



Plot-Puzzle for Educational Escape Rooms Design

School Break Handbook 5

Bernd Remmele

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www.school-break.eu

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1. Introduction

Educational Escape Rooms (eER) take place within some overarching narrative guiding the player through a series of tasks that try to achieve some learning objectives. For the design of eERs it is thus important to find a good narrative as the narrative can increase motivation and foster memorizing. In concern of narratives there is one point that has to be understood which makes developing the plots for eERs much easier:

There is only a limited number of plots.

As humans we stick to certain plot-structures to make sense out of the otherwise mind-blowing stream of events. We need to set a start and end point, and some points in between, we need a certain set of logical relations between these points in time. It is a more or less a postmodern truism that there is poetry everywhere in reasoning (e.g. White 1975).

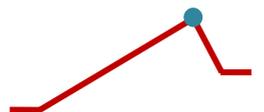
With a relevant choice out of the set of potential plots it is possible to design activity oriented tasks or puzzles or creative plays based on the matching of learning objectives and one of these plots. It is the goal of this manual to elaborate some ideas for Plot-Puzzle-Workshops, i.e. for face-to-face and online or multi- and single-player workshops.

2. There is only a limited number of plots!

There are different ways to count and to differentiate the plots in Western Culture, but the sample is always limited. Quiller-Couch distinguishes Seven Kinds of Conflict; Polti analyses Thirty-Six Dramatic Situations; others have Eleven Master Structures or Five Dramatic Throughlines (cf. *tivitropes*). Because it is funny and wise I also want to mention here: Kurt Vonnegut's (2010) short lecture on Shapes of Stories based on the level of happiness (has also been examined empirically, Reagan 2016)

For our purpose of eER design we built on Booker's (2004) *The Seven Basic Plots* and Tobias's (1993) *Twenty Master Plots*. They conceive the narrative structure through the perspective of the protagonist, and this matches with the action-oriented approach of eERs, i.e. as they have to be role-played: the learner is in the role of the protagonist.

The Master Plots can be subsumed under the Basic Plots (cf. Southard 2017). Starting from this integration these plots already provide a set of storylines, that work and that everybody knows/understands. The focus on the agency of the protagonist further allows to neglect some of the plots, because in those he/she is more or less passive to his/her fate. In the resulting storylines and fleshed-out final stories, of course, the different plot-structures can overlap.



Booker: Basic Plots (4 out of the 7)	Rags to Riches	Overcoming the Monster	Quest	Voyage and Return	Neglected:	Tragedy Comedy Rebirth
Tobias: Master Plots (13 out of the 20)	Underdog	Revenge Rivalry	Quest Pursuit Riddle Escape Rescue	Adventure Metamorphosis Forbidden Love Wretched Excess	Neglected:	Temptation Discovery Transformation Ascension Descension Love Maturation Sacrifice

See the also below the more elaborate Table 'Plot Structures for eERs' which is also the basic material for the Plot Puzzle Workshop and 'Neglected Plots' (Appendix b), which is optional in case the discussion on general plot structures is to be extended.

3. Workshop Structures

General Introduction

a) The same plots everywhere

The first step in whatever Plot-Puzzle-Workshop (even it is only about plots without puzzles) is to make clear – as done here also above – that there is only a limited number of plots that we use to make meaning out of the flow of time.

Depending on the subject to be taught examples can be given on how certain knowledge is packed into stories: heroes and heroines of the discipline (e.g. Galileo and the church, Turing cracking the Enigma) or fundamental discoveries (e.g. Newton's apple, Marxism's Manchester, Piaget's children) or the specific translation of knowledge structures into stories (e.g. Oedipus Complex, Myth of Barter, religious parables).

Of course, it works also with the common experiences in pop culture. It should not be too difficult to point out basic plots of certain genres (e.g. the outmoding gunslinger; the average guy saving the 'girl' or securing the McGuffin) the similarity in stories from different times (Odysseus and Harry Potter; Romeo/Juliet and Rose/Jack).

Hence, a Plot-Puzzle-Workshop can e.g. start with asking whether the participant(s) can tell fundamental stories of the given subject or how many versions of Romeo and Juliet they know or ... This should work reasonably adapted for face-to-face and online-groups as well as for individual self-regulated learning scenarios.

b) Plot Structures for eERs

The second step is to introduce the table 'Plot Structures for eERs', i.e. the plot structures selected for designing eERs. Depending on available time and the level of comprehension of the previous step more storylines can be elaborated than the given ones. The plots can be exemplified with movies, films, histories or even by autobiographical pieces. Of course the table can be adapted to the specific objectives of a workshop.

