountability, and social skills are met, cf. Johnson et al.,1994, pp. 5-6), a collaborative mode of learning increases motivation and cognitive processes (cf. Castle, 2014, p. 12). Collaborative tasks (Nunan uses a definition that combines aspects of cooperation and collaboration) enable and encourage contextual language use (Nunan, 1992, p.11), which is especially favourable in the EFL classroom. Decades of research have come to show that there is a positive interdependency of the different factors – sufficient thought exchange and other communication, group productivity and positive collaborative experiences.

Breakout games - like their bigger cousins, escape rooms - have great potential to foster cooperation and collaboration. Rouse (2017) reports that, after playing more than 150 different escape room games across the world, "[r]egardless of the outcome, we noticed a gradual development in our critical thinking, collaboration, communication, and resilience, through repeated gameplay and by reflecting on each game afterwards" (p. 556). The degree to which this is fostered by the specific breakout game of course depends on a range of design decisions (e.g. complexity of puzzles, structure of the game, Rogue, 2017, pp. 556-557).

Paulsen (2017), in her study of breakout games in a Norwegian upper secondary EFL classroom, found that several learners, when asked to explain, in their own words, whether they think breakout

games can contribute to learning, mentioned learning about communication and collaboration (45f.). This might be linked to the fact that at least some of them found cooperation/collaboration challenging. This is illustrated by the interview transcript below:

> 258: S2. Share more information.
> 259: S4. Try to not have all working on. . . Or, I didn't have control over what others did who was not working on my task.
> 260: S2. Yes, suddenly a lock was open.
> 261: S4. Yes, what happened there. But I was glad they got it open. But I kind of think that our group would have made it if we weren't so ineffective and so focused on the wrong things. Everyone was doing their own thing. We worked pretty well in the small groups we were in, but the small groups didn't cooperate that well together.
> 262: Interviewer: How are you going to solve that?
> 264: S4. I could have probably contributed more than I did.
> 265: S3. I could have stuck to one task and tried to understand that one. Not try to understand them all at the same time.
> 266: S4. I did actually think for a long time that we maybe should try to open the books, but I didn't say it out loud. But no one else even looked at them, so I thought it was probably stupid.
> 267: S3. I didn't even notice then. (Paulsen, 2017, pp. 52-53)

While our breakout games also contained focus-on-form puzzles, the value we saw in them was not as glossed-up worksheets, but as objects for discussion, negotiation, and collaboration, in the tradition of communicative Language Teaching/TBLT.

2 Design

In this section, we will present the different breakout games used in this project. Table 1 summarizes key information about them. In addition, in the appendix, we have included flow charts depicting the course and organization of the breakout games.

3 Playtesting

All games were playtested twice — once with fellow university students, and once with the target group (secondary school learners). The designers of the games functioned as game masters during playtesting.

In commercial escape rooms, game masters (typically employees of the escape room company) set up the escape room, monitor gameplay (often via video), and intervene when necessary (e.g. to give hints, to enforce rules, to guarantee player safety). In commercial tabletop breakout games there usually is no game master. In educational breakout games, teachers usually take up this role, preparing the game as well as observing and supporting learners during gameplay.

During the playtesting of the breakout games presented here, the playtesters/game masters prepared the game space prior to learners joining, introduced the game and its rules, and provided pre-planned or spontaneous scaffolding (such as hint cards, see below). They also observed gameplay in general. Often, the participating players did not know the game designers/game masters. In some cases, the teacher of the respective class was also present and remained responsible for classroom management.

The secondary school learners played one of the breakout games. After playing, some form of debriefing usually took place (see diagrams in the appendix for details), followed, in some cases, by data collection (e.g. interview with learners). For all data presented here, informed consent was sought and given.

