

Proceedings of the 3rd Research Support Games Day (RSGD #3).

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Research Support Games Day #3: Notes

This is the communal notes document for Research Support Games Day #3. All attendees are welcome to contribute to these notes, which will be shared after the event. Each of the planned sessions has a separate section. There are also sections at the end for other notes and comments, and for leaving any feedback about the event.

The organisers additionally recommended the use of [#ResearchSupportGames](https://twitter.com/hashtag/researchsupportgames) (<https://twitter.com/hashtag/researchsupportgames>) on Twitter during the event.

Don't forget to check out our list of games and related resources, held on Figshare:

<https://doi.org/10.6084/m9.figshare.16652701>. If you know of something that is missing from our list, let us know using the "Other Comments" section below or by emailing g.r.bray@rgu.ac.uk.

Sessions

Welcome

- This is the third event of this series. First event held in person, in Glasgow; this and previous events held online.
 - Introduction from event hosts: George Bray (Robert Gordon University) and Valerie McCutcheon (University of Glasgow). Both interested in researcher support and keen to encourage the use of games-based learning as a training method.
 - Various Zoom-based housekeeping notes were covered.
 - Reminder of the shared list of games and resources (link at the top of these notes).
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Talk: A Puzzling Interaction: an Overview of Puzzel.org and Some Non-Expert Thoughts on Puzzles as Bite-Sized Learning

George Bray (Robert Gordon University)

- Originally learned about [Puzzel.org](#) platform through the [DANS Data Game](#). GB was impressed by the simplicity of creating puzzles on the platform, so wanted to have a talk about it in order to raise more awareness of its existence within the community.
- Puzzles, like games, are interactive, fun and good for learning.
- Online platform created by Daan Weustenraad (based in the Netherlands). Currently 16 types of puzzle are available, with more added occasionally.
- It is possible to create a puzzle without an account, but an account makes it possible to manage your puzzles - including making changes after having created them.
- Free accounts have some restrictions: cannot have more than two active puzzles, and total puzzle-plays across all puzzles on the account is limited to 60.
- All paid accounts include an unlimited number of active puzzles and various “premium” features, like being able to monitor usage, and being able to customise styles and messages.
- Tiers of paid accounts vary in terms of the number of total puzzle-plays they can have, starting from 600. There are discounted costs for non-profit organisations, ranging from USD \$30 to USD \$125 per year.
- Current puzzle types include: Crossword, Memory, Quiz, Scavenger Hunt, Word Search, Fill in the Gap, Word Scramble, Cryptogram, Jigsaw, Reorder, Acrostic, Quartets, Categorize, Label This, Sliding Puzzle, Matching Pairs
- RGU created these puzzles for use during Open Access Week 2021:
 - RGU OA Crossword - <https://tinyurl.com/rgu-oa-xword>
 - Memory: Open Research at RGU - <https://tinyurl.com/rgu-oa-memory>
 - RGU OA Matching Pairs - <https://tinyurl.com/rgu-oa-pairs>
 - Label the Benefits of Open Access - <https://tinyurl.com/rgu-oa-benefits>
 - RGU OA Scavenger Hunt - <https://tinyurl.com/rgu-oa-hunt>

- Advantages of using puzzles to supplement other forms of game-based learning (in GB's opinion):
 - Encourage people to think - not necessarily to tackle the intricacies of complicated topics, but rather to ask questions like "what does that word mean?" or "why has that image been used?". The aim is to encourage people to get interested in finding out more about the topics mentioned, to help raise people's awareness of other guidance available to them, and to make it easier to have more involved conversations on complicated topics later.
 - Puzzles (at least on Puzzel.org) can often be a mixture of text-based and visual - there is also the option to include audio as well, in some cases, so they can potentially appeal to a wide array of learning styles.
 - They are typically a lot quicker to play than most games - generally 5 to 15 minutes. This makes them good for break times, ice-breakers, or other "filler" activities.
 - They are also quick to make (unlike e.g. designing an entire board game).
- GB ran through a live demonstration of creating a "Memory" type puzzle. A link was provided to attendees to try the puzzle [but GB has since removed this sample puzzle from his account, so it is no longer accessible].
- GB then invited attendees to contribute clues/solutions for a research support themed crossword. A copy of the list of suggestions is available as a separate file ("rsgd3_slides_2_bray_xword.pdf"). The resulting crossword is available online: https://puzzel.org/en/crossword/play?p=-MvxnL4tl_JVVcca6gtJ

Questions

1. What kind of engagement and reactions did you get to the puzzles?

We had about 30 plays during the four weeks from the start of Open Access Week. There were also some positive comments from researchers and other research support colleagues. The puzzles were not promoted in a highly intense way; just as e.g. notes in blog posts and email signatures.