Again as done above – the principle of choice, i.e. agency, should be explained. As the players of an eER are supposed to act and that their acts have clear causal consequences for the 'escape', plots are required that follow the pertinent sequential structure:

The Great Task

solvable problem – successful problem solving

next solvable problem – successful problem solving

...

Wrapping up the Great Task

Puzzling Plots

The actual puzzling consists of two phases: creativity and comparison. It starts with individual or group activity and climaxes with staging the created ideas. The phrasing of the actual creative puzzle task has to be adapted to the specific workshop scenario, i.e. the topic subject and the social dimension, i.e. individual(s)/team(s) – online/offline. The core task is however:

Prepare – quickly – a plot for an educational Escape Room for the topic XY. Main parts of your outline should be – 3Pr:

- i) problem: the overall problematic situation - the great tasks,
- ii) protagonist: relevant characteristics of the protagonist in relation to that situation,
- iii) progression: the steps in the story, i.e. of the protagonist, that lead to the solution of the problem.

If necessary examples of 3Pr- combinations can be presented to set the frame for the task (see below for a few examples from economics education).

If appropriate the workshop participants can also be provided graphical representations of plots (see below a few examples of plot diagrams).

a) Creativity

If there is a group of participants, it is e.g. possible to draw from two decks of cards:

- one with a Basic/Master Plot written on each card, and
- one with broad topics.

Other forms of distribution of these two dimensions to individuals or to small groups can be adequate. This can generate a competitive element.

The task for group workshop is thus to outline in a certain time (10 to 15 min), the problem, protagonist and progression.

The task for an individual self-directed learner could be to take the same topic and develop two or three different plots – with clearly different problems, protagonists and progressive steps – for it.

The specific tasks, puzzles, quizzes etc., to be fulfilled/solved at each step, are not relevant here (cf. the other puzzle workshop elements).

b) Comparison

Within a group workshop the comparison phase can be orchestrated more or less playful. It might be mere presentations with discussion afterwards, or a pitch with a set time and a common discussion/appraisal afterwards, or – particularly for small groups – the staging of the plot. (Prizes for performances are always welcome by winners – and losers.)

If there is a feedback loop between the individual learner and a trainer then the results of the creative phase have to be put down and transmitted. If it is pure self-directed learning the individual has to do the comparison herself. The task could thus be to rank the ideas and/or to give reason why one idea is better than the other.

Wrapping Up

The wrapping up is dependent on the function of the Plot Puzzle Workshop.

If the participants will attend further puzzle workshops, i.e. mainly in relation to the design of the specific tasks, puzzles, quizzes etc., to be fulfilled/solved at the different steps, then there has to be a final contextualisation and reference to the other workshops as well as to an overall lesson learnt phase at the end of the whole program.

If the Plot Puzzle is done in a stand-alone form then the lessons learnt phase follows directly.

The main discussion points refer to the main learning objectives of the workshop:

- understanding of the limitedness of plots and their general applicability,
- understanding the focus on agency within the plots for eERs,
- discussion of individual strategies to elaborate plots for a certain topic,
- identification of criteria and features of good examples created in the workshop.

The most important question of wrapping up is whether the ideas will be further fleshed out to actually design eERs or whether the workshop was more *l'art pour l'art*. In the first case it is thus essential to clearly document the results and ask for comments and improvements from the other participants or to provide them oneself as a trainer – particularly in the individual-learner-trainer-scenario. In the second case let's hope it was fun and has some 'pro-ludic' effect also on the long run.

Plot Structures for eERs

Basic Plots	Master Plots	Resulting Storylines
Rags to Riches	Underdog	Starting by opposing circumstances the Hero - normally expected to fail or keep on failing – ultimately succeeds through greater tenacity and determination - getting riches, a kingdom etc.
Overcoming the Monster	Revenge Rivalry	The Hero learns of a great evil threatening the ‘kingdom’, peace in the world, friends etc. and sets out to destroy it. This evil monster might have previously wronged the hero – now seeking retribution. The Monster might be an enemy, a competitor or opposing group.
Quest	Quest Pursuit Riddle Escape Rescue	The Hero learns of a great MacGuffin that he/she needs to find, thus searching for something somewhere, or chasing someone - carefully uncovering clues and hence the final solution. So that e.g. that hero can escape or somebody else captured can be released.
Voyage and Return	Adventure Metamorphosis Forbidden Love Wretched Excess	The Hero heads off for action or into a new environment with its own rules, he/she has to detect while somehow returning home – or managing to be released from a (physical) transformation – or coming to terms with rules after breaking them for love or hot blood.

