



EVERYTHING YOU NEED TO KNOW TO TRAIN WITH VR

VR Classroom Guide

A PRACTICAL GUIDE FOR TRAINERS AND LEARNERS



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The **VR VET** project aims to transform **Non-Destructive Testing (NDT)** training by integrating **Virtual Reality (VR)** into **vocational education and training**. Through innovative pedagogical approaches and immersive digital tools, **VR VET** supports both **trainers** and **learners** in acquiring skills that are **modern, sustainable, and aligned** with the **digital transition**.

Partners

VR VET is implemented by a strong international partnership that brings together expertise from research, industry, and vocational education:



Coordinator
www.isim.ro



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EVERYTHING YOU NEED TO KNOW
TO TRAIN WITH VR



VR Classroom Guide

A PRACTICAL GUIDE FOR
TRAINERS AND LEARNERS

Virtual Reality (VR) is becoming an increasingly valuable tool in education and training.

It allows learners to **explore complex environments, practise technical tasks, and engage with content in an immersive and interactive way.**

However, using VR in the classroom requires more than just technology — it demands careful preparation, safety measures, and clear

guidance for both trainers and learners.

This booklet was designed to support that process and ensure VR can be used effectively and confidently.

The aim of this booklet is to provide trainers and learners with practical guidance on how to prepare, deliver, and participate in VR-based training sessions.

Through step-by-step checklists and concise advice, it provides:



Step-by-step checklists for trainers



Guidance on preparing the classroom environment



Advice on how to introduce and support learners

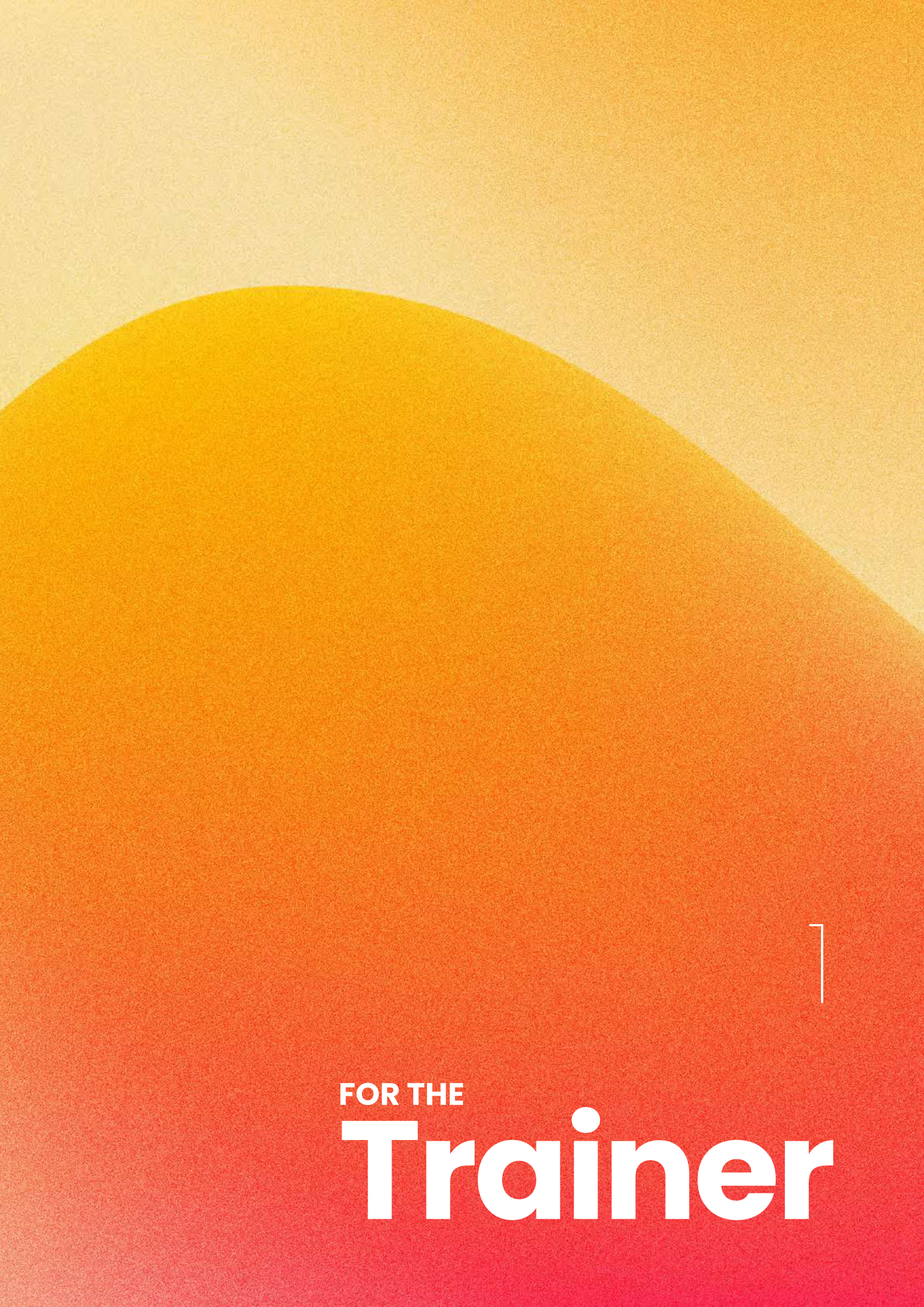


Safety and troubleshooting tips



Best practices to link VR activities with learning outcomes

Following these recommendations will ensure that trainers and learners are better prepared to create safe, engaging, and meaningful VR experiences in education and training.



FOR THE

Trainer

1 Everything you need to know to teach with VR

Spend time practising with the VR equipment before your session.

Run through each scenario several times so you are confident with the flow and controls. Make sure you know which buttons are essential and how to explain their use clearly.

HTC Vive Focus Vision

Setup and Use for Training



The VR VET scenarios are designed to run on the HTC Vive Focus Vision.

Trainers should be familiar with the device before running sessions, as this ensures smooth operation and learner confidence.

1 Major Components

Adjustment Controls

Straps and interpupillary distance (IPD) can be adjusted for comfort and clarity.

Headset

Contains displays, integrated cameras for inside-out tracking, and built-in processing.

Audio

Built-in speakers, with an option to connect headphones via 3.5mm jack or Bluetooth.



HTC Vive Focus Vision headset with controllers

Controllers (2x)

Used for interaction in VR; each has a trigger, a grab button (for picking up objects), and a menu/navigation button.

2 Initial Setup and Connection

Front view of the **HTC Vive Focus Vision** headset, highlighting the integrated inside-out tracking cameras



Charging

Charge headset and controllers fully with USB-C cables.



Power On

Long-press (5–7 seconds) the power button on the headset.



Controller Pairing

Usually automatic; if not, pair via the headset's settings menu.



Network Connection

Connect to a stable Wi-Fi network to access training content.



Guardian Boundary

Set up a safe play area using the headset's boundary setup.