Table 1: Overview over breakout games

Game name	Premise	Topic	Target group
New York City - Where is my Phone?	You and your classmates won a trip to New York City. It's already your last day and you have to leave for the airport soon. But of course, you cannot leave without seeing Times Square. As you reach for your phone to take a photo, you notice it's gone. Desperately, you check all of your pockets and your backpack and cannot find it. Just as you want to ask your friends whether they have seen it, one of your friends looks at you and says: "Why have you sent me this strange voice message???"	Main focus on New York City facts and grammar	Intended for grade 8
Saving Netplix	Your class won a trip to the headquarters of the beloved streaming service Netplix. You and your friends went to the bathrooms for a quick break, but when you returned, the whole building was empty and the doors were locked. Where is everyone and how will you get out of here?	Main focus on communicative competencies	Intended for grade 9
Shakespeare	You and your class are on a trip in London and are visiting the reconstructed old theatre "The Globe." What you don't know is that the place is haunted by none other than Shakespeare's ghost! You are trapped in the Globe and have to solve puzzles to prove to the spirit of Shakespeare that you are worthy readers of his work. Will you be able to show your literacy skills before the time is up or is it your fate to be captured in the Globe forever?	Main focus on communicative competencies, basic Shakespearean vocabulary, important plays, and metrics	Intended for grades 10 to 13 with prior Shake-speare knowledge
Blood Red Riding Hood	You are in the middle of a forest, but this is no ordinary forest… A letter magically appears, requesting you to bring your grandmother her groceries. On the way to her house, while having to solve riddles and quizzes, you meet multiple other fairy tale characters. You notice that you are wearing a red hood, while heading toward your grandmother's house. Let's see if you will reach her - the forest is quickly darkening…	Main focus on communicative competencies, grammar (the gerund), and vocabulary of the word field "food"	Intended for grade 9

The breakout game *Blood Red Riding Hood* was conducted in a private setting with tutoring students and acquaintances. There were four learners with varying levels of English proficiency who only partially knew each other. The game developers also functioned as game masters, observing the play testing, reminding learners to speak English and organising the process.

Saving Netplix was play tested at a German secondary school ("Gymnasium") in a ninth grade class of 28 learners who were divided into groups of four or five. The English class consisted of learners from different regular classes, all of whom had just completed their previous textbook unit topic. The game was conducted by the game developers who observed, gave hints when asked, and who issued warnings when learners tried to cheat. They also occasionally reminded the players to stick to the target language.

The New York City game was conducted in a suburban secondary school ("Gesamtschule") High School which taught different levels from grade five until grade ten. The four learners playing were 14-15 years old and at different levels of proficiency. They had just finished the schoolbook unit topic on New York. The game was organized and accompanied by the university and were accompanied by the university game developers as game masters who observed and organised the game process.

The game of *Shakespeare* was play tested with four secondary school ("Gymnasium") students in grade eleven, the German equivalent of sixth form. The players were 16 years old, very proficient and part of the advanced English course. While they had not worked on Shakespeare plays yet, they did have a short introduction to the playwright before the game. The breakout game was conducted by one of the game developers who observed and organised the game, and supported learners throughout the playing process.

4 Evaluation

4.1 Cooperation and collaboration

Playtesting the breakout games discussed in this paper, we found learners collaborating to different extents, depending on factors such as the group size, the year level and the learners' language proficiency. Informal observations suggested that learners engaged in cooperation and collaboration. Most groups would assign roles and distribute tasks in order to save time, but overall, the effort was a collaborative one. Communication was essential for progress and all findings had to be shared in order to reach new stages of the breakout game and solve the entire game in the given timeframe.

In the *Shakespeare* breakout, which had an older target group, cooperation and collaboration worked very well. The learners solved all puzzles together by reading the clues out loud and uttering their thoughts. They made progress by listening to each other's ideas and building on newly acquired knowledge. The observing university students had the impression that two learners were more confident than the other two learners and therefore spoke more often and initiated new actions and ideas more frequently.

In *Blood Red Riding Hood*, once in the game, two of our five players went ahead and tried solving the puzzles individually, while the rest of the group collaborated. At one point during the game a player became so frustrated that he tried different lock combinations in hopes of "hacking" the game (see discussion below). Such hacking prompted multiple discussions about using a hint card and resulted in a temporary loss of motivation. Once the learners re-grouped and began working together, they were able to quickly solve the puzzles. This led to an increase in collaboration, especially for the last puzzles.

4.2 Target language use

It is a well-known phenomenon: When learners work together in the foreign language classroom, they can draw not only on their foreign language, but also on their shared languages. Traditionally, this was viewed very critically, though modern approaches (cf. e.g. Cummins, 2008; Hu, 2014; Council of Europe, 2018; see also Ortega, 2017) to language teaching now often embrace the use of languages besides the target language — as a means of learning the target language more efficiently, or as a way to develop plurilingual skills (For a summary with a focus on Europe, see Buendgens-Kosten, 2020). In this section, we will discuss the groups' use of the target language English, and when and why they drew on other languages.

In the *Shakespeare* breakout group, which was the group with the highest degree of language proficiency in this project (11th grade students, ages 15-16, with a minimum of 5, often 7 years of English language learning; furthermore, this was an advanced English language class ("Leistungskurs"), which implies that their English language skills were already above average compared to other learners of their age group), the players spoke English constantly and paraphrased

expressions that they did not know without switching into the German language. Based on informal observation, two participants appeared to dominate the game by having the most speaking time. It was also apparent that those players had a more extensive English vocabulary and enhanced language fluency. However, evaluations after the game showed that the less dominant players felt equally included in the game despite speaking less.