Example eER-Stories

To better guide workshop participants it can be helpful to present them potential examples of a 3Pr-Creativity task. As my field of expertise is economic education the following – brief and not too fancy – examples are from this topical field. If the example(s) have to be from another topical field it should not be too difficult now to create own ones.

Plot (from card)	Topic(from card)	Problem	Protagonist	Progression
Quest/Quest	Private investment (magic triangle of investing; different types of investments)	Breaking into a Bank, because important information is hidden in a safe deposit box.	Adrian has become of age. His legal guardian has stolen his money. The proofs of the betrayal and where the money is - invested - are hidden in a safe deposit box.	<ul style="list-style-type: none"> - Finding out where the vault room is. - Playing an investor to win the confidence of a bank assistant. - Getting to know the entry codes. - Breaking the final lock.
Overcoming the Monster/Rivalry	Marketing mix – 4Ps (product, price, place, and promotion)	Outsmarting your Competitor, because you want your company to sustain.	Beata is the boss of small company producing hammocks. The problem is that her old rival Bestia has just increased her production capacity. Beata needs to decide on how to re-structure her market entry.	<p>Comparing business data to identify the potentials to beat the rival with:</p> <ul style="list-style-type: none"> - a better product, - a lower price, - getting 'closer' to the costumers, - better advertising. <p>Finally learning about the 3 additional Ps (i.e. people, process, physical evidence)</p>
Voyage and Return/Adventure	International trade theory	Transport to Ricardistan	Carla is 'transporter'. She has to haul Wodka from Moscow to Ibiza. She has to pay tariffs and have an eye on exchange rates.	<p>Discussing with the client the need of international specialisation:</p> <ul style="list-style-type: none"> - absolute advantages - comparative advantages <p>Paying taxes while crossing the border to the EU. Calculating the profits (in Rubles) from taking oranges back to Russia.</p>
Quest/Escape	Over-indebtedness	Escaping the Loan (Shark) Department of the Bank	Donald has a money issue. In order to file for insolvency he has to run from one agency to the other to analyse whether he generally spends too much or whether it was just bad luck.	<p>Looking back on how the major risks of over-indebtedness hit him:</p> <ul style="list-style-type: none"> - unemployment - divorce - addictions. <p>Looking ahead to the conditions of private bankruptcy.</p>

4. Resources

Booker, Christopher (2004) The Seven Basic Plots.

Johnston, D.D. (n.y.): Structure and plot diagrams - <https://www.youtube.com/watch?v=UzLxJ68KGBU>

Reagan, Andrew et al (2016) The emotional arcs of stories are dominated by six basic shapes. EPJ Data Sci. 5/31.

Southard, Steven (2017) The Map of All Story Plots - <https://stevenrsouthard.com/the-map-of-all-story-plots/tivitropes> - <https://tvtropes.org/>

Tobias, Ronald (1993) 20 Master Plots and How to Build Them.

Vonnegut, Kurt (2010) Shapes of Stories - <https://www.youtube.com/watch?v=oP3c1h8v2ZQ>

White, Hayden (1975) Tropics of Discourse: Essays in Cultural Criticism.