2. For using images in Puzzel.org puzzles, is there a way to add descriptive text/alt-text to make them more accessible?

Not as far as I know. However, Daan Weustenraad is very open to expanding the functionality of his platform and I'm sure he would be interested to hear that suggestion - his contact details are available on the Puzzel.org website.

3. It would be good if you could import the spreadsheet

[Amended answer post-event] Apparently this is something you can already do for certain puzzle types - including crosswords! If I had spotted this when preparing the session, then I would probably have done that instead, to speed things up.

4. Not a question as such, but just to say that the University of Glasgow encourages the use of H5P rather than third-party platforms. H5P can be used to create similar things to Puzzel.org: <https://h5p.org>
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Talk: Work, Research Data and Play: the RDM Adventure Game

Alex Ball (University of Bath)

Play the game: <https://rdm-games.gitlab.io/rdm-adventure/>

Source code: <https://gitlab.com/rdm-games/rdm-adventure>

- Interactive decision game based on choose-your-own-adventure books of childhood (“Fighting Fantasy” - https://en.wikipedia.org/wiki/Fighting_Fantasy)
- Various possible approaches available for replicating this sort of experience digitally, including Twine (<http://www.twinery.org/>), Squiffy (<https://docs.textadventures.co.uk/squiffy/>) and Undum (<https://idmillington.github.io/undum/>).
- AB and colleagues initially created an RDM triage tool that used Squiffy, which provided further inspiration and motivation to develop a full RDM-based educational game.
- For this game, the developers decided to use Twine instead, as they felt it could better support the complexity of the game that they had in mind. The game is currently written in Twee 3. They also decided to develop the game using GitLab, as this was felt to be more appropriate than GitHub.
- The game aims to present the player with various RDM learning topics that might be encountered over the whole course of a research project, from the initial funding bid through to producing outputs. This journey is divided across a number of stages, reflecting the phases of a project lifecycle. It is possible to start the game at any stage.
- Throughout their decisions, the player is scored. At the end of the game, the ending is determined by the player’s overall score.

- A decision was made to focus on processes, rather than details - to train the player to think in certain ways when dealing with certain types of problem, rather than getting into the complex details of e.g. identifying reliable datasets.
- A frequently-encountered problem for RDM support staff is that qualitative researchers often find it harder to apply RDM principles and messages to their own research, whereas it tends to make a more immediate connection with quantitative researchers. The game aims to address this by giving researchers the choice of qualitative or quantitative perspectives, so that a qualitative researcher would be able to relate more closely to the scenarios in the game.
- The development process was iterative and benefited from the ability to get feedback from playtesters through in-person discussion and observation.
- The game has been widely played since its release - in its first year, it was played by about 1,300 users across 66 countries.
- The way in which the game is built means that it can be translated into different languages and can accommodate customised links for individual institutions (e.g. to other online guidance).

Questions

1. Did the act of developing the game for both “qualitative” and “quantitative” researchers’ perspectives give you any additional insights into those research processes?

Not particularly - we already had a solid grasp of how to apply RDM to the situations of both kinds of researcher! However, it was good to finally get engagement and understanding from some of our qualitative researchers.

2. I love this type of serious game, as I think it provides a deep learning experience for learners, as they learn the impact of their actions. From a technical perspective, I know there's a scorecard screen, but is it possible for a certificate to be generated when the student achieves a "passing score"?

That is not functionality that exists at the moment, but hypothetically it might be possible to create some sort of integration with virtual learning environments (e.g. Moodle), so that if a student completes the game with a certain level of score, they get some sort of formal recognition - that would be an interesting development to see.

3. Are you able to see a summary of your past choices at the end of the adventure? Because I would totally forget what I chose!

Not quite; at least, the game doesn't give you a complete breakdown of all your choices. However, it does provide narrative descriptions of how aspects of the ending have been affected by the decisions that you made in earlier sections.

4. Not a question, but just to say that I really liked playing the game - and I think that displaying the choices again could really help learning where you made "bad" choices.