In *Blood Red Riding Hood*, the players mainly stayed within the target language, except for two instances; the first instance being a player who switched into German whenever he felt like he was not being heard. Such situations also resulted in him griefing occasionally (see discussion below) and not being as involved as the other learners. The second instance was when all of the learners switched to German when a puzzle was very challenging. A fluent collaboration with ample communication began only after solving the first puzzles together. This communication and collaboration led to the group escaping in time.

The *Saving Netplix* game was simultaneously played by six groups with four to five learners per group. Three of the groups quickly switched back to German and stuck to it, apart from the occasional "We have to speak English" when one of the game masters observed them more closely. Two groups tried to speak English, but would switch to German to discuss the puzzles. The remaining group mostly stayed in the target language, just switching to German to discuss the most difficult puzzles.

The group of learners playing "New York City - Where is my phone?" was timid and quiet. Throughout the game they became more confident and talked more, but they still spoke very little and communicated through body language when they did not talk. However, they only used German two times during the whole session.

In short: Some groups used mostly English, drawing on German only when needed (e.g. when solving an especially challenging puzzle). Other groups exhibited a very strong preference for working in German, using English only for tackling the content of the puzzles (e.g. reading an English text, filling in English words into a puzzle), or when social expectations for English language use were highlighted by the presence of a teacher and/or game master. The language preference was dependent on the proficiency in the target language, the difficulty of the puzzles and on whether or not using the target language would obstruct their progress.

4.3 Balancing difficulty

Designing a game that hits the Goldilocks principle of difficulty — not too difficult, not too easy, just right — is one of the major challenges of breakout game design. Nicholson (2015), discussing commercial escape rooms, reports that 47% of respondents stated that "Balancing the Difficulty of Puzzles" was very challenging (p. 24).

Designing a game that hits the Goldilocks principle of difficulty — not too difficult, not too easy, just right — is one of the major challenges of breakout game design.

All breakout games had previously been playtested with university students, and had, in their first edition, contained puzzles that were too hard even for adult players with very high target language proficiency. The NYC breakout group was concerned that, after simplifying many puzzles to better fit the target group, it might be too simple for the learners and that they would solve it very quickly. However, it was a lot harder for them than originally thought by the designers.

As determining the 'optimal' difficulty for a specific group ahead of time might not be always possible, graded levels of support might help balance difficulty. Nicholson (2015) discusses different ways to accommodate different player preferences in a game, including the desired difficulty of the game (p.

25-26). While our breakout games did not provide players the degree of choice that Nicholson suggests, they included different ways of providing support which could be used fairly flexibly by players:

- hint cards
- role cards, to assist in group work
- additional content and/or language material provided (e.g.dictionaries)

4.3.1 Hint cards

Based on her experience playing and designing breakout games, Rouse (2017) suggests "**to let your students struggle:**"

> Avoid offering hints until students request them, and only after they have put in the effort of solving the puzzles on their own. Hints should help lead them to the solution without outright providing the solution. (p.561, emphasis in the original)

The intention of hint cards is to unidirectionally modify the difficulty of the game. They can be used to reduce frustration, and to avoid learners getting stuck on one puzzle, unable to continue their breakout experience.

There are two types of hint cards. The first type contain the actual information players need. This is extremely helpful as learners can select the hint card they need, and can play without a teacher closely monitoring. This type of hint card is frequently found in commercial tabletop breakout games, which need to be playable without a game master. Their preparation ahead of time and the selection of the correct cards by the learners proved challenging though. For example, in the NYC breakout game, which used hint cards of this type, the learners were able to break out of the game, but they had to use almost all of the hint cards and were given further hints. After the first few puzzles, the hint cards were taken out of the game and handed out when the learners needed them, to ensure use only in case of need. By doing so, the game masters were also able to give them the hint card they actually required.

Alternatively, hint cards can take the form of tokens that can be exchanged for hints by the teacher/game master. Such hint cards — or hint coins, hint crystals or any other physical object that fits the game — do not just provide access to hints, they also regulate the amount/number of hints, visualize this limitation, and function as a visual reminder of the availability of assistance. The *Saving Netplix* players, for example, were told that each group could ask for help three times. Two groups actually made use of that option, once each, the other groups did not — and may have forgotten about it. A physical hint card might have prevented that.

