

Game Changers

A Game Changers' Initiative

A Guideline to Creating Your Own Virtual Escape Room (VER) in Microsoft Teams and Zoom

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Virtual Escape Rooms (VERs), Technical Methodologies and Instructions

Virtual Escape Rooms (VERs) operate in a similar fashion to physical escape rooms, they contextualise the same rules of play but are situated online to allow users to play and learn remotely with their peers.

A VER is an online-based activity which can be used for the purposes of teaching and learning, and as an alternative to a team building exercise. They can be hosted within video conferencing platforms, such as Zoom, Skype or Microsoft Teams, and rely on having external cloud storage to store digital equalities of evidence, clues and puzzles for players. VERs are designed to be as flexible and user-friendly as possible, with the openness of allowing how materials are presented in a digital space, for example, videos, images, audio clips, custom designs and so on. This creates a great opportunity for designers to generate a narrative to be either linear or non-linear; whilst also having a broad variety of technologies available for their participants.

VERs can be experienced by an individual or in a group setting, it is recommended for this particular activity that a maximum of three people in one group should take part with a VER for Escape Racism. Depending on the size of a VER, it can be split up into two 1 hour sessions if the game has four rooms to go through, this activity should only take 1.5 hours to complete due to having three rooms to complete.

Designing a VER adopts the same development methodology as a physical escape room, it requires a lot of research, preparation and testing in order to make the experience as immersive and engaging as possible for learners. VERs employ the six stages of development which should be followed:

1. **Ideation** – Determining what your game is about.
2. **Research** – Researching the subject of your game.
3. **Conceptualisation** – Creating the storyline and characters utilised within your game.
4. **Game Design** – Designing puzzles and educational materials for inclusion within your game.
5. **Content Creation** – Creating the content and forming the platform of your game.
6. **Quality Assurance** – Testing and improving your game.

To learn more about these six principles in greater depth, it is highly recommended to see the Guidelines for Creating Educational Escape Rooms, which is a part of the Erasmus+ funded project, Escape Racism.

Setting up a VER

The setup of a VER requires a hub to host private channels with access to three virtual rooms containing pre-made/existing digital materials and codes which are to be examined by players to navigate their way through. These digital materials can be made up of letters, newspaper clippings, photographs, graphs, tables, journals, videos, etc. The materials used within a VER can either be created by yourself, a colleague or sourced on the Internet.

However, do ensure that the resources you use from the Internet are [Creative Commons](#) friendly, they're licensed '[CC-BY-NC 4.0](#)' (Creative Commons Attribution Non-Commercial

license) or as any other generic CC-BY-NC license, and that you credit the online resource and its creator.

Depending on which video conferencing and cloud storage platforms you choose to use determines how the VERs are organised, created and moderated to grant access to learners when partaking in the online activity. Each setup is different and requires some time to organise in a particular manner to make it easy for learners to work their way through and understand without encountering any technical difficulties. Recommended platforms and their connections are as followed:

