



# **DIGITAL EDUCATIONAL ESCAPE ROOMS (DEER) GUIDE FOR IMPLEMENTATION IN THE CLASSROOM AND MULTIPLIER TRAINING**

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

## Contents

<b>Introduction.....</b>	<b>3</b>
<b>DIGITAL EDUCATIONAL ESCAPE ROOM OVERVIEW .....</b>	<b>3</b>
What is an Educational Escape Room?.....	3
Constituents of the Escape Room .....	4
What is Virtual Reality?.....	4
What is Reflection?.....	5
<b>PEDAGOGICAL IMPLEMENTATION OF THE ESCAPE ROOM IN VIRTUAL REALITY .....</b>	<b>5</b>
<b>DEER NAVIGATION INSTRUCTION FOR BROWSER .....</b>	<b>7</b>
<b>DEER ONBOARDING FOR VR HEADSET PICO NEO .....</b>	<b>10</b>
<b>DIGITAL EDUCATIONAL ESCAPE ROOM FOR THE EDUCATORS “MONSTERESCAPE” .....</b>	<b>14</b>
<b>DIGITAL EDUCATIONAL ESCAPE ROOM FOR LEARNERS “LETTERS SAVE THE WORLD” .....</b>	<b>32</b>
<b>SUGGESTIONS FOR IMPLEMENTATION SCENARIOS: .....</b>	<b>39</b>
<b>DEER MULTIPLIER TRAINING CONCEPT .....</b>	<b>40</b>
Developing DEER on your own:.....	41
<b>Summary.....</b>	<b>42</b>
<b>Appendix1: User Agreement and Liability Waiver Example .....</b>	<b>43</b>
<b>Appendix2: Checklist .....</b>	<b>44</b>
<b>Bibliography.....</b>	<b>45</b>

## Introduction

Digital Educational Escape Room (DEER) was developed in frames of the Erasmus+ Project KA2 ABEDiLi Adult Basic Education Digital Literacy (11.2020-10.2022). DEER is the second intellectual output (IO) of the project and was designed based on the results from the first IO [e-Pool](#). DEER includes the information and references to the curated digital tools for adult basic education (ABE) from the e-Pool.

During the development of the escape room consortium has spotted the need to develop two educational escape rooms for two different target groups: educators and learners.

The first DEER “**Monstrescape**” is designed for the **educators, educational managers, trainers, and teachers** working in the ABE.

The second educational escape room “**Letters Save the World**” was created primarily for the **learners** with low literacy skills starting from Alpha-Level 4.

The **aim** of this guide is to assist you while implementing DEER into your educational practice.

- We will help you to take the first steps and get acquainted with the new concept of the game-based learning i.e., **escape room**.
- An innovative teaching-learning environment of **Virtual Reality (VR)** will be introduced gradually starting from 2D Modus.
- Two Escape Rooms are described in details with all the puzzles and their solutions.
- There is a helpful checklist which will help you to embed this concept into your course with the help of **virtual reality headsets**.
- This offer is rounded up by the storyboard for the **2-day training for educators** teaching adult basic skills who are willing to implement the DEER into their practice.

Upon reading the guide on DEER you will be able to implement the concept **pedagogically, technically and content/topic related** (sustainability or digital competencies) according to the needs of your target group.

3

## DIGITAL EDUCATIONAL ESCAPE ROOM OVERVIEW

### What is an Educational Escape Room?



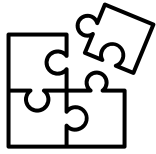
Escape Rooms (ERs) are essentially “live-action **team-based games** where players discover **clues**, solve **puzzles**, and **accomplish tasks** in one or more rooms in order to accomplish a specific goal (usually escaping from the room) in a **limited amount of time**” (Nicholson, 2015). The concept of **Educational Escape Rooms (EERs)** is a relatively new phenomenon which arose on the grounds of game-based learning. A fairly accurate interpretation of an

Educational Escape Room (EER) was formulated by Gordillo who describes it as “a combination of the key concepts of **game design** with sound educational approaches in order to foster students’ **soft skills in a motivating way**” (Gordillo, 2020, p. 225032). A few other academicians note that the implementation of EERs leads to an increase in **academic performance** which is derived from the extrinsic motivational factor associated with the nature of the activity. Merchán Macías advises the **occasional use** of the programme so that it does not become a routine that is an obstacle to student motivation (Merchán Macías, 2017).

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Co-funded by the  
Erasmus+ Programme  
of the European Union



Each ER consists of a **story** that must be short, precise, and motivating. It must be told by the **gamemaster**. In the educational context teacher plays the role of the gamemaster. The gamemaster is the person who can provide the participants with clues while solving puzzles. However, in the educational context, we shall use the **scaffolding** strategy instead.

Benson regards **scaffolding** as a special pedagogical process that takes place when the instructor and the student trainee interact with each other for the purpose of solving a problem (Benson, 1997, p. 126). Its purpose is to facilitate the completion of tasks that the student is not yet able to solve and to allow the student to do as much or as little work as they are able to perform independently. A fundamental technique in “scaffolding” is the reduction of the intensity of instruction until the students are fully autonomous and confident in their actions.

Vital parts of the ER are the **puzzles** that must be solved by the learners on their own or with the little help of the instructor/gamemaster to get out of the “room”.

The “**room**” might be analogue or digital. This is the venue where the learners play. In our case, the learners will play the ER in **Virtual Reality**.

4



### What is Virtual Reality?



**Virtual Reality (VR)** is interpreted as “a three-dimensional computer-generated environment, updating in real time, and allowing human interaction through various input/output devices” (Kaplan A., 2021, p. 13).

There are two Modi of VR: 2D and 3D. 2D VR is possible on the PC, notebooks, laptops and sometimes tablets (although not recommended). 2D VR can be as **an App or in web browser**. The best example for the VR in

App is Altspace from Microsoft. Mozilla Hubs is the best representative of the web-based VR on the computer. In both cases participants need the link to enter the corresponding room.

One way to deliver the 3D VR experience in Educational Escape Rooms (EERs) is to design a corresponding environment which would include, for instance, large screens displaying the puzzle content and **Virtual Reality (VR) glasses** that each player would be required to wear. Once the VR glasses are put on, each EER participant would see nothing but the game elements.





Reflection is an integral part of the instructional process for educators and participants of the Educational Escape Room (EER) in Virtual Reality (VR). Without it, one cannot progress in their learning/teaching practice. It is a holistic procedure that integrates many facets of the EER experience from participants and educator perspectives alike: the experiment "cannot be evaluated in vacuums, apart from its effects on system behaviour and player

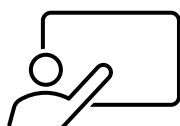
experience" (LeBlanc, 2009). Reflection can occur on many levels of the EER, such as:

- Educational idea or objective,
- Virtual reality experience,
- Puzzles and equipment,
- The role of the participants in the Educational Escape Room (EER).

Reflection is the final part of the EER experience. It gives opportunity for the participants to discuss their emotions, perceptions, feelings, impressions, and experience after the game. This is the best opportunity for the gamemaster to receive the feedback and opinion of participants on the topic of the EER. The educators conduct the reflection part with the participants to ensure that they have conveyed their message. The principal objective of the EER is to heighten the population's awareness regarding existing issues. In our case, the topics are "Sustainability" in "Letters save the World" and "digital Literacy of ABE educators" in the "Monsterscape".

For the reflection session you may prepare the questionnaires, points for discussions or any other method which you consider suitable to your target group. While working with people experiencing difficulties while reading and writing, it is advisable to conduct an oral discussion. You may prepare in advance the questions for discussion relating to the message of the EER, their gaming and VR experience. As a gamemaster/educator you may put the most important things down during the discussion. On the other hand, working with the educators, paper-based or written questionnaires can be suitable. Firstly, the educators can fill in the surveys on their own and gather some thoughts for later discussion in the group.

## PEDAGOGICAL IMPLEMENTATION OF THE ESCAPE ROOM IN VIRTUAL REALITY



Being an educator means not only delivering the information to the students but also consideration of the physiological, psychological, ethic, privacy, and social points. The above-mentioned aspects are vital especially while implementing VR into DEER.

### Physiological Aspect



One of the most concerning questions is related to a phenomenon termed "motion sickness" in Virtual Reality (VR). Smyslova and Vojskunski identified three main groups of symptoms of motion sickness:

- Visual symptoms: asthenopia, i.e., visual discomfort or eye fatigue, blurred vision, headaches. Similar symptoms occur as a result of the screen moving closer to the eyes (cf. Smyslova, 2019, p. 86);
- Symptoms related to disorientation: dizziness, loss of spatial awareness (cf. Smyslova, 2019, p. 86);
- Symptoms related to the overall state of health: nausea, concomitant weakness and abdominal pain (cf. Smyslova, 2019, p. 86);

Overall, the emerging disorders from Virtual Reality (VR) mechanism lead to difficult real-world transition. That is why **DEER ONBOARDING FOR VR HEADSET PICO NEO** is very important and must be taken seriously into the consideration by the educator. The detailed process of it will be described in next chapters.

## Privacy and Security



Educator is obliged to check the privacy settings in the software apps and privacy policy in the choice of headsets. For instance, the terms of service on the official Oculus website indicate that collect the following information:

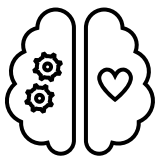
- Physical Features;
- Content;
- Cookies and Similar Technologies;
- Interactions;
- Environmental, Dimensions and Movement Data;
- Information From Third Parties;
- Technical System Information (Oculus, 2021).

6

Virtual Reality (VR) has been notoriously precarious regarding fake news, deep fakes, and identity theft. According to Bose and Aarabi (2018), all things considered, the main vulnerabilities inherent to VR stem from the weak protection of users' personal data. One reason to explain this is the lack of regulation by some governments regarding digital industry and lack of control regarding cybercrimes involving this technology.

Here you will find the data privacy notice of the Mozilla Hubs: <https://www.mozilla.org/en-US/privacy/hubs/>

## Psychological and Social Concerns of VR Usage



The psychological facet of Educational Escape Rooms (EERs) in Virtual Reality (VR) could be connected to the readiness or reluctance of adult educators to embrace technology. From this standpoint, it is important to consider the individual motivation of each participant in the process of designing the puzzle. Given the novelty of Educational Escape Rooms (EERs) and their non-distributed character, the gamemaster should be

prepared to assist the players whenever they need it.