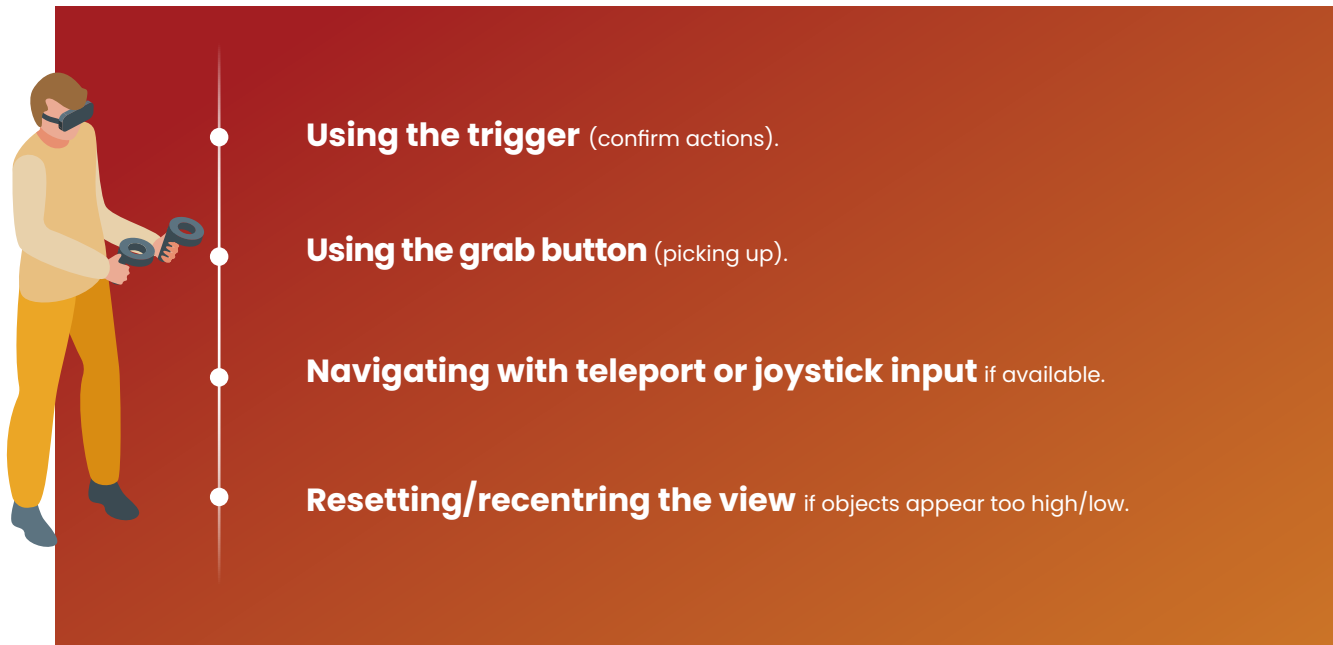


Check Environment

Avoid reflective surfaces (mirrors, windows) that may interfere with tracking.

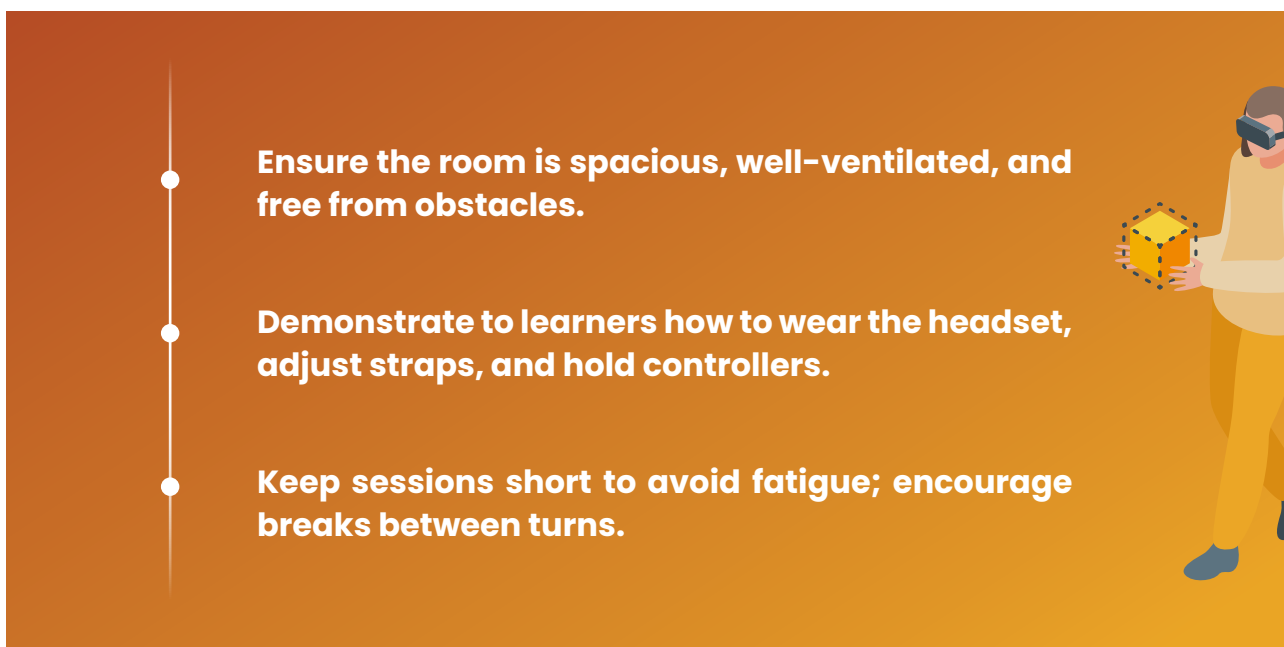
3 Trainer Familiarisation

Before teaching, trainers should practise VR scenario to become confident with:



- **Using the trigger** (confirm actions).
- **Using the grab button** (picking up).
- **Navigating with teleport or joystick input** if available.
- **Resetting/recentring the view** if objects appear too high/low.