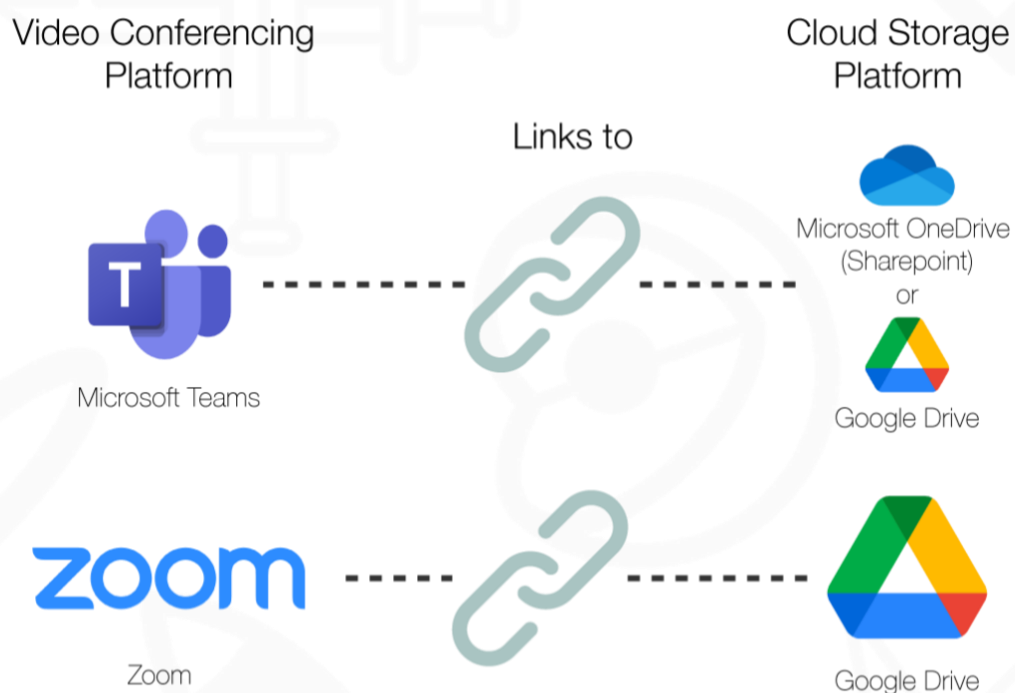


Figure 1. The relationship between video conferencing and cloud storage platforms.

Players are to join the general channel which the activity is hosted in. The facilitator, the person who runs and time keeps the session, will brief and show players an introduction video that summarises the rules of play. Afterwards, players will be directed to their private channels or breakout rooms where they will start the VER in their assigned groups. Each group will have access to their own folders which will allow them to work in without any interference from any other teams.

In each room folder, groups will find prompt letters labelled as 'Step 1' and 'Step 2', these prompt letters create a wider narrative to the scenario that's being investigated, they'll provide a mission objective and an external link to the chosen cloud storage platform and act as prompt documents for players. Groups have to explore the evidence and clues

accessed via the external links to contribute towards solving the mission set in the letter of Step 1 and follow the next steps to crack the code in Step 2 to unlock the next room's Step 1 letter.

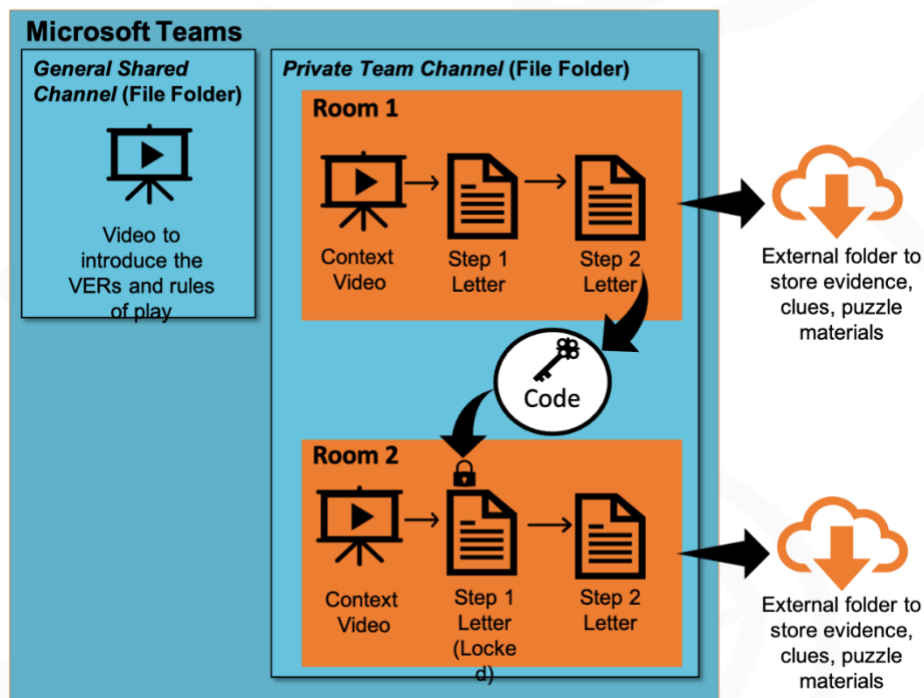


Figure 2. Arnab. S (2020). *Virtual Escape Rooms Microsoft Teams Edition 1.0.*

VER Channel Settings on Microsoft Team and Microsoft OneDrive (SharePoint) or Google Drive

Each group member can collaborate using the team meeting functions, whether it's via voice or video conferencing. One learner is recommended to share their screen with their group to see the room folder contents available in the external cloud folders collectively. Once a group can formulate an answer to Step 1's mission, they can advance to Step 2 which tasks them to solve the new mission puzzles to unlock the next room in the activity; the mission objectives in each step of a room will always have a connection, so group members may find they will need to relook at the puzzles and clues they may have missed to solve a code. Facilitators can join the private team channels to be there to assist if they're needed.