Different options exist for making the use of hints 'expensive' — Nicholson (2015) mentions e.g. the exclusion from the leaderboard, or the deduction of points or time as options (p. 22). Increasing the 'cost' of hint use can deter hint use, as seen in the *Blood Red Riding Hood* group. Within the *Blood Red Riding Hood* escape game, the group was deterred from using the hint cards too quickly by binding the use to a loss of gameplay time. The group was given the option to use three cards. A use of a hint card would lead to a loss of five minutes. Individual learners did try to convince the group to use hint cards. However, in the end, no cards were needed.

Such hint cards — or hint coins, hint crystals or any other physical object that fits the game — do not just provide access to hints, they also regulate the amount/number of hints, visualize this limitation, and function as a visual reminder of the availability of assistance.

In the *Shakespeare* breakout game, the learners wanted to open the hint cards before trying to solve the puzzles without external help. To prevent this, the game master spontaneously invented the rule that using the hint cards would deduct five minutes of their sixty minutes playtime. The level of deterrence must be carefully balanced, of course, so that learners do not needlessly struggle for long periods of time. A well-balanced 'prize' for taking a hint can be a source of negotiation within the group, providing great opportunities for target language use.

4.3.2 Role cards

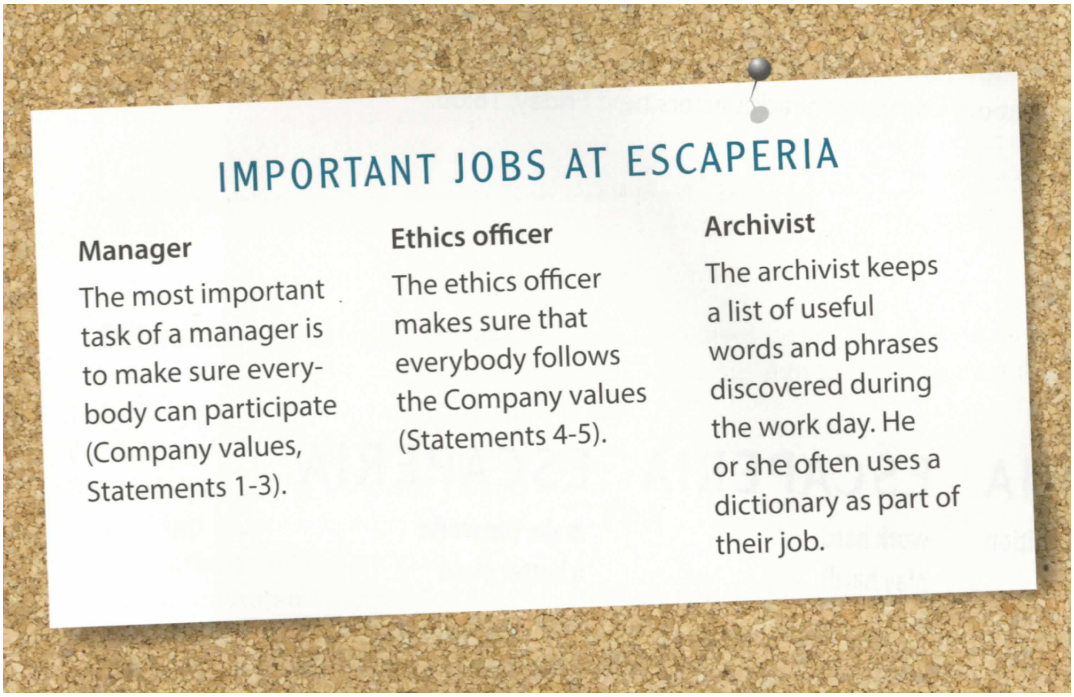

Figure 3: Example of in-game roles (Judith Bündgens-Kosten: Welcome to Escaperia! In: Fremdsprachlicher Unterricht Englisch Nr. 165 © 2020 Friedrich Verlag GmbH, Hannover)

Not only the puzzles themselves are difficult — cooperating and collaborating in a foreign language — or any language — can be a challenge for pupils. Role cards are an established tool for supporting learners by assigning important roles within group work.

In the NYC group, role cards were used as a form of scaffolding. After an introduction to breakout games, the learners had to choose one of the following roles: Reader, Exchange Student (i.e. language detective), Note Taker, or Moderator (making sure everyone can speak and is listened to in order to facilitate the organisation of the group work). They distributed the roles by reflecting on the personality and strengths of each person.