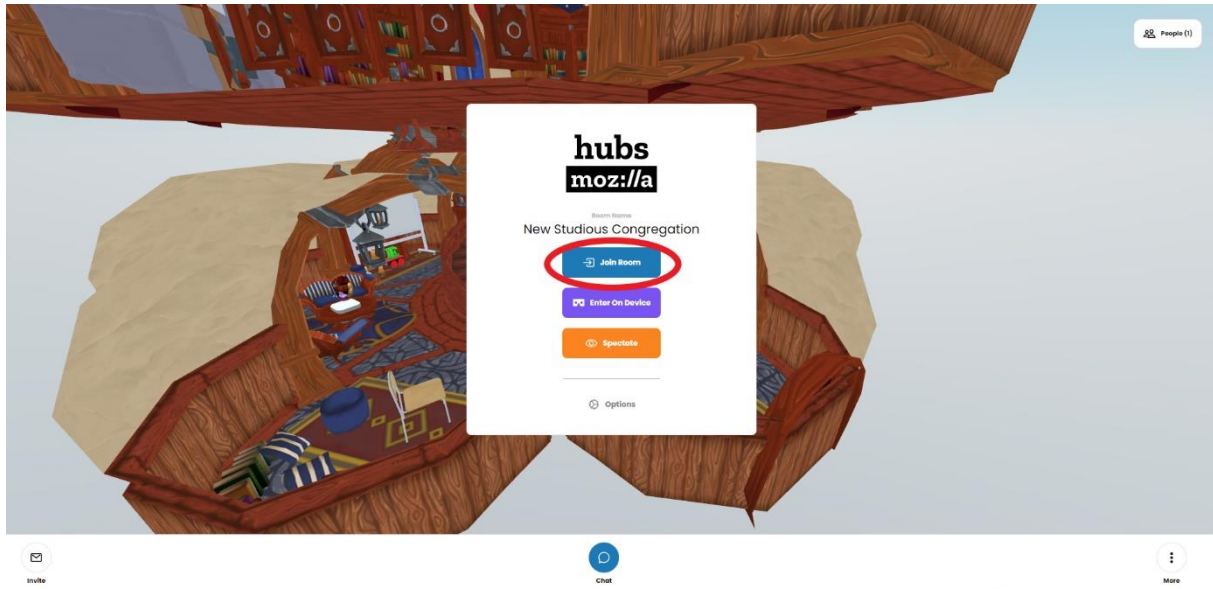
Virtual Reality (VR) cannot be labelled as inherently “good” or “bad” from a psychological standpoint. Every action in Virtual Reality (VR) can be ascribed to already existing behavioural patterns that are magnified by the technology. However, VR might not be suitable for individuals suffering from serious mental disorders as it can trigger their vulnerabilities and aggravate the situation.

Virtual Reality (VR) was conceived as a creative space for people with the potential to change the world. However, it has now become a refuge for those with poor social skills. The subsequent transfer from real to digital life could also result in several other drawbacks, including body neglect when the person is no longer capable of taking care of themselves as they have lost touch with the physical world. Please, consider the psychological state of your students as well as their traits of character.

In the next chapters we will show you how to navigate in Mozilla Hubs in 2D and how to install the DEER onto the VR headset Pico Neo.

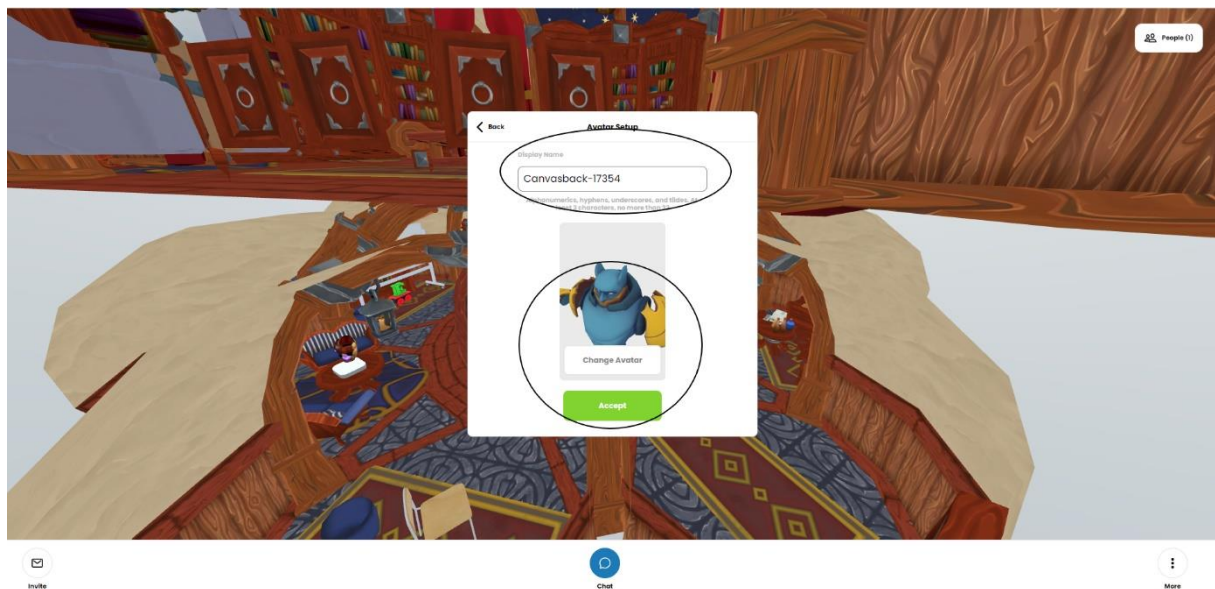
## DEER NAVIGATION INSTRUCTION FOR BROWSER

- Use Mozilla Firefox Browser. It is possible to use other browsers, but they may cause delay or deny accessing the DEER.
- Insert the DEER link into the Mozilla Firefox browser.
  - You will see the following picture with the pop-up window.
  - Click on “Join the Room”



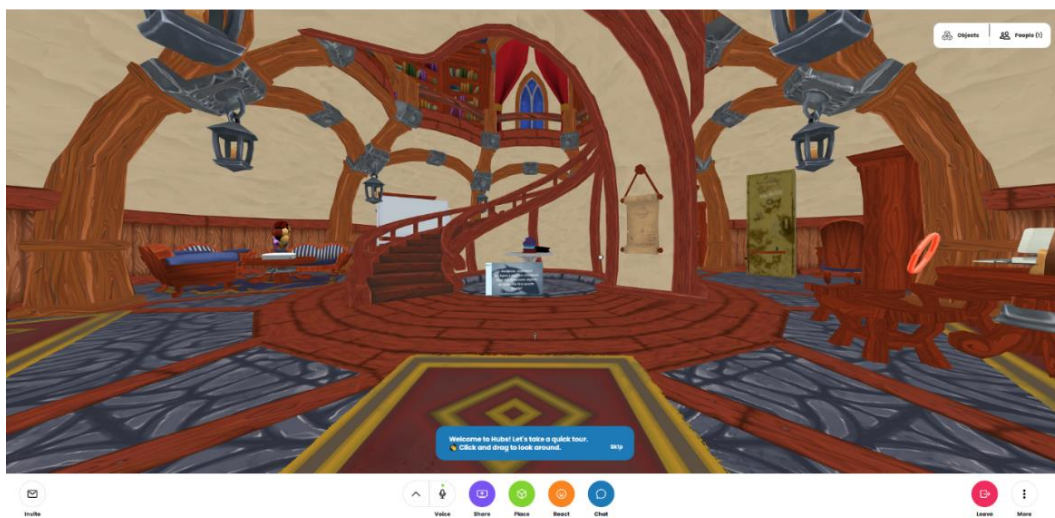
7

- Type in your real name or you will be given a random funny name. The random name will make it difficult for your fellows to identify you in the room and vice versa. It will hinder the communication and collaboration.
- Choose the avatar that you like the most.




The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.


Now you are in the escape room. Library has two floors: downstairs and upstairs.





8

⇒ This is how you can move in MozillaHubs in 2D:

forwards with the arrow  or key W

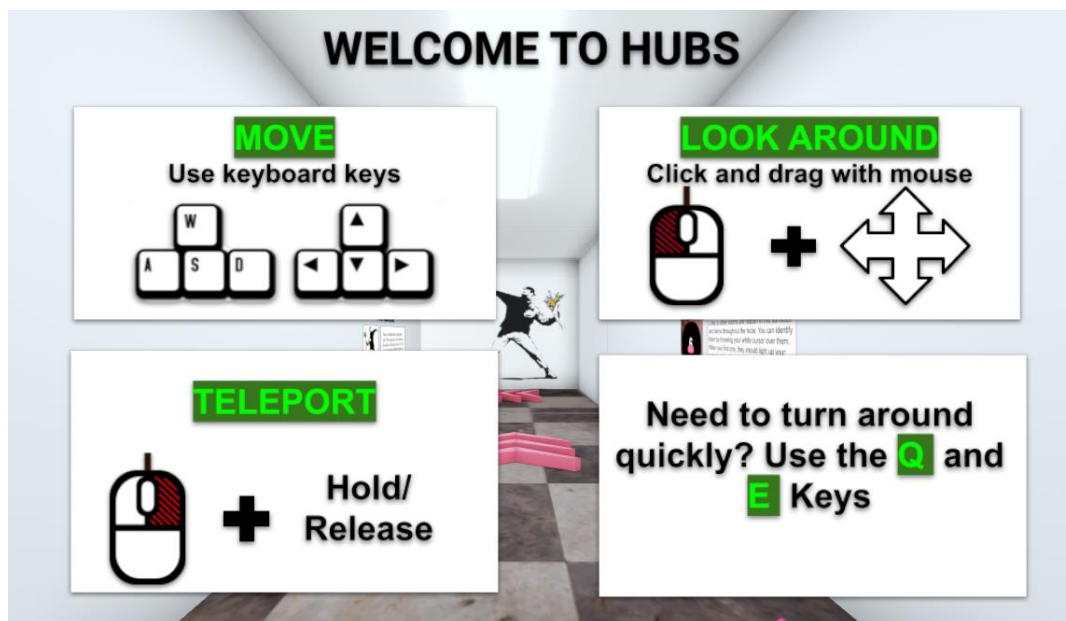
Backwards with the arrow  or key S

Left with the arrow  or key A

Right with the arrow  or key D

Turn around to the left – key Q

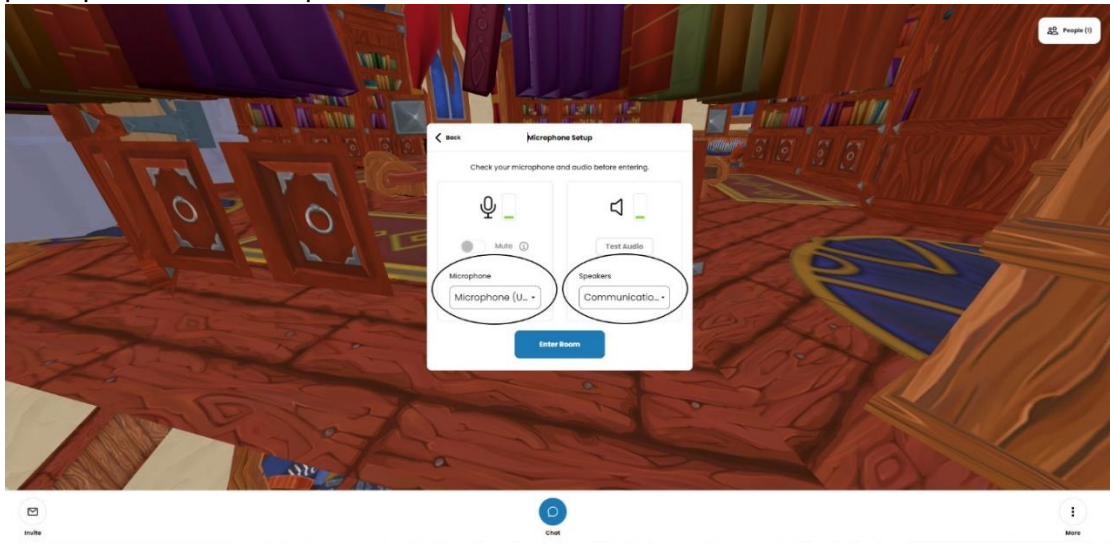
Turn around to the right – key E



The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



- Allow access to microphone and speakers to be able to speak and to hear other participants in the escape room:



## DEER ONBOARDING FOR VR HEADSET PICO NEO



10

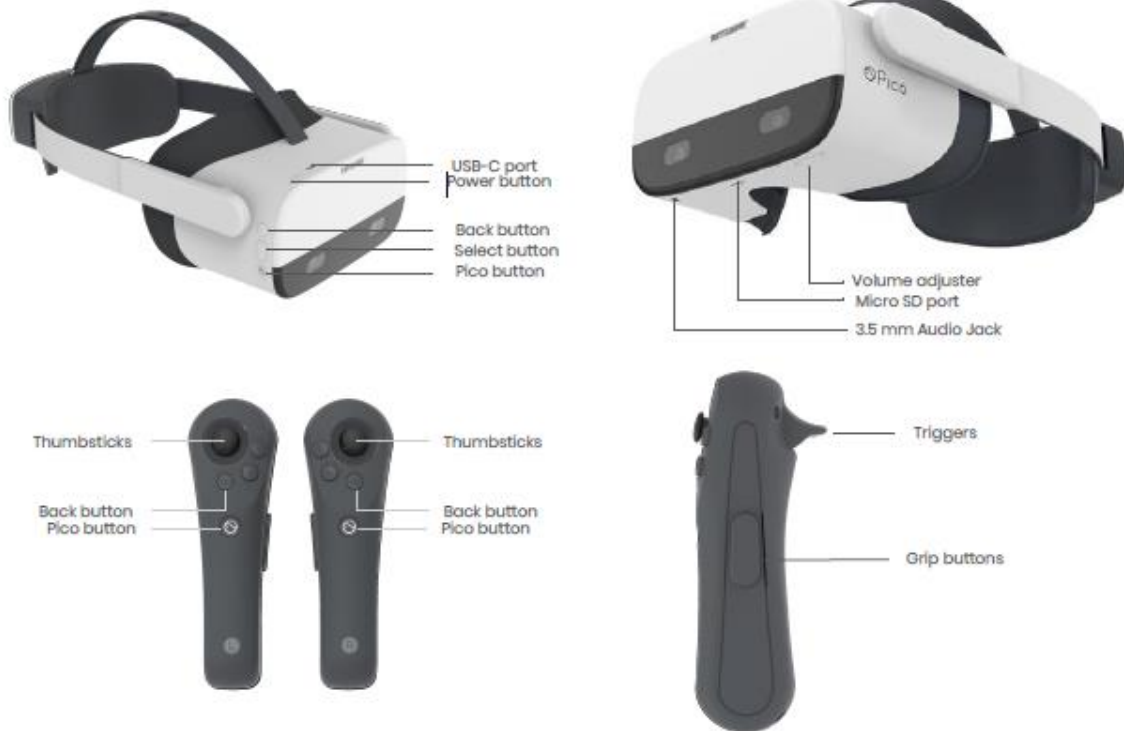
- Pico **hardware** consists of headset and controllers. When you unpack the box, you will find there:

- 1 x Pico Neo 2 headset
- 2 x Pico controllers
- 2 x lanyards
- 1 x charging cable for controllers
- 1 x charging cable for headset
- 1 x cleaning cloth

Do not allow the lenses to come in contact with long periods of **direct sunlight**. This will permanently damage the screen and does not fall under warranty.

Make sure you have enough movement space.

The next picture shows the functions of all the buttons on the headset and controllers.



## Picture is from Pico Neo 2 Quickstart Guide. VRexpert

Tip: You need to know all the buttons as you need to charge the headset and controllers, connect them to PC, etc. Students need only FOUR buttons for the DEER:

1. **Thumbsticks** to move in the room without walking in reality
2. **Pico button** to be able to get back to the main menu anytime students are lost in VR. Probably they landed in other application or feel scared or physically bad and need to come bac to the beginning. If you know that they are in the main menu, it will be easier for you to instruct them how to come back to the game.
3. **Grip** button to grab the things which are interactive.
4. **Trigger** to confirm any action, choice or a question appearing in front of them.

Ensure the headset and controllers are fully **charged**. If the headset is not charged, you will see an empty battery symbol in the headset when you put it on. If the controllers are not charged, they will not vibrate while pressing the Pico button.

Switch the headset on by pressing the power button for approximately 2 seconds. Switch the controllers on by pressing the Home button for approximately 1 second. The controller will vibrate, and a light indicator below the Home button will change to blue.

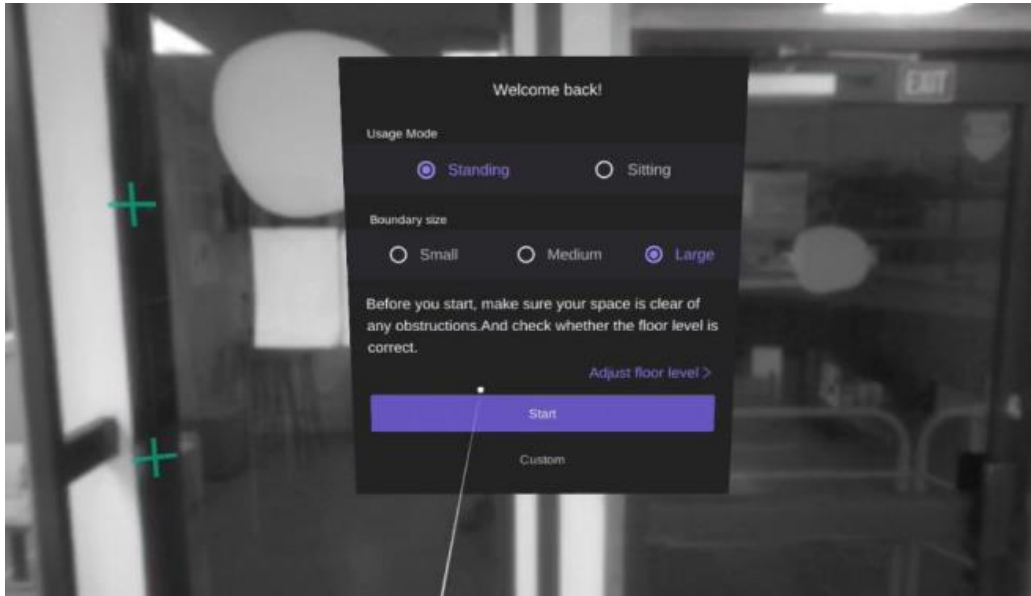
Battery life of the Pico Neo2 is approximately one hour of active use.

## **VRexpert** How to install the Pico Neo 2

1. Put on the headset and press the "Power-Button" for approximately 3 sec.
2. The instructions of the headset will start automatically:
  - a) Connect the controllers by clicking on the "Pico Button".
  - b. You will be asked to choose the boundary. The **boundary** is a virtual barrier intended to keep you safe. A minimum 2m x 2m space, clear of any obstructions, is recommended.

*Picture from SkillsVR Pico Headset Onboarding Guide*

3. Option 1 **stationary (while sitting)**: Scale the room by sitting and looking down at the



12

floor.

- ii. Option 2 **walk around**: Scale the room by walking around, creating a circle with the controllers.
  - c. Put the controllers on the ground and use the “Trigger Button” at the back of the controller to fix the ground.
3. You are now at the main menu of the Pico Neo 2 – enjoy the ride!

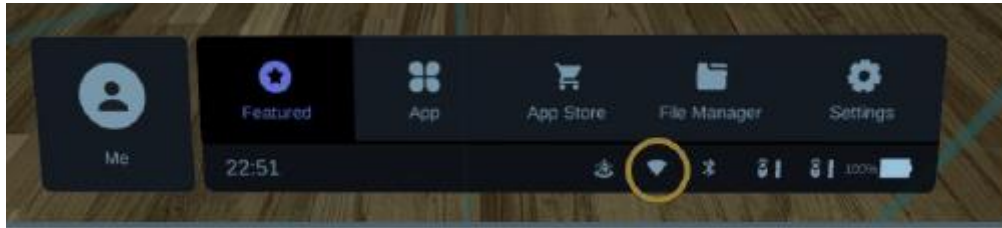


*Picture from SkillsVR Pico Headset Onboarding Guide*

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



## VR EXPERT Wi-Fi - How to connect



Picture from SkillsVR Pico Headset Onboarding Guide

1. Click on the Wi-Fi-Symbol in the task bar called "Wi-Fi".
2. The headset will automatically search for any Wi-Fi in the area.
3. Choose your Wi-Fi and enter the password. - When done click on the "enter-key" (Trigger Button).
4. Click on connect. - The headset will connect to the chosen Wi-Fi. You are now connected to the chosen Wi-Fi

13

### ➤ Software

#### Update

If you see pop up messages with the update offers, click on them with "triggers" and update headset and controllers. Note: there are separate updates for the headset and the controllers. Do it before the planned class.

### ➤ Install the DEER

Go to Apps

Choose Firefox Reality



Picture from SkillsVR Pico Headset Onboarding Guide modified

Firefox Reality Browser will open

Log in with your Firefox login

Find the saved DEER (Save the link to the DEER on computer first)

Click on <https://hubs.mozilla.com/eAdRVmk/deer-monsterscape-english> if you want to play DEER for Educators or

<https://hubs.mozilla.com/7KR3i6d/deer-lab-learners-english> if you are to play the DEER for learners.