Talk: The Puzzling Hunt for Open Access: How a Hands-On Escape Room Shifted to Online

Hannah Pyman (University of Essex)

Play the game: <https://essex.libwizard.com/f/puzzling-hunt-for-OA>

- Game was developed as the online version of a physical escape room.
- Gamification and Open Access are important things for the research support team at the University of Essex - so the ability to combine both is very exciting.
- The original Open Access Escape Room was designed by Katrine Sundsbø. It is designed to be played in person, with lots of props. The instructions and guidance on running the escape room have been made available online: https://figshare.com/projects/Open_Access_Escape_Room/56915
- The original game has been played and redeveloped by a lot of people around Europe.
- The game explores the key aspects of Open Access through a linear sequence of puzzles, in the style of a conventional escape room. It is educational, but the escape room style is a key tool for engagement. Katrine Sundsbø has written an article about this: <https://insights.uksg.org/articles/10.1629/uksg.459/>
- When the COVID lockdown happened, the team wanted to find a way in which they could continue supporting their researchers by engaging them with Open Access, and to keep those elements of gamification as much as possible.
- Concepts of gamification, which the team wanted to retain in an online version:
 - Active Learning - Enabling learners to take an active role in their learning activity

- Concept of play - provides a “safe space to fail”
 - Taking on another character - by distancing yourself from the game character, you encourage people to be okay with failure (and therefore make the learning process easier/more effective); particularly important for more established researchers/academics (versus e.g. students).
 - Small wins - sense of achievement by completing the sequence of tasks, generating positive emotions and a feeling of progress.
 - Memorable - helps to enforce the learning; even if perhaps not quite as memorable as doing it in person, with a group of other people and a lot of props!
- The game was created as a LibWizard tutorial, which was part of the Springshare platform. Required a bit of a learning curve, but HP was able to achieve this fairly quickly.
 - This platform enabled the use of various mixed media: videos, images, interactive jigsaw puzzles, LibGuide pages, PDFs and some plain-text HTML. Use of varied media helped it to feel more like a game, rather than just a series of questions.
 - Also embedded some open access resources into the game, e.g. OA book, article and data; replicating some of the physical resources used in the hands-on version.
 - Various question types - helps to give flexibility and ensure that it still felt gamified rather than a simple quiz.
 - The writing is designed as a story. If questions are answered incorrectly, then the system will provide hints/clues.
 - HP then provided a live demonstration of some of the questions. One showed a PDF embedded into one of the questions. Another featured an embedded YouTube video created by HP and intended to replicate the process of viewing a physical map (part of the original game). Another showed an embedded jigsaw puzzle.
 - Challenges encountered:
 - Web accessibility - wanted the game to be interactive, but also wanted everyone to be able to complete it (e.g. adding alt text to images, using OCR'd text for screenreaders).
 - Judging level of difficulty - fine line between ensuring the game was difficult enough to make people think/learn, but not so difficult that people were likely to get stuck and frustrated.

- Keeping the story going - much simpler in the physical version when there are lots of props and a live actor! Wanted to keep the story element to reinforce the sense of play, and needed to ensure that the story still made sense despite spending time on puzzles; didn't want the player to lose track of the story because it took them so long to complete a puzzle.
- Promoting the online version - used social media; Twitter particularly good for targeting academics/researchers. Also embedded into LibGuide on Open Access.
- Having the online version has been good for catering to flexibility needs of attendees - e.g. rather than scheduling a session, people can take part in their own time.
- Received positive comments from library and other research support colleagues, but very difficult to get asynchronous feedback from players. Could potentially use some sort of completion feedback form? However, usage statistics still show that it is being used (statistics also cover the time people completed it and how long they took on different questions).

Questions

1. Do you monitor via the website at what stage people drop out? What is the share of completing the game?

Unfortunately you can only see when people complete the game - can't see cases where e.g. people have started and then not finished. However, can see where people have had difficulty with particular questions, which can be a prompt for editing the question to have e.g. more useful hints.

2. How long did it take you to develop the game using LibWizard?

In amongst other tasks, it took me a couple of weeks for the initial development. There was then additional time for testing and improvements, but that is hard to quantify. It was quite involved, because I also had to create all the accompanying materials as well. Could potentially do it more quickly with less complicated elements, if time was a greater restriction. LibWizard was really intuitive to learn though!

3. Were there any particular limitations or frustrations you encountered when trying to use LibWizard?

Yes - I tried lots of different puzzle software for lots of different types of puzzles, but a lot of them didn't work in LibWizard (unlike the successful jigsaw shown in the demonstration). It was a struggle to embed even some general websites and resources, so the main issue was finding media that was compatible.

4. Something that is difficult to replicate in an online environment is the excitement and noise of working as a team, and the ability to allocate the team to different tasks or aspects of a puzzle. I'm not sure that LibWizard could support this, but do you think that it might be possible to replicate more of that team-side of things on a different platform, or do you think that this would just be too difficult to achieve?

It would definitely not work very well on LibWizard because the experience is so linear; you have to complete one question before you can move on to another. But you can encourage people to complete it as a team via screen-sharing. Another thing we did was that we added a certificate of completion at the end, which indicated the percentage that you got correct (e.g. if you got everything right on your first attempt, then you'd get 100%) and your time - we encouraged people to share that and to develop a sense of friendly competition. However, if anyone does have any ideas for software that could be used to play the game in a more collaborative way, that would be really interesting to hear about.