Instructions on Creating a VER Channel in Teams

1. Ensure that you have an email address that is assigned to Microsoft Outlook.
2. Open [Microsoft Teams Online](#) or [download](#) the Microsoft Teams application using the email address associated with Microsoft Outlook.
3. Create a spreadsheet of participants, ensuring you have their names and email address contact details, and assign them to specific groups.

4. Open Microsoft Teams and select 'Join or Create a team' from the left-hand panel. Select 'Create a team', and when a new window opens, select 'Other' from the team types on offer.
5. Click the '...' icon shown next to the teams name and select 'Add channel'. When a new window appears asking you to add a channel name, description, and privacy settings, name each channel appropriately; for example, Group 1, Group 2, etc, and set the privacy setting for each group to 'Private'.
6. You can skip the process of adding members to the groups at this time.
7. Once your groups have been created, enter each group channel and select the 'Files' tab at the top of the screen. Create three folders, naming each of them appropriately. For example, Room 1, Room 2, etc.
8. Within the Room folders, create 2 new folders and name them 'Step 1' and 'Step 2'. In Room 3, make sure to create the two folders mentioned plus an additional folder which will be named 'Final Report'.
9. Click the '...' icon shown next to the teams name and select 'Manage Team'. When the new window opens, add your facilitators and players to the list. If these are external to your organisation, they may be added using their email address.
10. Click the '...' icon next to a group to assign the relevant facilitators and players to it using the 'Add members' option. This is performed by typing their names or email address in and selecting their details from the drop-down menu. Repeat this process until each facilitator and player has been assigned to the correct group channel.
11. In order to limit the ability to edit settings to facilitators only, select the 'Manage teams' option (see step 8) and select the 'Settings' option. Open the 'Member permissions' tab and deselect the following options for your players:
 - Allow members to create and update channels
 - Allow members to delete and restore channels
12. Please note, you'll have the choice to between Microsoft OneDrive (Sharepoint) and Google Drive to use as the external cloud-based folder for VER, depending on feasibility and preference. For instructions about hosting materials on Google Drive, please see **page 6**.

Instructions on Hosting VER Materials on Microsoft OneDrive (SharePoint)

1. Ensure that you have created all the prompt letters for each step in your chosen word processor before you start.
2. Once the team channel has been created and the settings have been adjusted, go to the [OneDrive](#) website and sign in to access the cloud storage system.
3. Under 'My Files', create a new folder and enter the name of the VER. Open the folder and create the same number of folders created in Teams and name them Room 1, Room 2, etc.
4. Open 'Room 1' and create another 2 new folders and name them 'ACCESS ROOM 1 STEP 1 HERE' and 'ACCESS ROOM 1 STEP 2 HERE'.

5. Open 'ACCESS ROOM 1 STEP 1 HERE' and upload the curated materials for this folder. When you've uploaded everything, back and open 'ACCESS ROOM 1 STEP 2 HERE' and upload the curated materials for this folder.
6. Repeat the last two steps for the rest of rooms and their steps' materials.
7. When all the rooms and steps' materials have been uploaded, go, and open the 'Room 1' folder to, right-click 'ACCESS ROOM 1 STEP HERE' and select 'Copy link'.
8. Open the prompt letter for Room 1 Step 1 and type in the following 'ACCESS STEP 1 HERE: **Hold down the SHIFT key and click on the link** to open folder'. Highlight 'ACCESS STEP 1 HERE', right-click and go to 'Link', insert the link copied from the folder to add the URL and click 'OK'.
9. Repeat steps 7, 8 and 9 for each step and apply to the appropriate prompt letter.
10. Test all the links redirect users to the right location and make any changes if necessary. If everything is correct, export all the letters as PDF.
11. Once the letters have been exported into PDFs, open them either via Adobe Acrobat or Preview and re-export and save the PDFs with each encrypted password applicable to the prompt letters.

Go back to Microsoft Teams and add each prompt letter to their allocated rooms' step folders.

Check again that all the links within the prompt letters open to the correct Microsoft OneDrive folder you created, and that they function properly.

VER Channel Setting on Zoom and Google Drive

Using Zoom is a good alternative if one isn't familiar with Teams or does not have access to it through their workplace. Zoom has the ability to create and assign participants into breakout rooms within a scheduled meeting, where features such as enabling participants to share their screens with the rest of their group or having the ability as a host to broadcast a message across the active breakout rooms to, for example, inform them of how much time is left before the game finishes.