Before starting the introduction to the *Saving Netplix* story, the game masters explained the rules to the learners and prepared five folded pieces of paper per group. Each piece of paper had one of the letters A, B, C, D, and E. The letters corresponded to the roles Class President ('Make sure everyone is heard'), Exchange Student ('Pay attention that everyone speaks English'), Cleaning Duty ('Write down notes and ideas of your group'), Class Book Duty ('Read texts for your group'), and Media Duty ('You are the only one whose phone still has battery'). Should a group only consist of four instead of five players, Media and Class Book duty would be combined. Four of the six groups accepted and fulfilled their randomly assigned roles, one group ignored them, one group fought over the roles without actually fulfilling them.

While it is possible to use ready made role cards that fit the kind of roles one desires, it is also possible to design roles or at least select role labels that both support the group work and fit the overarching story. These can add atmosphere and can invite small doses of role playing. An example of a published educational breakout game using 'in game' role cards is Bündgens-Kosten (2020b). See Figure 3.

4.3.3 Other support

Other material to support the learners can be provided, such as dictionaries or lists of useful phrases for group work. In the *Shakespeare* group, a dictionary was made available, but not used. Instead, learners used other established strategies, e.g. paraphrasing or describing an unknown word, which was faster and more convenient because it was less of an interruption to the game.

4.4 Breaking the breakout game: Hacking, griefing, cheating

As discussed above, one player in the *Blood Red Riding Hood* group resorted to non-game means to win the game. Using the affordances of a game in ways it is not intended can be a major source of game enjoyment for some players. In this context, though, the act of stepping outside the magic circle (Huizinga, 1955, see also summary in Adams & Rollings, 2007, pp. 6-8) and using what is known in cryptanalysis as the brute force method (just trying all possible permutations of the code), cannot be easily read as a creative 'hacking'/ re-utilizing of game affordances. Instead, it was a clear sign of frustration with the game.

During the *Saving Netplix* playtest, most groups accepted the rules and did not try to cheat. However, one group took advantage of the fact that all material was stored in envelopes. They tried solving the first puzzle, but quickly gave up and just started feeling the envelopes and opening them accordingly, or just opening them if feeling them would not give any hint to the contents of an envelope. Thanks to their method they finished first (after 15-20 mins of intended 70), but were subsequently quite bored when they had to wait for all the other groups.

To step outside the magic circle, learners first need to be inside the magic circle: It is essential that they understand the game logic. The breakout game about Shakespeare consisted of envelopes instead of boxes and the players were supposed to solve the puzzles in order to open the next envelope. For practical reasons such as the usability for future groups, the envelopes were not sealed, therefore, in the beginning of the game, the learners wanted to open them all at once without solving the puzzles. The game master had to explain to them that they were not allowed to open them without working through the puzzles and finding out the right code first. In order to circumvent the obstacles, the ambitious players sought alternative ways of winning the game. The freedom and versatility of breakout games account for both their potential and the challenges learners and game masters might face. Therefore, it is crucial to explain all rules to the players before the game begins to ensure they reach the planned learning goals.

Another potential form of using brute force — this time not in the cryptanalytical sense — was not observed in any of these breakout groups. An attempt to open boxes etc. with physical force could stem either from frustration with gameplay, or from a misunderstanding of the game logic of breakout games.

The freedom and versatility of breakout games account for both, their potential and the challenges learners and game masters might face.

4.5 Practical implications

These are a number of key elements to take into consideration when planning educational breakout games.

4.5.1 Cooperation and collaboration

Cooperation and collaboration are hard. Cooperating and collaborating in the target language are even harder. The game logic, though, encourages cooperation and collaboration. The tight time limit means that whenever multiple puzzles are available to learners at the same point within the game, a certain division of labor leads to more efficiency and thus increases the likelihood of winning the game. Yet, pure cooperation without collaborative elements is less suited to complex puzzles that cannot be solved by one person alone. Learners with more limited expertise in cooperation and collaboration might benefit from additional scaffolding (such as role cards). Reflection after breakout games is a valuable tool to identify strengths and weaknesses in how a team worked together, and one's own contribution to this effort.

4.5.2 Target language use

The purpose of breakout games in the EFL classroom is to foster EFL skills. Hence, either the puzzles themselves or the communication between learners engaging in the puzzles ought to facilitate skill development. If target language proficiency is very low, it might be recommended to focus on language learning from the puzzles themselves (e.g. vocabulary-based puzzles, reading comprehension based puzzles, cf. Bündgens-Kosten, forthcoming). A teacher can also give learners an indication of useful phrases in English that they already know, and encourage them to use as much English as possible. When English language proficiency is sufficient to engage in the breakout game exclusively in the target language, the use of other languages can still be meaningful, for example to create rapport (e.g., a quick joke in the L1) or in case of conflicts (e.g., an exasperated comment in the local dialect). Such limited use of the non-target language should be seen as effective plurilingual communication, especially if it is limited in duration.