Click on the right down corner on "VR Mode"

Now you are in the DEER.

## DIGITAL EDUCATIONAL ESCAPE ROOM FOR THE EDUCATORS “MONSTERESCAPE”

Topic	Digital Skills
Target group	<ul style="list-style-type: none"> <li>➤ Adult basic educators</li> <li>➤ any adults interested in escape rooms, digital tools, 2D Virtual Reality and 3D experience</li> </ul>
Technical features	playable in 2D in web-browser as well as in VR headsets. Instruction for navigation in 2D in Mozilla Hubs is <b>DEER NAVIGATION INSTRUCTION FOR BROWSER</b> . Tablets are not suitable for this experience. If you have access to VR headsets Pico Neo, find the onboarding instruction <b>DEER ONBOARDING FOR VR HEADSET PICO NEO</b>
Required equipment	Laptops or PCs with internet access 6 (recommended) VR Headsets compatible with Firefox Reality e.g Pico Neo with Wi-Fi access
Number of participants	Max 25 in web-browser Max 6 in VR headsets

14

Gamemaster/educator tells a story. Gamemaster always participates in 2D mode i.e., opens DEER in browser on the notebook. In this case, gamemaster is able to keep an eye on the participants in VR headsets and control their physical and psychological condition. Additionally, 2D mode gives better overview of the room and participants' positions in it. Especially when some participants play in VR and the others play on PCs.

**Tip:** when you are in VR, behave like in real world. If you want to talk to somebody, come closer to these people and talk to them. If you are far from them, you will not hear them, and they will not hear you.

### Story

*You are in the library. You cannot leave it as it is surrounded by the monsters outside. The only way to get out is your digital competence. Let's beat the monsters together!*

DEER “Monsterscape” consists of 6 rooms which correspond to DigCompEdu levels of digital literacy from A1 to C2. Rooms look the same, but they have different puzzles to solve.

## Room 1: A1 Beginner

There is a welcoming avatar (school-girl) with the text:

*Welcome explorers!*

*We have a monster situation.*

*We would like you to find some classroom objects to help you solve our puzzle. Ready?)*



15





1. The participants are looking for **seven** classroom objects. Next to each of the objects they will find a letter.
2. They will have to communicate and collaborate to make up a word: MONSTER. It is possible to communicate orally and make up a word or the participants can use the possibilities of the Mozilla Hubs in VR i.e., writing with the pen. In front of them, they will find a menu with the sign of the pen.



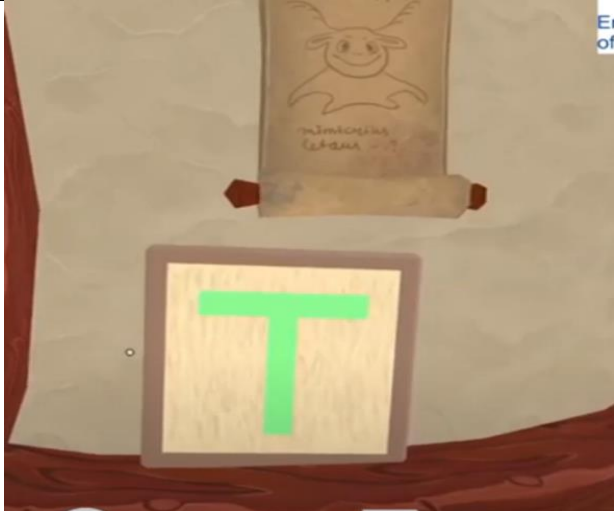

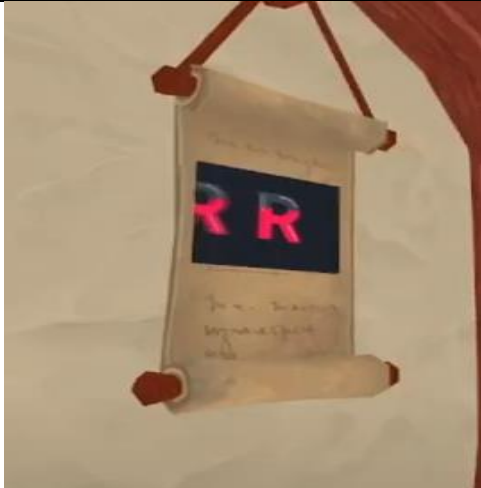
Click on it and you will have a pen. Use grip button of the controller to grab a pen. It is possible to write anywhere in the "air". Gamemaster might give a tip to write on the blackboard. Writing down the letters will make it easier to make up the word. When one participant writes something, it is visible to the others.

NOTE: it will not ruin the DEER. All the writings and other changes will disappear as soon as you leave the room.

Below is the table with all the letters, their screenshots, how they look in the library with the description of their location. All letters are situated on the ground floor.

M is in front of the bookshelves		
O is in front of the old PC		
N is between the books and a chair		
S is on the chair		



<p>T is under the poster</p>	
<p>E is under the blackboard</p>	
<p>R is running on the poster</p>	

When the participants made up a word MONSTER, they might start looking for the monster.



There are footprints on the stairs leading upstairs. Upstairs they will find the interactive picture with disappearing monster. Footsteps from monster picture will lead to the door.

18



There is an interactive link on it. Once they click on it, they will be teleported to the next room B.

- ! TIP: Pay attention to your participants, how they feel and how much time they spent on solving the first puzzle. If it is the first time they use VR headset, it is recommended to end the game on the first room. Some players need more time to get used to VR and navigating there with the help of controllers.
- ⇒ If some of the participants experience “motion sickness”, take the headset off. Offer them to play the DEER on the notebook in 2D.

## Room 2: A2 Explorer

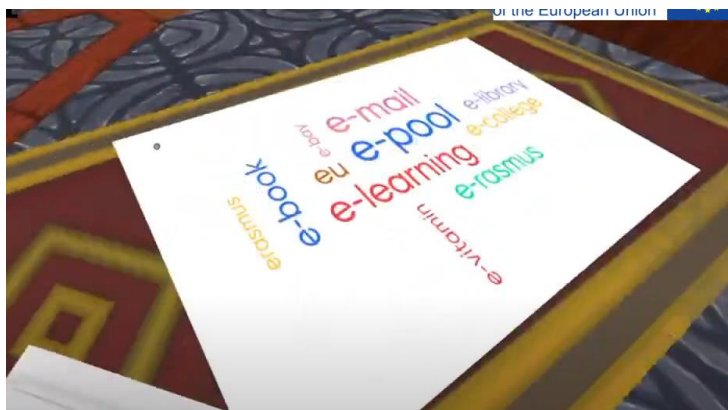


19

There is the same girl with different task:

*Explorers, congratulations!  
Keep going to escape from those monsters! Electronic library will assist you. e)*

Downstairs there is a poster on the floor with different e-words:



This poster is only for distraction of participants although it has the right answer: e-Pool. Digital library is called e-Pool. Encourage participants to go around and read the posters with the information about e-Pool.



After they have read all the information and guessed the name of the electronic library e-Pool; they have to find the e-Pool which is interactive to teleport to next level. Hint them to go upstairs. There they will find this picture of “e” in the swimming pool. It is interactive. When the participants click on it, they will teleport to the next room.

20



## ROOM 3 B1 Adapting (Communication)

Here is the task for this room:

*Congratulations!*

*Now you are swimming and no longer sinking in digital resources*

*Find the tool's name that will help you to communicate with each other. Ready?*





Behind the girl there is the poster. If the participants solve the puzzle in the correct way, they will find out number 50. "50" is the first part of the name.

Here is the solution:

2 books are 8

One VR headset 5 + one book 4 equals 9

One PC 10 \* a book 4 – VR headset 5 equals 35

One PC 10 + VR headset 5 \* two books 8 equals 50

$$\begin{array}{rcl}
 \text{Two books} & = & 8 \\
 \text{VR headset} + \text{Book} & = & 9 \\
 \text{PC} \times \text{Book} - \text{VR headset} & = & 35 \\
 \text{PC} + \text{VR headset} \times \text{Two books} & = & ?
 \end{array}$$

When the participants go further, they will find the poster with 2 logos of translation tools: DeepL and PONS. One word is missing on the poster. This word is "**Language**".



Now participants have “50” and “Language”.

Hint the participants to go upstairs. They will find many posters with different numbers next to “Languages”. **50 languages** is the right one. They will find the link **behind** the poster with 50 Languages. Participants have to look behind and bend to see the link)



## ROOM 4: B2 Adapting (Collaboration)

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

## Here is the task:

*Congratulations!*

*You have already learnt how to communicate and now you can swim in the huge ocean of digital tools. To float you need to:*

- 1. build a boat;*
- 2. check IDs of the crew*

*Learn collaborate?*



23

You teleport upstairs. To solve the first puzzle, go downstairs. There are interactive matches.



Participants can grab them with the help of controllers with the long grip button at the side of them. Participants will find the dots picture on the floor. To see the picture, they have to connect the dots with the matches. They will “build” the ship. The first task is done.

Aim and background of the task: the dots picture is situated on the Ideaboardz screenshot.

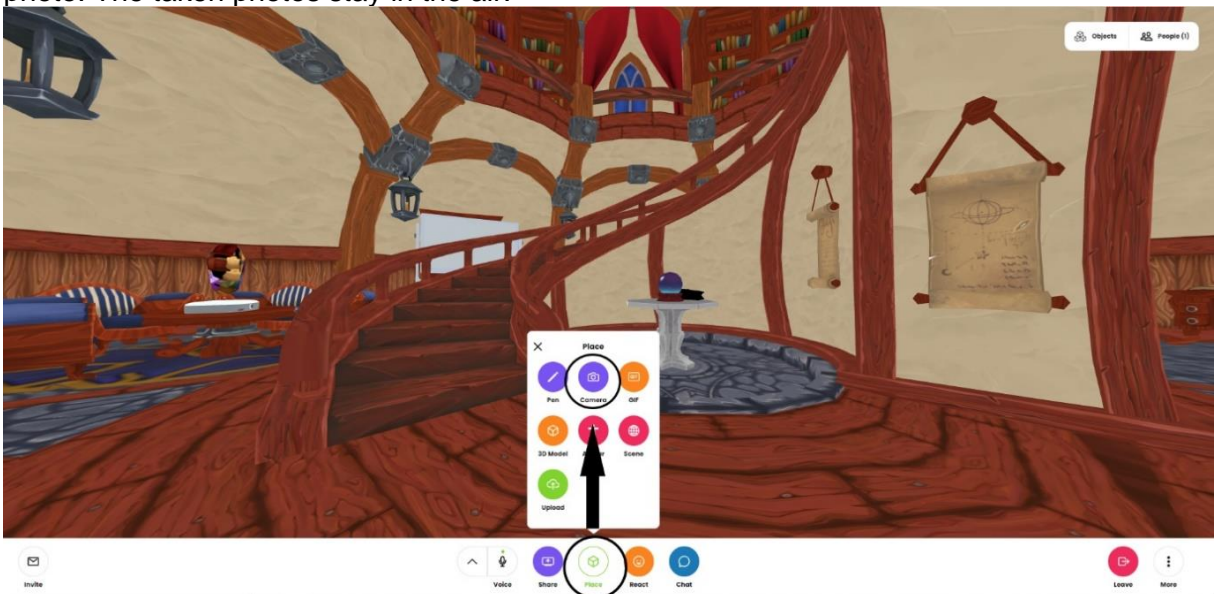
Ideaboardz is a free online board for **collaboration**. More information about it is in the [e-Pool](#).