4 Running a Session



- **Ensure the room is spacious, well-ventilated, and free from obstacles.**
- **Demonstrate to learners how to wear the headset, adjust straps, and hold controllers.**
- **Keep sessions short to avoid fatigue; encourage breaks between turns.**

Following these steps ensures that trainers can set up and operate the **HTC Vive Focus Vision** effectively.

Anticipate the learner's perspective



Remember that once learners put on the headset, they can't see you.

Practise giving clear, step-by-step instructions so they can follow along without visual cues.

Expect different learning speeds

Some learners, especially VR novices, will need more time to get comfortable. Be patient, repeat instructions when necessary, and provide reassurance during the experience.

Test what works (and what doesn't)

Not every feature or interaction will run smoothly the first time. Identify potential difficulties in advance so you can adapt and avoid surprises during the session.



2 Preparing the Physical Space



Create a safe and spacious area

Ensure that the training area provides sufficient unobstructed space for movement, free from furniture, bags, or other trip hazards.

Where possible, clearly mark a central play zone to help learners remain within the safe boundary.

The room should also be well-ventilated, as VR headsets generate heat during extended use and learners may experience physical exertion while moving.

Adequate ventilation and spacious layout not only enhance comfort but also reduce the risk of overheating and maintain consistent equipment performance during longer sessions.



Arrive early and set up carefully

Allow plenty of time to organise the room, position equipment near power sockets, and secure any loose VR or projector cables. Using hazard tape can help keep cables tidy and mark boundaries.



Bring the right accessories

Always keep spare AA batteries for controllers. A lightweight, tested extension cable can be useful for laptops, as well as adapters and a spare HDMI cable for connecting to monitors or projectors.



Check equipment every time

Test headsets, controllers, and audio before learners arrive. Never assume it worked last time.



Maintain good hygiene

Keep wipes ready for cleaning lenses and headset faceplates. Provide disposable VR face covers if possible, especially for group use.

3 Preparing the Group

Introduce the basics early

Many learners may be new to VR. Explain why you are using it, how it supports the training, and what they are expected to gain from the experience.