As host, it's possible to invite more than one facilitator within the meeting to co-host and assist with the facilitation of the remote activity. The host and co-host/s can then jump in between breakout rooms to check and prompt participants if needed, they will be able to share links to the letters of each room step for learners to read through and begin their missions. The links provided within the letters will redirect learners to Google Drive where folders to each room will contain all the evidence and clues. Participants will be temporarily restricted to access the other rooms and materials to prevent the groups skipping parts of the VER.

Instructions on Hosting Materials on Google Drive

1. Ensure that you have created all the prompt letters for each step in your chosen word processor before you start.

2. Create or sign into a Gmail account and open 'Google Drive' at the top of the page.
3. Select 'New', create a new folder and enter the name of the VER. Open the folder and create the desired number of folders that represent each room and name them Room 1, Room 2, etc, and a separate folder for 'Letters'.
4. Open the Room 1 folder, create another 2 new folders and name them 'ACCESS ROOM 1 STEP 1 HERE' and 'ACCESS ROOM 1 STEP 2 HERE'.
5. Open 'ACCESS ROOM 1 STEP 1 HERE' and upload all the curate materials for this folder. When you've uploaded everything, go back and open 'ACCESS ROOM 1 STEP 2 HERE' and upload the curated materials for this folder.
6. Repeat the last two steps for the rest of the rooms and their steps' materials.
7. When all the rooms and steps' materials have been uploaded, go back to 'Room 1' and right-click 'ACCESS ROOM 1 STEP HERE' and select 'Copy link'.
8. Open the prompt letter for Room 1 Step 1 and type in the following 'ACCESS STEP 1 HERE: **Hold down the SHIFT key** and **click on the link** to open folder.' Highlight 'ACCESS STEP 1 HERE', right-click and go to 'Link', insert the link copied from the folder to add the URL and click 'OK'.
9. Repeat steps 7 and 8 for each step and apply to the appropriate prompt letter.
10. Test all the links redirect users to the right location and make any changes if necessary. If everything is correct, export all the letters as PDF.
11. Once the letters have been exported into PDFs, open them either via Adobe Acrobat or Preview and re-export and save the PDFs with each encrypted password applicable to the prompt letters.
12. Go back to Google Drive, open 'Letters' and upload all of the prompt letters. These letters can only be shared with players via their individual links, it mustn't be shared as a folder.

Instructions on Creating a VER Breakout Rooms in Zoom

1. Ensure you have access to Zoom within your organisation to arrange meetings and breakout rooms within the online activity. [Download](#) Zoom onto your desktop and work online via the [website](#) to create breakout rooms.
2. Create a spreadsheet of participants, ensuring you have their names and email address, and assign them to specific groups.
3. Log in via Zoom's website, select the 'Meetings' tab on the left-hand panel and click on 'Schedule a Meeting'. Enter in the details about the VER:
 - The topic names
 - Description
 - The date and time it shall take place
 - The duration (recommended time between 1 to 2 hours)

- The time zone (this is important to address if the online activity is going to outreach other European countries).
4. On the security settings, enable a waiting room within the meeting so it allows the hosts to admit players into the call once they're ready to start the introduction.
 5. It is required to allow video settings for both hosts and players, although some players might not want to be on video, it's recommended to have this option available. Leave the audio settings on **both**.
 6. Navigate to 'Meeting Options', tick 'Breakout Room pre-assign', here a dropdown will appear with the option to create the rooms, click on 'Create Rooms' to continue this step. A new window will appear, start adding rooms by clicking the '+', rename the breakout rooms to desired group names, and begin adding participants using the email address provided to you.
 7. To add alternative hosts to facilitate the call, add them using their email addresses and finish by clicking 'Save' at the end of the webpage.
 8. On the day of the online activity, ensure you have all the right links ready to share with players. Do this by opening each prompt letter from the 'Letters' folder on Google Drive, go to 'Share' and copy every link to paste them into a new document, and label them so they're all together in one place.
 9. Start the introduction by sharing any digital materials which has been created for the VER, such as a video explaining the activity and asking for any questions learners may have before they start.
 10. Once everyone's ready to start, unlock the rooms by going to 'Breakout Rooms' and selecting 'Open All Rooms'. When the breakout rooms are unlocked, send the participants into their assigned breakout rooms, and join each room one at a time to send them a link to the first prompt letter for them to start the VER. You can send broadcasts to and close all rooms at any time.