To solve the second part of the task, tell the participants to go upstairs. They will find there the screenshot of Padlet. According to the task, they have to check the IDs of the crew. It is possible to do it while taking Selfies with the virtual camera. In the menu you will see the camera sign, press on it and you will have a camera. Grab it with your controllers and take a photo. The taken photos stay in the air.

24



Participants can grab them and put them on the Padlet wall.



The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Aim and background of the task: to learn the online board for collaboration Padlet. More information about it is [here](#). One of the functions of the Padlet in real world is the same: taking photos or videos and posting them in real time on the Padlet. It is very interactive and welcoming method for adult basic classes.

Downstairs the participants will find the familiar link “Go to” next to the poster with **collaboration** to teleport to the next level.



25

## ROOM 5 C1 Leading (Creativity)

Task:

*Congratulations!*

*It has been a long journey; you must be hungry. You are hungry for more digital tools with the help of which you can create anything you wish! Go)*



The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Behind the girl, there is the table with pizza pieces. Each piece has a letter. When you put the letters together, you will have the word “Canva”, which is the name of the tool for creation of materials for the classroom. More information about Canva is [here](#).



26

Upstairs you will find the “Powtoon Cafe” with an interactive window where the logo of the project “ABEDiLi” appears and disappears. This is the example of one more tool for creative presentations for the classrooms. More information about Powtoon is [here](#).



You, as a gamemaster, have to point out that the educators have found the tools for creativity and in such a way are allowed to look for an interactive “Go To” link.

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



### ROOM 6 C2 Critical thinking

The task is:

*Congratulations!*

*Now you are digitally full. Look for some digital food for brain to avoid the monsters*



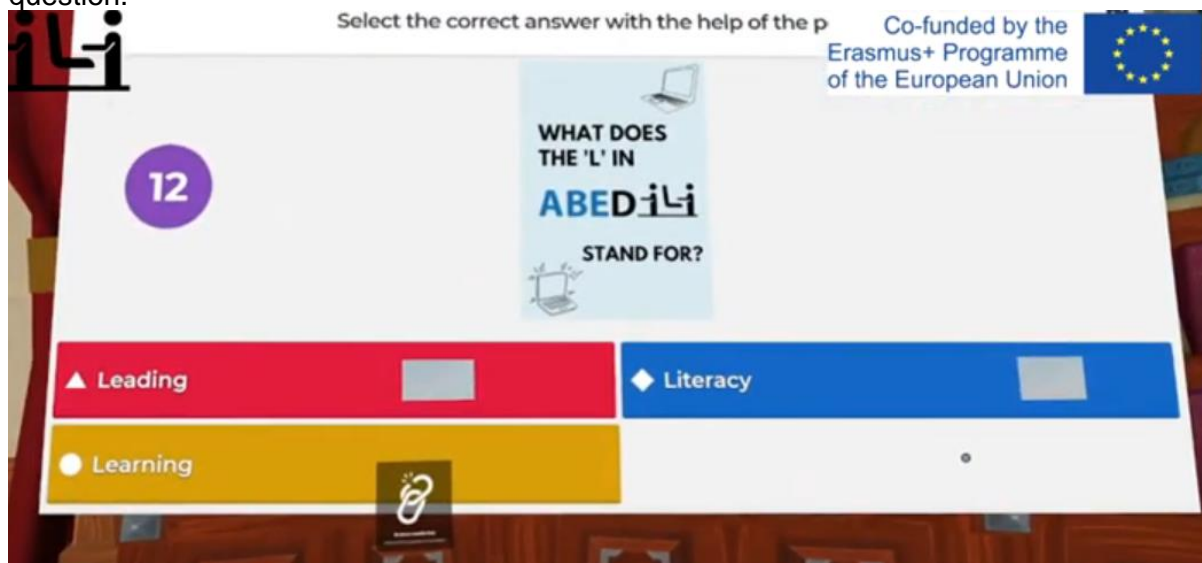
The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Behind the girl, there is a Kahoot screenshot with the question:

**What does 'L' in ABEDili stand for? A. Leading b. Literacy c. Learning**

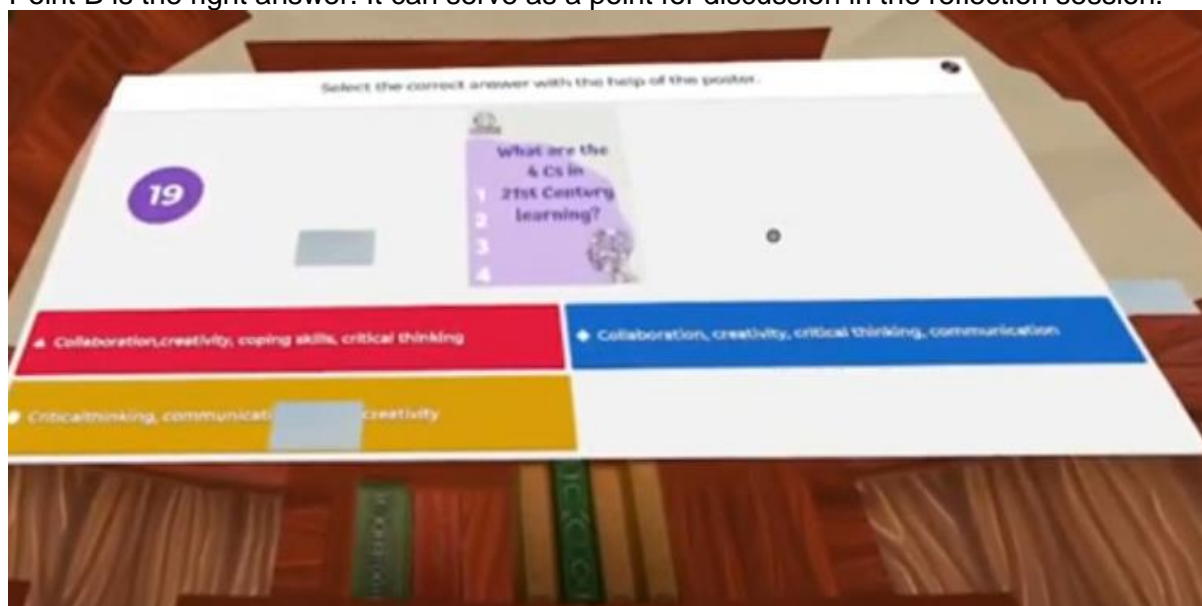
When the participants click the right answer **Literacy**, they will be teleported to the next question.



28

**What are the 4Cs in 21st Century learning? a. Collaboration, creativity, coping skills, critical thinking b. Collaboration, creativity, critical thinking, communication c. Critical thinking, communication, career, creativity.**

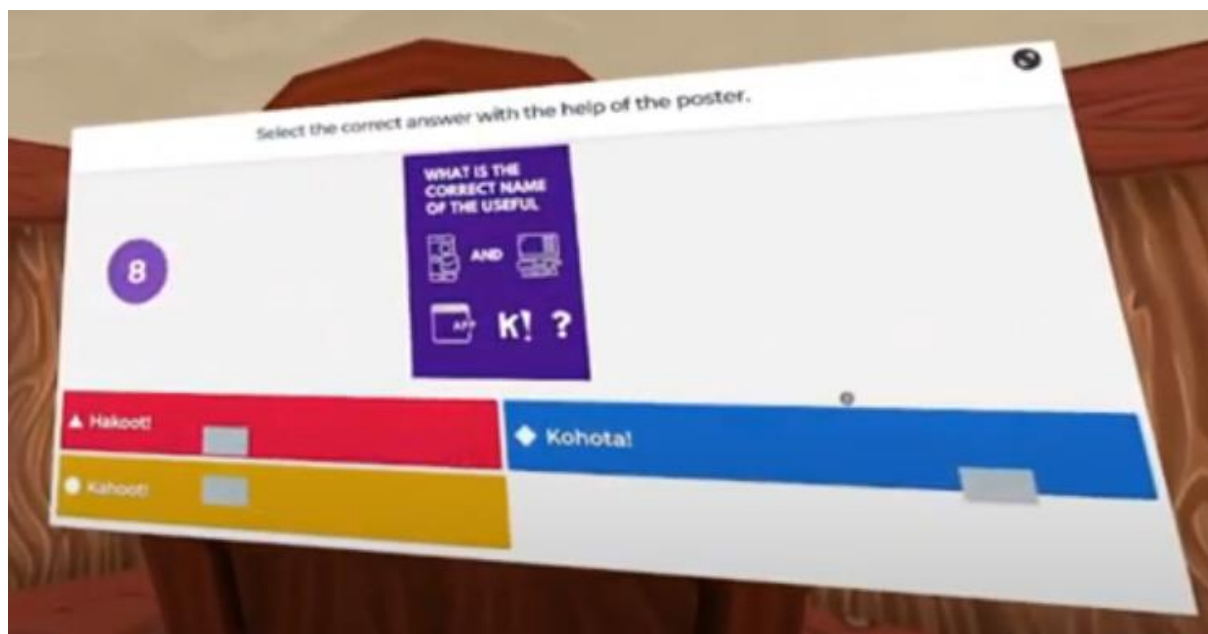
Point B is the right answer. It can serve as a point for discussion in the reflection session.





**What is the correct name of the useful App. Hakoot b. Kohota c. Kahoot**

When the participants click the right answer “Kahoot”, they will be teleported to the KEY

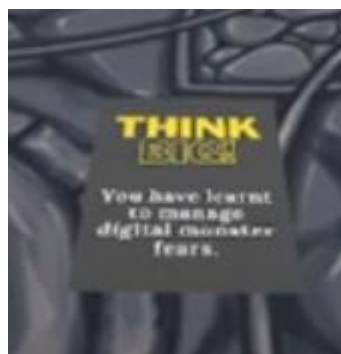


29

**Key:**



It is an interactive picture which changes, and another picture appears. Firstly, you will see the monster. The task from the very beginning was to escape from monsters. What are the monsters? The monsters are the educators' fears of implementing digital tools into classroom.