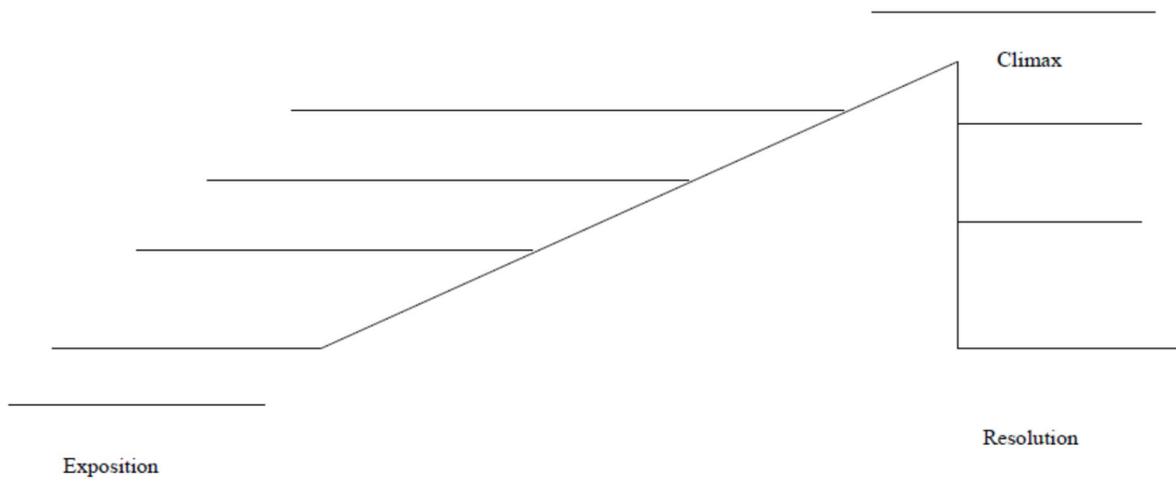
5. Appendix

a) *Neglected Plots*

Looking at the descriptions of the neglected Basic/Master plots it should be clear why they do not clearly fit to designing agency oriented eER-stories - too much fate. Anyway these plots mainly add fate to some of the other plots: following somebody, making a voyage, finding something, ...

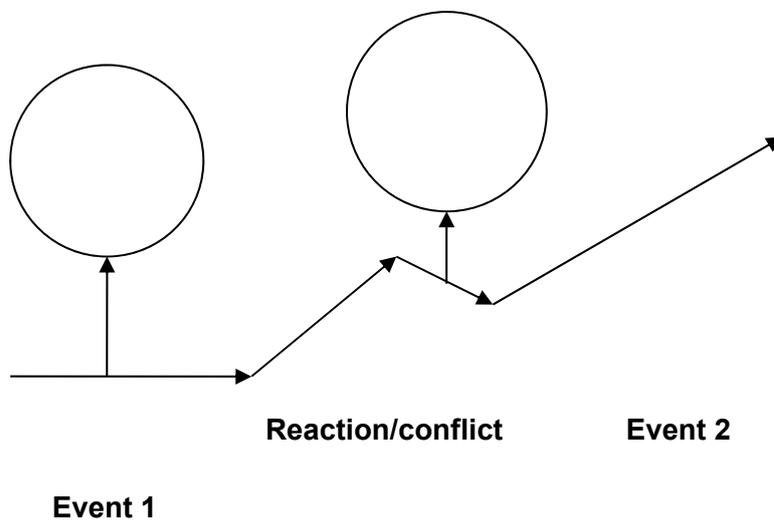
Basic Plots	Master Plots	
Comedy	Love	Lovers are destined to be together, but a dark force or weird circumstances are preventing them from doing so; after some struggles or mistaken identities, they fulfil their fate.
Tragedy	Descension	The fate of the protagonist makes him spiraling down into darkness.
	Ascension	It is – only – the protagonist's determination to rise.
Rebirth	Maturation Discovery Temptation Transformation Sacrifice	The protagonist's fate includes a twist that is based on some experiences and – alleged – decisions.