Strict rules about language use may end up intimidating learners, rather than encouraging target language use. A learner who reacts to the prohibition of using the other languages in their repertoire by not speaking at all does not benefit from such a prohibition. Encouragement to use the target language needs to be balanced against the actual communicative abilities and needs of learners. The logic of breakout games can support teachers and game designers in this. For example, learners can be encouraged through the storyline to use as much English as possible:

> "You hear a diabolical giggle coming from behind the locked door: "Hahaha, ihr Narren! Ich verstehe Deutsch! Ich höre mit, und vereitle alle Eure Pläne!" It seems that the evil Dr. Willviel-Bös understands German! She will thwart all your plans to escape if you discuss them in German."

Just like hint cards can allow learners to ask for support, "language cards" might allow them short time spans for planning and discussing their gameplay in another language than the target language: "Five minutes of free language choice. If you use this card, for five minutes, everybody in your team can use any language they want."

4.5.3 Balancing difficulty

Breakout games have to be hard — but not too hard. A little bit of struggle is what makes breakout games enjoyable — but flat-out frustration kills this enjoyment.

As learners in a classroom will have different language skills, different levels of experience and expertise with puzzles in general and breakout games specifically, flexible scaffolding is a must.

Creating artificial limitations (e.g. only three hint cards per team) or a cost for help (e.g. deduction of points or loss of playtime) encourages teams to struggle for as long as it is enjoyable. The 'prize' should be set in such a way that players delay seeking help until they are truly stuck — but not delayed beyond this point. Such mechanisms can be designed into the game experience by the game designers, added to the game in advance based on the needs of the specific class (similar to 'house rules' for board games, in which the game rules are pre-modified to increase enjoyment for a specific group of players), or, in a pinch, added on the fly by the game masters.

Also, in general, breakout games look easier than they are — and it is extremely easy to underestimate their complexity. What seems to be the obvious solution to the game designer often is not obvious at all to the players. When in doubt, choose the easier option.

> Breakout games have to be hard — but not too hard. A little bit of struggle is what makes breakout games enjoyable — but full-out frustration kills this enjoyment.

4.5.4 Breaking the breakout game

It is important that learners understand that playing a breakout game is about 'opening boxes,' but only in one specific way — and that breaking boxes open or trying out all possible permutations of a code is not intended/allowed. This can be explained before the gameplay (just as you would explain the rules of a board game), or can be made into part of the narration:

> "Dr. Willviel-Bös will watch your every step! If you escape this maze by solving all the puzzles, you are free! But if she sees you breaking open boxes or just trying random number combinations… Well… Nobody ever heard again from the last group that did this …"

Finally, as a teacher, it is important to understand that a certain amount of 'cheating' can just be the consequence of frustration or of an extreme level of competition between teams. A well-balanced difficulty level and and an atmosphere of playfulness might alleviate this.

5 Next steps

This project, in which pre-service teacher training students developed and playtested breakout games for language learning with the target group, led to some observations that might be of relevance for anybody who develops, chooses, or game-masters breakout games in foreign language learning contexts.

Our assumption that breakout games can provide opportunities for cooperation and collaboration in the target language for intermediate to advanced learners was, in general, supported, though groups differed in how well they collaborated and how much target language they used in their group work. This echos the distinction between task-as-workplan and task-as-process (cf. e.g. Ellis, 2009: 230-231). A breakout game can, for example, be designed to provide opportunities for making suggestions or asking for help, but ultimately, the choice of which linguistic or non-linguistic resources will be used when tackling the challenges posed by the game is made by the learners. Reminding learners of the overarching didactic purpose of gameplay in the EFL classroom, and providing language scaffolding as needed might be beneficial here, but a strong focus on meaning may trump these in the heat of the moment. The authors also acknowledge the communicative

usefulness of an occasional integration of non-target languages, and make suggestions on how to embed language choice into the logic of the breakout game.

One of the main challenges when designing and game-mastering breakout games is that these need to be challenging to be enjoyable. Learners need to be offered the right amount of support at the right time - reducing frustration without eliminating challenge (cf. Csikszentmihalyi's Flow theory, Nakamura & Czikszentmihalyi, 2011). In this paper, we discuss several options for balancing difficulty (primarily difficulty of puzzles and groupwork) through hint cards, role cards, and other types of support. Systematically assessing the effects these have on gameplay and language use went beyond the scope of this paper, though.

Also, these ideas are drawn from a game design perspective, rather than from a SLA perspective. Follow-up research might look at the question if what is best for the enjoyment of the breakout game experience is also optimal for purposes of language acquisition (see discussions of task complexity; cf. also considerations of cognitive load, Sweller, Ayres & Kayuga, 2011).