The last picture says:  
*Think big!*  
*You have learnt how to manage digital monster fears.*

-END-

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

## Reflection Session Suggestions:

Reflection session is targeted at adult basic educators.

Print out the following questionnaires for the educators. Let them answer individually in the written form. Round up with the discussion.

- Please highlight the number that best indicates to what extent you agree with each statement **BEFORE** playing DEER and **AFTER** playing DEER

1-strongly disagree, 2-somewhat disagree, 3- neutral, 4-somewhat agree, 5-strongly agree

	BEFORE playing DEER					AFTER playing DEER				
I can teach literacy classes using VR	1	2	3	4	5	1	2	3	4	5
I feel good (physically) in VR	1	2	3	4	5	1	2	3	4	5
I feel good in 2D Mode										
I can play escape rooms	1	2	3	4	5	1	2	3	4	5
I can play educational escape rooms	1	2	3	4	5	1	2	3	4	5
I can play digital educational escape rooms	1	2	3	4	5	1	2	3	4	5
I can play educational escape rooms in Virtual Reality	1	2	3	4	5	1	2	3	4	5
I can implement Escape Room as the method of teaching in adult basic education	1	2	3	4	5	1	2	3	4	5
I can integrate Virtual Reality as a learning space in adult basic education	1	2	3	4	5	1	2	3	4	5
I can teach on Digital Skills using DEER	1	2	3	4	5	1	2	3	4	5

30

- Please rate the virtual reality software (Mozilla hubs), virtual reality hardware (Pico Neo 2 Eye headset), educational escape room (content) and escape room playing process.

	Not helpful	Somewhat helpful	Helpful	Very helpful
Mozilla Hubs	1	2	3	4
VR Headset	1	2	3	4
Gamemaster (scaffolding)	1	2	3	4
Educational Escape Room Content	1	2	3	4

- Please, rate the importance of the 4Cs skills for you **personally** to escape the room:

	Not helpful	Somewhat helpful	Helpful	Very helpful
Communication	1	2	3	4
Collaboration	1	2	3	4
Critical Thinking	1	2	3	4
Creativity	1	2	3	4

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

You might use the following questions for the summing up discussion with the educators:

- How did you feel physically while playing the DEER?
- What challenges did you face?
- What was highlight for you?
- Was it easy or difficult to find the letters? Is it a suitable method to demonstrate to society how difficult it is for people who cannot read and write? In what other contexts could you use this escape room? Did it help you to feel and realize how challenging it is for some people in the world without being able to read in general or in the target language? Did you wear the shoes of your learners for some time? What social problem can be solved with this solution?
- Did you behave like in real life? Did you communicate more or less? Why?
- What did you learn during the game? What thoughts on digital skills did you have during the game? Did you upscale your digital skills?
- Did you learn any new digital tools? If yes, which ones?
- Would you like to implement DEER into your next training? If yes, why?
- Would you like to introduce the Virtual Reality to your colleagues/students? If yes, why?
- Would you like to have further trainings in Virtual Reality? If yes, how often?
- What would you do differently next time?
- What positives can you take away from the activity?
- Will you recommend it to your colleagues or other people?

One more method is **a go-along interviewing**. It is “is an emerging qualitative research method where researcher and interviewee go together to a location relevant for the research.” In our case, it is the DEER itself or any other created room in Virtual Reality which you used for teaching before. It is recommended to use this kind of method for the reflection session provided the participants are not tired from VR and are eager to continue in VR. Participants are situated in the authentic situation where they played the game. They can come back to some places in DEER or in general in VR and demonstrate where they encountered difficulties or what was the highlight for them.

## DIGITAL EDUCATIONAL ESCAPE ROOM FOR LEARNERS “LETTERS SAVE THE WORLD”

Topic	Sustainability
Target group	<ul style="list-style-type: none"> <li>➤ learners with low literacy levels starting from Alpha-level 4;</li> <li>➤ learners (refugees or migrants) who have just started learning the foreign language;</li> <li>➤ second chance education learners working on sustainability topics;</li> <li>➤ educators interested in this innovative method;</li> <li>➤ any adults interested in escape rooms, 2D Virtual Reality and 3D experience</li> </ul>
Technical features	playable in 2D in web-browser as well as in VR headsets. Instruction for navigation in 2D in Mozilla Hubs is <b>DEER NAVIGATION INSTRUCTION FOR BROWSER</b> . Tablets are not suitable for this experience. If you have access to VR headsets Pico Neo, find the onboarding instruction <b>DEER ONBOARDING FOR VR HEADSET PICO NEO</b>
Required equipment	Laptops or PCs with internet access 6 VR Headsets compatible with Firefox Reality e.g. Pico Neo with Wi-Fi access
Number of participants	Max 25 in web-browser Max 6 in VR headsets

Gamemaster (educator) tells a story. Gamemaster always participates in 2D mode i.e., opens DEER in browser on the notebook. In this case, gamemaster is able to keep an eye on the participants in VR headsets and control their physical and psychological condition. Additionally, 2D mode gives better overview of the room and participants' positions in it.



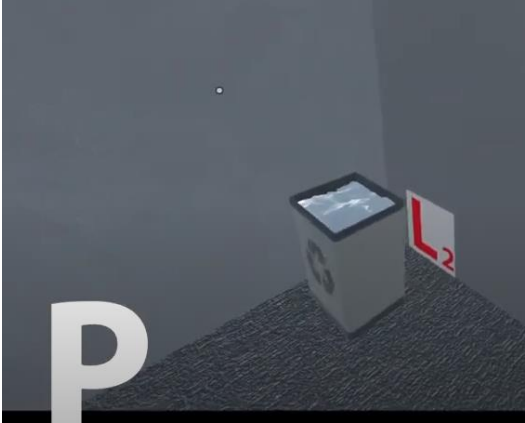

Gamemaster (educator) tells a **story** to the learners:


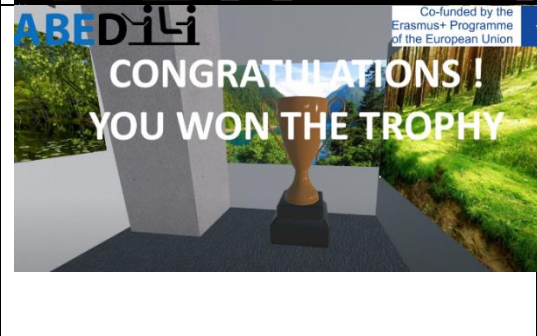
*The air outside is polluted. You are locked in the laboratory which is still the only safe place. To escape the laboratory, you are to find six letters. They are situated next to the objects which are either good or bad for our environment. Find them and make up the word. It will give you the key to a place with green trees and fresh air.*

The participants start going around the room either in web browser or in VR headsets. If you have more participants than VR headsets, provide the rest of them with the notebooks. As a Gamemaster encourage them to describe aloud the things they see and communicate to each other. Without communication, there will be no cooperation and it will be difficult to make up the word. While discovering different objects in the room, the participants will describe them and ponder over if they are good or bad for the environment and why. There are also posters on the walls with some sustainable development goals (SDGs). Those posters can be the point for discussion either during the game or after the game in the reflection session.



Here are the screenshots of the places where the letters are hidden:

Location screenshot	Description
	Participants see the poster with the task when they enter the room. It is written in easy language.
	Letter P is next to the <b>plastic</b> bottle. Discussion on <b>plastic</b> .
	Letter L is behind the rubbish bin.
	Letter A is down on the column. Above the letter there is the picture of the <b>factory producing a lot of emissions</b> .

	<p>Letter N is in the rubbish bin.</p>
	<p>Letter E is under the chair next to the <b>plant</b>. Discussion on <b>importance of plants</b>.</p>
	<p>Letter T is on the <b>glass</b> bottle. Discussion on the sustainable use of <b>glass</b> instead of plastic.</p>
	<p>After finding out the word <b>PLANET</b>, the participants have to find this picture of the Planet on the door and click on it. It is interactive. After clicking it, they will teleport to the “green” room with fresh air.</p>
	<p>You have managed to escape the laboratory! You may stay for the reflection in this room or leave it and continue reflection in the classroom. Consider the state and location of your participants. If they play from there homes on PCs, you may stay in the same room. If they played the DEER for the first time in VR headsets, it is advisable to take off the VR headsets and continue with the reflection whether in video conference platform or in the classroom (depending on where you teach).</p>

### Reflection Scenarios for the DEER “Letters Save the World”:

Reflection session and its questions depend on the target group that played the DEER. We present here different scenarios starting from learners who have difficulties with reading and writing and end up with the adult basic educators.

### Reflection Session for the Learners with Low Literacy Levels.

Conduct the reflection with your learners **orally**. Here are the questions which you may ask them:

How did you feel physically while playing the DEER?  
 What challenges did you face?  
 What was highlight for you?  
 Was it easy or difficult to find the letters?  
 Was it easy or difficult to make up a word? Why?  
 Did you behave like in real life? Did you communicate more or less? Why?  
 What did you learn during the game? What thoughts on sustainability did you have during the game? How can you save the environment?  
 Would you like to play one more DEER? If yes, why?  
 Would you like to experience Virtual Reality one more time? If yes, why?  
 Would you like to have some classes in Virtual Reality? If yes, how often?  
 What would you do differently next time?  
 What positives can you take away from the activity?

35

### Reflection session for the learners who started learning the language:

These learners are at A1 or A2 level, they cannot speak a lot. That is why you can ask them (orally or in the written form) simple questions in Past Simple Tense and using construction “Would you like”:

How did you feel physically while playing the DEER?  
 What was difficult for you?  
 What was exciting for you?  
 Was it easy or difficult to find the letters?  
 Was it easy or difficult to make up a word? Why?  
 Did you behave like in real life? Did you talk more or less? Why?  
 What did you learn during the game? How can you save the environment?  
 Would you like to play one more DEER? If yes, why?  
 Would you like to experience Virtual Reality one more time? If yes, why?  
 Would you like to have language classes in Virtual Reality? If yes, how often?  
 What did you like the most?

### Reflection session for the learners at second chance education classes:

Second chance education learners can read and write at least at level B1, so offer them paper-based reflection. They answer the questions on their own on the paper. Then pair them up to discuss their answers and impressions. Sum up with the discussion with all the participants.