5. Not a question, but on a vaguely related note, escape rooms obviously benefit from being graphical/visual experiences. You've achieved this to some extent with the embedded media. Something that could be interesting would be to explore the idea of a platform that allows players to move around a 3D virtual space. For example, perhaps you could set up some sort of thing in Minecraft (<https://www.minecraft.net/en-us/about-minecraft>), where the players go around and look at signs on the walls with URLs that take them to puzzles hosted elsewhere. You also mentioned the lack of a live actor - of relevance to this is a board game called "Atmosfear" ([https://en.wikipedia.org/wiki/Atmosfear_\(series\)](https://en.wikipedia.org/wiki/Atmosfear_(series))), where a recording of an actor's performance is part of the game experience.

I wish we had the time and funding to develop something like that! In terms of pre-recordings, we did speak to our actor about doing some short video clips for the online game, but unfortunately the timings never really worked out for that.

Open Discussion

During the discussion, we demonstrated another online platform: Bingo Baker. This platform is used for creating custom bingo cards and for running bingo games. In our case, we created a bingo card with various potential discussion topics, then used the Bingo Baker website to randomly determine which topics were spoken about. Unfortunately we did not have enough time to go through enough topics for anyone to get bingo!

Team Building

- A few people had thoughts on the idea of using games (generally; not necessarily research support-related) for team-building within support departments:
 - One person said that they had used a version of the Impact Game (https://cord.cranfield.ac.uk/collections/The_Impact_Game/4080161/5) with liaison librarian colleagues when talking about the work done by the research support team.
 - Another person spoke about the team-building benefits of sitting down together and playing through a game for the purposes of analysing it (e.g. “is this a game that we want to use with our researchers?”): it gives a chance for everyone to have an opinion and can encourage people to speak up about things because of the less formal atmosphere.
 - Another person said that games always go down well at their library’s Christmas party...

Evaluation

- Evaluating the success of a game is particularly difficult in an online environment; it is far easier to get feedback from users in person, whether through observing their play experience or by talking with them about it at the time.
- Possibility of using online forms at the end of a game experience, but potentially difficult to get the right tone - can suddenly seem quite formal in comparison to the game just played.
- Some people reported that it was far easier to get feedback from game-based sessions than it was for conventional training sessions, which suggests that the game’s way of engaging people and making them feel comfortable was also good in that regard.

Games about tracking impact

- There are some games that already talk about creating impact, but relatively few that provide a representation of having/measuring impact. Some ideas:
 - The “Publishing Trap” (<https://copyrightliteracy.org/resources/the-publishing-trap/>) involves tokens that are accumulated over the course of the game, representing the player’s contribution to academia/research and to society/teaching.
 - Perhaps there could be some sort of game where you are given a warning from the future, about the dangers of not capturing impact when it is current?
 - Perhaps some sort of Cluedo-inspired thing (<https://en.wikipedia.org/wiki/Cluedo>), where you are trying to puzzle out the mystery of who had the impact, and where and how that impact was had?

Player engagement

- There were some tips on how best to ensure that players were engaged:
 - If running a game-based session, make it clear in the session blurb that this will be a feature, and get attendees to register in advance. This way you can be more certain that the only people turning up will be people who are prepared to play a game.
 - It helps if the game is fairly quick and simple.
 - If the game is puzzle-based and potentially sizeable, then it should have a good hint system to prevent people becoming stuck and frustrated.

Games about responsible bibliometrics

- No one had any recommendations for existing games on this topic, but there were a couple of suggestions for how such games might be done:
 - One recommendation was for a choice-based adventure game (like the RDM Adventure Game - see Alex Ball’s talk above!)
 - Another potential idea was to do something based on bluff games like “Coup” (<https://boardgamegeek.com/boardgame/131357/coup>), where players try to see through the deceptions/distortions of certain metrics.
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Other Comments

- Last year, my professor and I reviewed the available research support games, then extracted their features and arranged them based on an educational game design model. Then we designed a questionnaire and asked the experts to add other features to our model and complete it. We have already designed a model for designing research support games. Our article is currently under review. People who want to get in touch with me, I will be happy to email me: borji.samaneh@gmail.com
- A MOOC on gamification (by Professor Kevan Werbach) is available on Coursera: <https://www.coursera.org/learn/gamification>
- A blogpost by Marc Abraham on principles underpinning game design: <https://marcabraham.com/2014/04/15/which-principles-do-underpin-game-design/>