Another limitation of this paper is its focus on intermediate to advanced learners. Follow-up work is needed to better understand if/how breakout games can support beginner and pre-intermediate learners. In such contexts, the emphasis on cooperation and collaboration might have to be reduced, and the focus on e.g. form-focused puzzles or input (spoken/written, e.g. as part of the narration, hints, etc.) might have to be increased.

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The authors declare no conflict of interest. Participation in writing this paper was not connected to course grades in any way.

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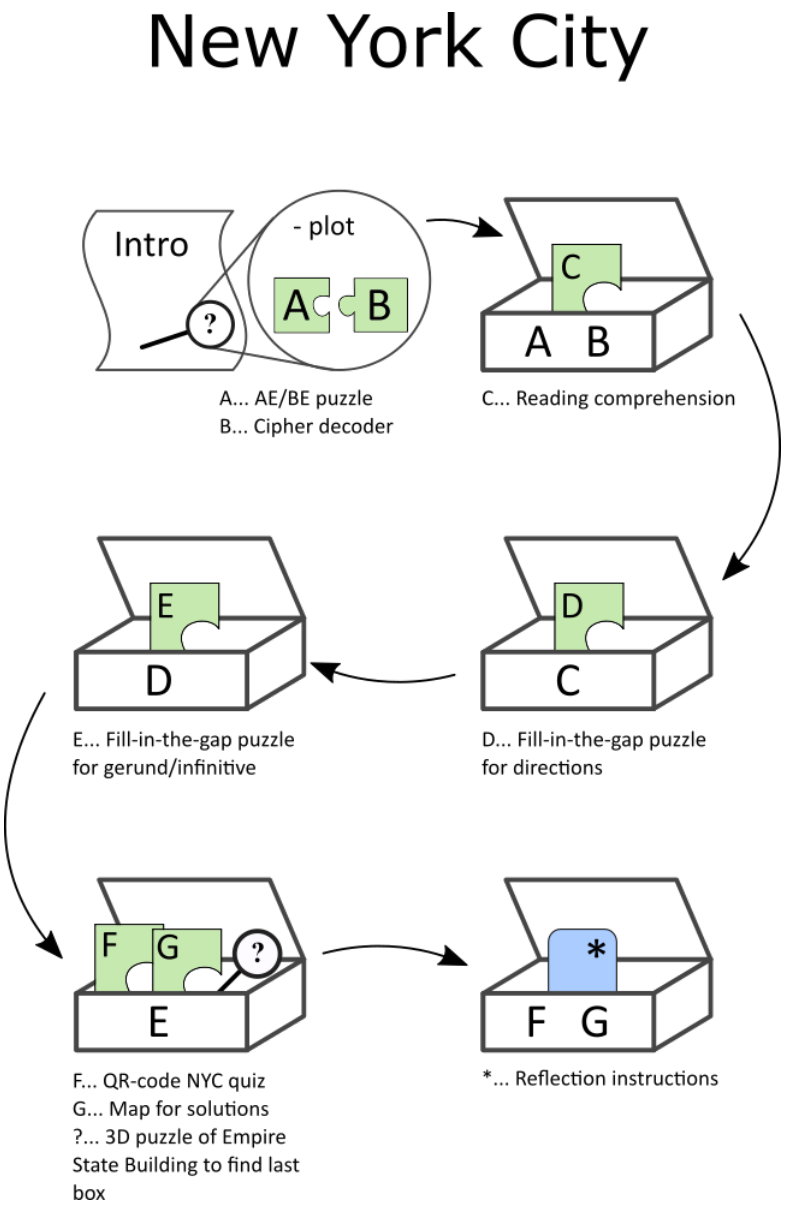
7 Appendix