Print out the following:

1. Please highlight the number that best indicates to what extent you agree with each statement **BEFORE** playing DEER and **AFTER** playing DEER  
1-strongly disagree, 2-somewhat disagree, 3- neutral, 4-somewhat agree, 5-strongly agree

	BEFORE playing DEER					AFTER playing DEER				
I can learn in VR	1	2	3	4	5	1	2	3	4	5
I feel good (physically) in VR	1	2	3	4	5	1	2	3	4	5
I feel good in 2D Mode	1	2	3	4	5	1	2	3	4	5
I can play escape rooms	1	2	3	4	5	1	2	3	4	5
I can play educational escape rooms	1	2	3	4	5	1	2	3	4	5
I can play digital educational escape rooms	1	2	3	4	5	1	2	3	4	5
I can play educational escape rooms in Virtual Reality	1	2	3	4	5	1	2	3	4	5
I can save the environment	1	2	3	4	5	1	2	3	4	5
I can live in a sustainable way	1	2	3	4	5	1	2	3	4	5

Offer your learners the following questions as the trigger for the discussion in pairs. Learners have to choose 2-3 questions which were the most interesting for them in their pair discussion and share the answers with the rest of the group:

How did you feel physically while playing the DEER?  
What challenges did you face?  
What was highlight for you?  
Was it easy or difficult to find the letters?  
Was it easy or difficult to make up a word? Why?  
Did you behave like in real life? Did you communicate more or less? Why?  
What did you learn during the game? What thoughts on sustainability did you have during the game? How can you save the environment?  
Would you like to play one more DEER? If yes, why?  
Would you like to experience Virtual Reality one more time? If yes, why?  
Would you like to have some classes in Virtual Reality? If yes, how often?  
What would you do differently next time?  
What positives can you take away from the activity?

## DEER Reflection for the Educators

Print out the following questionnaires for the educators. Let them answer individually in the written form. Round up with the discussion.



1. Please highlight the number that best indicates to what extent you agree with each statement **BEFORE** playing DEER and **AFTER** playing DEER

1-strongly disagree, 2-somewhat disagree, 3- neutral, 4-somewhat agree, 5-strongly agree

	BEFORE playing DEER					AFTER playing DEER				
I can teach literacy classes using VR	1	2	3	4	5	1	2	3	4	5
I feel good (physically) in VR	1	2	3	4	5	1	2	3	4	5
I feel good in 2D Mode										
I can play escape rooms	1	2	3	4	5	1	2	3	4	5
I can play educational escape rooms	1	2	3	4	5	1	2	3	4	5
I can play digital educational escape rooms	1	2	3	4	5	1	2	3	4	5
I can play educational escape rooms in Virtual Reality	1	2	3	4	5	1	2	3	4	5
I can implement Escape Room as the method of teaching in adult basic education	1	2	3	4	5	1	2	3	4	5
I can integrate Virtual Reality as a learning space in adult basic education	1	2	3	4	5	1	2	3	4	5
I can teach on Sustainability using DEER	1	2	3	4	5	1	2	3	4	5

2. Please rate the virtual reality software (Mozilla hubs), virtual reality hardware (Pico Neo 2 Eye headset), educational escape room (content) and escape room playing process

	Not helpful	Somewhat helpful	helpful	Very helpful
Mozilla Hubs	1	2	3	4
VR Headset	1	2	3	4
Gamemaster (scaffolding)	1	2	3	4
Educational Escape Room Content	1	2	3	4

3. Please, rate the importance of the 4Cs skills for you personally to escape the room:

	Not helpful	Somewhat helpful	Helpful	Very helpful
Communication	1	2	3	4
Collaboration	1	2	3	4
Critical Thinking	1	2	3	4
Creativity	1	2	3	4

You might use the following questions for the summing up discussion with the educators:

- How did you feel physically while playing the DEER?
- What challenges did you face?
- What was highlight for you?
- Was it easy or difficult to find the letters? Is it a suitable method to demonstrate to society how difficult it is for people who cannot read and write? In what other contexts could you use this escape room? Did it help you to feel and realize how challenging it is for some people in the world without being able to read in general or in the target language? Did you wear the shoes of your learners for some time? What social problem can be solved with this solution?
- Did you behave like in real life? Did you communicate more or less? Why?
- What did you learn during the game? What thoughts on sustainability did you have during the game? How can you save the environment?
- Would you like to implement DEER into your next class? If yes, why?
- Would you like to introduce the Virtual Reality to your students? If yes, why?
- Would you like to have further trainings in Virtual Reality? If yes, how often?
- What would you do differently next time?
- What positives can you take away from the activity?
- Will you recommend it to your colleagues or other people?

One more method is **a go-along interviewing**. It is “is an emerging qualitative research method where researcher and interviewee go together to a location relevant for the research.” In our case, it is the DEER itself or any other created room in Virtual Reality which you used for teaching before. It is recommended to use this kind of method for the reflection session provided the participants are not tired from VR and are eager to continue in VR. Participants are situated in the authentic situation where they played the game. They can come back to some places in DEER or in general in VR and demonstrate where they encountered difficulties or what was the highlight for them.

## SUGGESTIONS FOR IMPLEMENTATION SCENARIOS:

1. You may play **only** the first room in MONSTERESCAPE with your colleagues to introduce them to the idea of escape room, educational escape room and virtual reality. Afterwards conduct with them reflection session dependent on your goals.
2. You may play it with the students with low literacy level or students who start learning the language. Goal is to make up the word MONSTER.
3. You may teach students directions while explaining how to navigate in the Escape Room and in Virtual Reality.
4. You may teach them numbers, letters or colours while showing them how to use the pen in Virtual Reality. In order to change the colour of the pen, while holding it, press on Shift + E or Shift + Q.
5. You may conduct an introductory class showing them how to take photos of themselves. Students take selfies, post them on the whiteboard and introduce themselves (Name, Age, origin country or city. If they like taking photos, or they have social media like Instagram or Facebook, ask them if they post their photos there?)
6. You may develop 6 sessions course like Train the Trainer and use one Room per each session. During the first session you will introduce participants to an innovative methos of Virtual Reality. In the next sessions you will present other useful tools for their practice.
7. You may create just a gallery with the relevant pictures for your classroom e.g. <https://hubs.mozilla.com/mxEjd27/terasa/> Students will have to choose one picture and describe it depending on their language level or topic knowledge. If you have more students than pictures, you may divide them into groups, and they can work on picture description in the groups.
8. <https://hubs.mozilla.com/YXhHVzZ/kunstaussstellung/> After the given time, somebody from the group will present the description. If you work on a particular topic like sustainability in your adult basic group, you may prepare different pictures which have something to do with it and ask about the impressions or what the participants already know about this topic. The rest of the information you will introduce either depending on the pictures or you can stream the video from YouTube in VR environment with the help of screensharing function.
9. If your group is more than 10 participants, then you can use such kind of the room with 10 additional rooms: <https://hubs.mozilla.com/Ct4uPp4/messe-10-raeume>
10. Send 3-5 students to each of the rooms to work on the task. In such a way they will not hear other groups as they will be in a different room far from the others like in the real life. They may use their pens and write something on the walls or on the posters which you prepared. Go to each room and check the tasks. Option2: students visit each other in their rooms. One representative of the group might stay in the room to talk about their task to the "Visitors".

## DEER MULTIPLIER TRAINING CONCEPT

Story board of the multiplier training, which is meant for the trainers, who would like to teach other colleagues how to implement Educational Escape room in Virtual Reality into the classroom. The Educational Escape Room (EER) aims to increase the instructors' competence in using digital skills in literacy education. It will allow instructors to use a new and innovative method to train digital skills and media literacy for themselves and their students.

### Storyboard

Contents		Comments
<b>DAY 1 (6.5 astronomic hours of training +1h break)</b>		
<b>Introduction 30 Mins</b>	Getting acquainted with each other Trainer self-presentation Participants introduce themselves Agenda Questions from participants	
<b>Introduction into Digital Educational Escape Room (2 h)</b>	<b>Theoretical:</b> <ol style="list-style-type: none"> <li><u>What is an Escape Room (1 h)</u> <ul style="list-style-type: none"> <li>➤ Participants' experience with the ER</li> <li>➤ EER basics</li> <li>➤ Studies on EERs (interactive exercise)</li> </ul> </li> <li><u>What is VR (1 h)</u> <ul style="list-style-type: none"> <li>➤ Brainstorming on VR background knowledge (interactive)</li> <li>➤ VR in adult education</li> <li>➤ Advantages for adult basic education</li> <li>➤ VR Platforms</li> <li>➤ VR Headsets</li> <li>➤ interesting scientific facts (as an interactive task)</li> </ul> </li> </ol>	Participants may get in advance the task to read the materials or watch the videos on ER and VR. References are in this handbook or in its bibliography ( <b>Blended Learning method</b> )
	<b>Practical (2 h):</b> <ol style="list-style-type: none"> <li>Exploring Mozilla Hubs in 2D Mode in Browser (BYOD) (1 h)</li> <li>Usage of the VR headset Pico Neo2 (1h)</li> </ol>	Participants have to bring their own laptops if you do not have them in your organisation
<b>Playing DEER</b>	<b>2 scenarios are possible (1h):</b> <ol style="list-style-type: none"> <li>Playing in 2D Mode</li> <li>Playing in 3D Mode in VR headsets</li> </ol> Gamemaster plays in 2D Mode	If participants experience motion sickness, they can proceed on PC
<b>Reflection</b>	<b>Reflection session (1h):</b> <ol style="list-style-type: none"> <li>Participants answer the questions on their own</li> <li>Then they discuss them in pairs</li> <li>Group discussion of the most prominent things for each of the participants</li> </ol>	Reflection may lead to the alterations of the DEER. DEER is a living organism



Rounding up	End of day 1	
DAY 2 (5 astronomic hours)		
Practical exploration of the environment (2,5 h)	<ol style="list-style-type: none"> <li>1. Exploration and comparison of <b>escape room in 2D and 3D</b> <ul style="list-style-type: none"> <li>➤ Participants explore the <b>DEER in 2D Mode</b> in pairs (discuss and note down the open questions or difficulties) 45 mins</li> <li>➤ Participants explore the <b>DEER in 3D Mode</b> in pairs (discuss and note down the open questions or difficulties) 1 h</li> <li>➤ Group discussion (pros and challenges of each of the modes, implementation scenarios) 30 mins</li> </ul> </li> <li>2. <b>Avatars &amp; their influence 30 mins</b></li> <li>3. <b>Role of gamemaster 1 h</b> <ul style="list-style-type: none"> <li>➤ theory on scaffolding</li> <li>➤ experience</li> <li>➤ participants play the escape room in two teams, each of the teams has a gamemaster)</li> <li>➤ Discussion in groups: gamemaster's impressions of the role (scaffolding)</li> <li>➤ Participants perception of the gamemaster (what went well, what can be made differently next time)</li> </ul> </li> </ol>	Participants receive the <b>check list</b> with software as well as hardware preparation steps for the conduction of the DEER. See Appendix2
BREAK (15 min)		
Work on puzzles (2 h)	Each participant chooses one puzzle which he/she liked/did not like the most and explains why. Go over all the puzzles in the Escape Room and explain their meaning and aim.	
Feedback (15 mins)	Feedback round	

This storyboard suits for the multiplier training for both escape rooms: "Letters save the world" and "Monsterscape". You may adapt it to the needs of your participants.