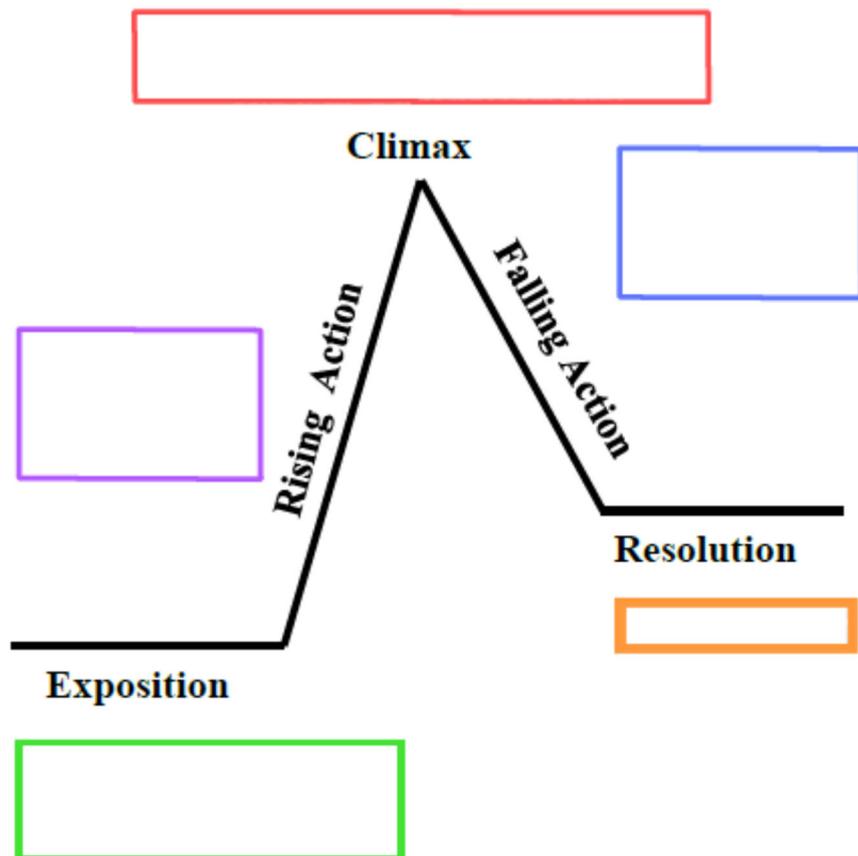
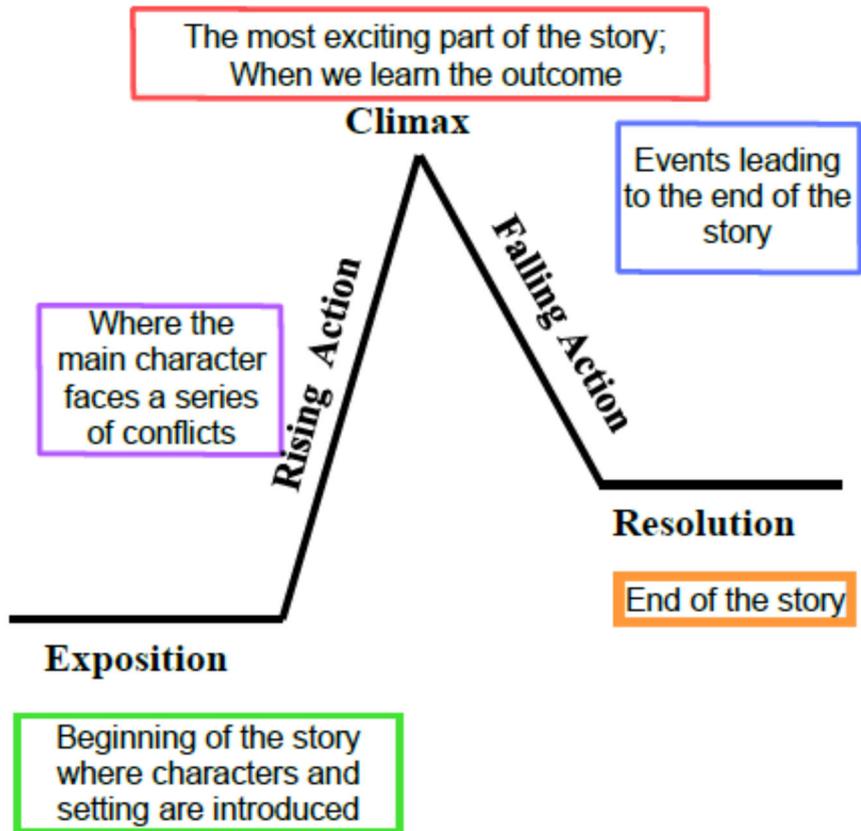
b) Examples for Plot Diagrams



Character thoughts

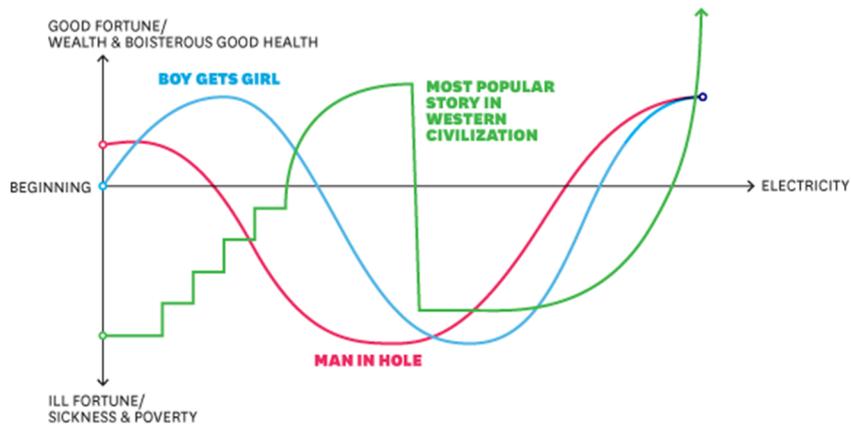
Epiphany/climax





c) Shapes a la Vonnegut

SIMPLE SHAPES OF STORIES As told by Kurt Vonnegut.



SOURCE DAVID YANG, VISUAL.LY

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