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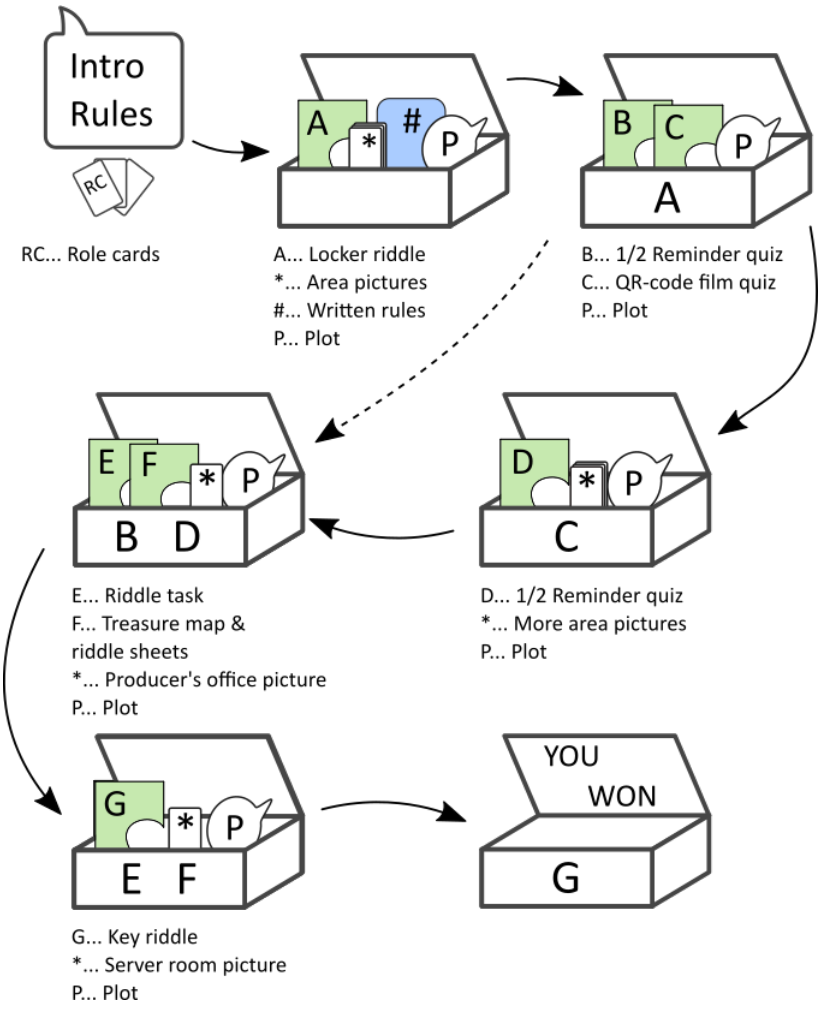

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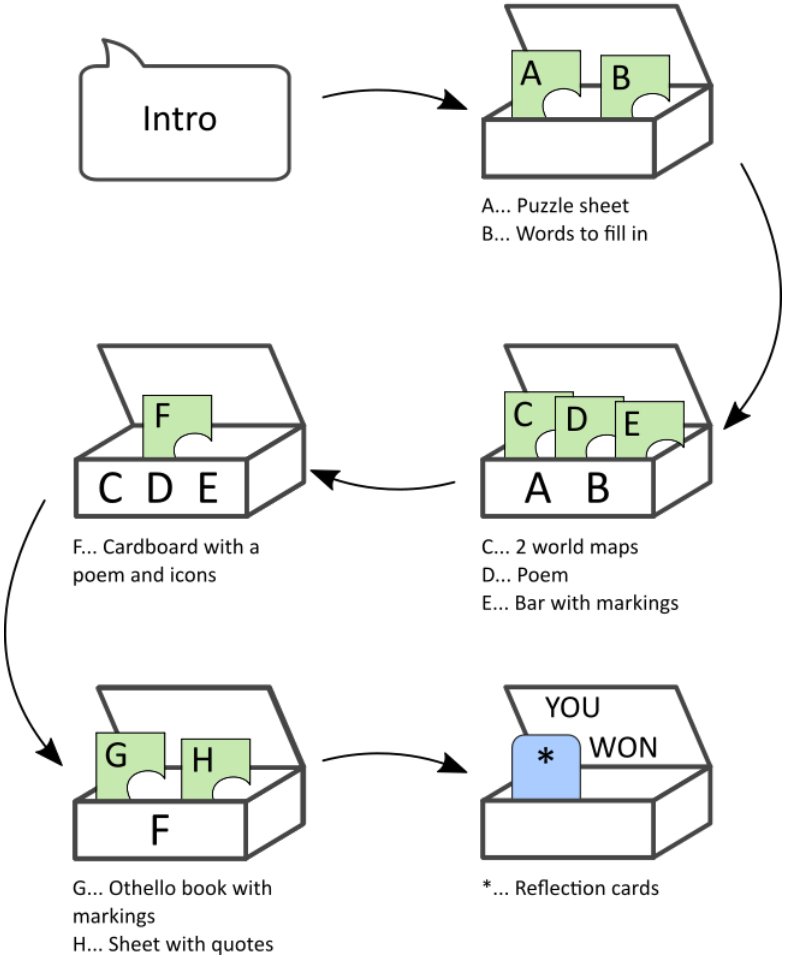

Blood Red Riding Hood