## Developing DEER on your own

**Advanced:** In case, you would like to "Build" a new room, Escape Room or a world, use Spoke <https://hubs.mozilla.com/spoke> for that. Spoke is a building programme to create VR

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Co-funded by the  
Erasmus+ Programme  
of the European Union

environments for Mozilla Hubs. It is free and you can use the same login information as for the MozillaHubs. Under your account you can save all your projects and publish them in Mozilla Hubs. You may alter something in Spoke and publish it thousand times, till you get what you wanted to. Each time the new room will be created with the new unique link. This link is not public. You can share this link with your target group. More on Spoke building you can find here: <https://hubs.mozilla.com/spoke/projects/tutorial>

It is also possible to create DEER in Virtual Reality on other software: Moakley, B. Singh, G. R. Amazon Sumerian by tutorials. First Edition. Learn Amazon Sumerian by Creating 4 Complete Apps. Pp. 26-221

Here you can find the tutorial how to use Mozilla hubs on Different Media.

YouTube: <https://www.youtube.com/watch?v=5QnOsyyebEQ>

Web: <https://support.mozilla.org/de/kb/erste-schritte-mit-hubs-von-mozilla>

Discord: <https://discord.com/channels/498741086295031808/535656489021472790>

Copying this room to the beginning of our level might greatly improve the target audience's understanding of the escape room concept.

<https://hubs.mozilla.com/m6sawum/hubs-tutorial-escape-room-practice>

More sources:

Another niche for Virtual Reality (VR) discussion is the Internet with Educators in VR and Frontiers in Virtual Reality being the most reputable. Such platforms facilitate chat and Q&A sessions, as well as direct communication with other researchers to clarify contentious issues and share accumulated experience. Educators in VR extends to social media (Discord) where anyone interested could join in broadcasting real-time events and participate in discussions.

**TIP:** If you are to implement an Escape room only in 2D, you may use QR Codes for the puzzles. Keep in mind, the students have to have the devices with them as well as Wi-Fi access in your organisation to be able to solve them. If you plan to play the game in VR headset later, never use QR Codes, there is NO possibility to use or scan them in VR.

## Summary

In terms of function, Educational Escape Rooms (EERs) are conceived to improve the motivation level, digital and soft skills of adult basic educators so that they can transmit this knowledge to their students and expand the community of educators in Virtual Reality (VR). The Virtual Reality (VR) environment for education is not a substitute for everyday lessons but an asset that motivates, engages, encourages, and gives more opportunities in a rapidly changing digital world in the (post)pandemic situation.

Virtual Reality (VR) should be used with the precaution not to exclude illiterate people before the pandemic and to alleviate the adverse effects of digitisation to avoid digital exclusion or digital divide. On the contrary, Virtual Reality (VR) should be used to bridge the digital divide, especially for people with low literacy levels.

## Appendix1: User Agreement and Liability Waiver Example

A waiver in this situation may be a separate document that the end-user signs stating that the risk of going through the VR experience is understood. Vision is limited when wearing a VR headset and the end-user may need to sign an agreement saying that they will not sue the experience creator if they lose touch with actual reality and walk outside of the VR grid and straight into a wall.

Here is an example text (taken from [https://jclibrary.info/wp-content/uploads/Documents\\_Forms/Oculus\\_User\\_Agreement\\_Adult.pdf](https://jclibrary.info/wp-content/uploads/Documents_Forms/Oculus_User_Agreement_Adult.pdf)) for the user agreement and liability waiver.

ABEDiLi Project partner is offering free use of the Pico Neo 2 Virtual Reality ("VR") device, including equipment and software, with the understanding that while the partner will provide a supervised experience, the user uses the equipment at his/her own risk. Please read and initial each section, and sign below.

- I understand that some users report dizziness or vertigo from the VR experience, or other effects on the user's sense of balance, sight, and hearing. I agree to report any discomfort or disorientation immediately, so that the facilitator can remove the equipment and take appropriate measures to assist me.
- I understand that using the VR equipment can result in my moving around the room unaware of physical surroundings while attending to the virtual experience on the headset. A facilitator will be present. While every attempt will be made to anticipate my movements, a sudden action could result in a stumble or fall.
- I understand that I can terminate the VR experience at any time, but I must also listen to the facilitator and always follow instructions in order to have a safe and optimal experience.
- I have read and understand all the safety precautions on the Pico Neo2 VR product description handout.
- I understand that if I fail to comply with safety precautions and instructions, the facilitator may revoke my privileged to use the Virtual Reality equipment.
- By signing this agreement, I affirm that I am fully aware of the risks involved with using the Pico Neo2 VR program and equipment, and I am assuming all liability and responsibility for my voluntary use of this program and equipment.
- I hereby release the educator from all rights and claims for liability, damage, loss, or injury arising from this experience, and agree to hold harmless the educator.
- I further agree not to sue, assert, or otherwise maintain any claim or cause of action against the educator/organisation and its staff arising from my voluntary use of the Pico Neo2 VR program and equipment.

I CERTIFY THAT I AM 18 YEARS OF AGE OR OLDER, I HAVE READ THIS DOCUMENT AND I FULLY UNDERSTAND ITS CONTENT. I AM AWARE THAT THIS IS A RELEASE OF LIABILITY AND A CONTRACT AND I SIGN IT OF MY OWN FREE WILL.

Printed Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix2: Checklist

### Preparation for the training with the VR equipment implementation

This checklist will help you to keep everything under control **before** you plan the training or class with the help of Virtual Reality headsets and when you **start** the class on the venue. Print it out and mark the things which you have already done. To be sustainable, laminate the paper and mark the things with the marker on it. After the session, wipe your markings away.

Before the session		
HARDWARE	SOFTWARE	VENUE
✓ Case/bag for VR headsets	✓ Update VR Headsets und Controllers	✓ Place (2x2M for each participant)
✓ VR headsets with Controllers	✓ Save Escape Room under Apps	✓ Blinders on the windows (no direct sunlight)
✓ 2 Powerstrips for 6 outlets each		✓ Wi-Fi Access (Password)
✓ Desinfection spray		✓ At least 3 outlets (2 for 2 power strips and 1 for the educator's notebook)
✓ Wipes		In case there are more notebooks => more electric outlets
✓ VR hygiene masks		
✓ Adhesive paper tape		
✓ Notebooks für 2D Modus		
On the Venue		
✓ Unpack	✓ Start VR Headsets and Controllers	✓ Put on the blinders on the windows
✓ Charge (VR Headsets, Controllers, Notebooks)	✓ Set up the guardian beforehand	✓ Mark Safe Zone for the participants with the adhesive paper tape on the floor 2*2M
✓ Connect to Wi-Fi		✓ One chair for each participant in case they feel bad
		✓ One glass of water for each participant

44

Virtual Reality is still a relatively new technology. Because of this, few people know how to safely use the VR headsets. We recommend you read the Common FAQ page from the PICO website at [https://www.pico-interactive.com/us/faqs/Common\\_FAQ.html](https://www.pico-interactive.com/us/faqs/Common_FAQ.html)

This is only general advice and not intended to replace advice from the Ministry of Health, COVID-19 website, WorkSafe, individual health professionals, and any details set out by your own site safety plans.



## Bibliography

- Benson, B. (1997). Scaffolding.
- Bose, Avishek & Aarabi, Parham. (2018). Adversarial Attacks on Face Detectors Using Neural Net Based Constrained Optimization. 1-6. 10.1109/MMSP.2018.8547128.
- Gordillo, A. L.-F.-P. (2020). Evaluating an educational escape room conducted remotely for teaching software engineering.
- Hess, D.R., 2004. Retrospective studies and chart reviews. Respiratory care, 49(10), pp.1171-1174.
- Kaplan, A. (2021). The effects of virtual reality, augmented reality, and mixed reality as training enhancement methods.
- Kerres, M. (2021). Mediendidaktik. In: Sander, U., von Gross, F., Hugger, KU. (eds) Handbuch Medienpädagogik. Springer VS, Wiesbaden. [https://doi.org/10.1007/978-3-658-25090-4\\_12-1](https://doi.org/10.1007/978-3-658-25090-4_12-1)
- LeBlanc, M. (2009). 8 Kinds of Fun.
- Madary M and Metzinger TK (2016) Real Virtuality: A Code of Ethical Conduct.
- Merchán Macías, G. (2017). The Gate School Escape Room: An educational proposal. MozillaHubs Tutorial auf Deutsch. Available in Miro under:  
[https://miro.com/app/board/o9JlBao2k=](https://miro.com/app/board/o9JlBao2k=/)
- Nicholson, S. (2015). Peeking behind the locked door: A survey of escape room facilities. Recommendations for Good Scientific Practice and the Consumers of VR-Technology Front. SkillsVR. Software manual. Available at: <https://skillsvr.com/wp-content/uploads/2021/08/SkillsVR-Pico-Headset-Onboarding-Guide-1.0.pdf>
- Smyslova. (2019). Kiberzabolevanie v sistemah virtual'noj real'nosti.
- Vindenes, J. and Wasson, B. Show, don't tell: Using Go-along Interviews in Immersive Virtual Reality. DIS '21: Designing Interactive Systems Conference 2021. Pp. 190-204. Available at: <https://dl.acm.org/doi/abs/10.1145/3461778.3462014>
- VRexpert. PICO Neo 2 Quick Start Manual. Available at:  
<https://www.manualslib.com/download/2076370/Pico-Neo-2.html>
- Virtual Reality in Education research:  
<https://dl.acm.org/action/doSearch?fillQuickSearch=false&expand=dl&AllField=Virtual+reality+and+adult+education&startPage=0&sortBy=relevancy>

ABEDiLi (Adult Basic Education Digital Literacy) project partners:



Visit the project website for further information: <https://abedili.org/>



This work is licensed under a **Creative Commons Attribution-NonCommercial 2.0 Generic (CC BY-NC 2.0) International License**

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Co-funded by the  
Erasmus+ Programme  
of the European Union