Address common concerns

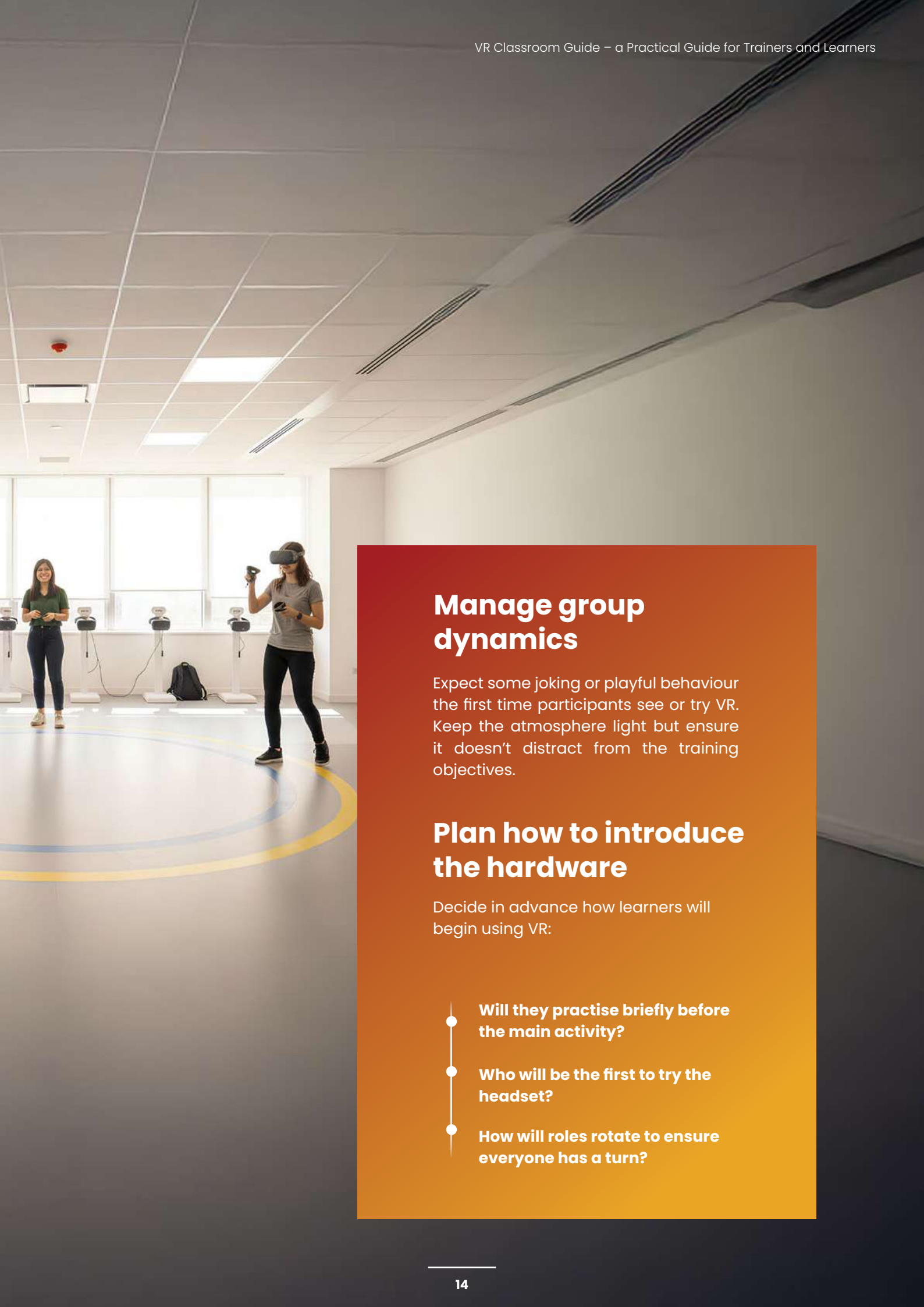
Motion sickness: reassure participants by explaining what causes it and how to minimise discomfort.

Feeling self-conscious: demonstrate the headset yourself first to reduce anxiety and show it is safe.

Promote comfort and choice

Make it clear that it is always acceptable to remove the headset if a learner feels uncomfortable or unwell.





Manage group dynamics

Expect some joking or playful behaviour the first time participants see or try VR. Keep the atmosphere light but ensure it doesn't distract from the training objectives.

Plan how to introduce the hardware

Decide in advance how learners will begin using VR:

- Will they practise briefly before the main activity?
- Who will be the first to try the headset?
- How will roles rotate to ensure everyone has a turn?

4 Safety & Health





Watch out for motion sickness

Some people may feel dizzy or nauseous when using VR. Remind learners it is normal and that they can remove the headset at any time without pressure.

Encourage the use of teleportation rather than smooth movement, as this significantly reduces the risk of motion sickness.



Check headset fit and IPD before starting

Ensure headset fit and IPD adjustment before starting, as poor alignment often increases discomfort.



Encourage regular breaks

Plan short pauses every 15–20 minutes. Encourage hydration and stretching to keep everyone comfortable and alert.



Keep it clean

Wipe down headsets and controllers between uses, paying special attention to the lenses and faceplates. Consider using disposable VR face covers, especially in group training.



Look after your learners

Trainers should stay attentive for signs of discomfort. If someone feels unwell, stop the activity and let them rest.



Be mindful of individual needs

Learners with conditions such as epilepsy or severe motion sensitivity may need alternative activities. Always respect personal limits.

5 Technical Troubleshooting



Headset won't turn on

- Check that the power button has been pressed.
- Sometimes the headset requires a long press of 5–7 seconds on the power button before it responds.
- If the display remains off after boot, wait a few moments — the startup sequence may take longer than expected.
- Confirm the headset is fully charged or connected to power.



Black screen or no display

- Restart the headset and app.
- Check the connection to Wi-Fi if required.
- Verify that the lenses are clean and unobstructed.

Controllers not responding

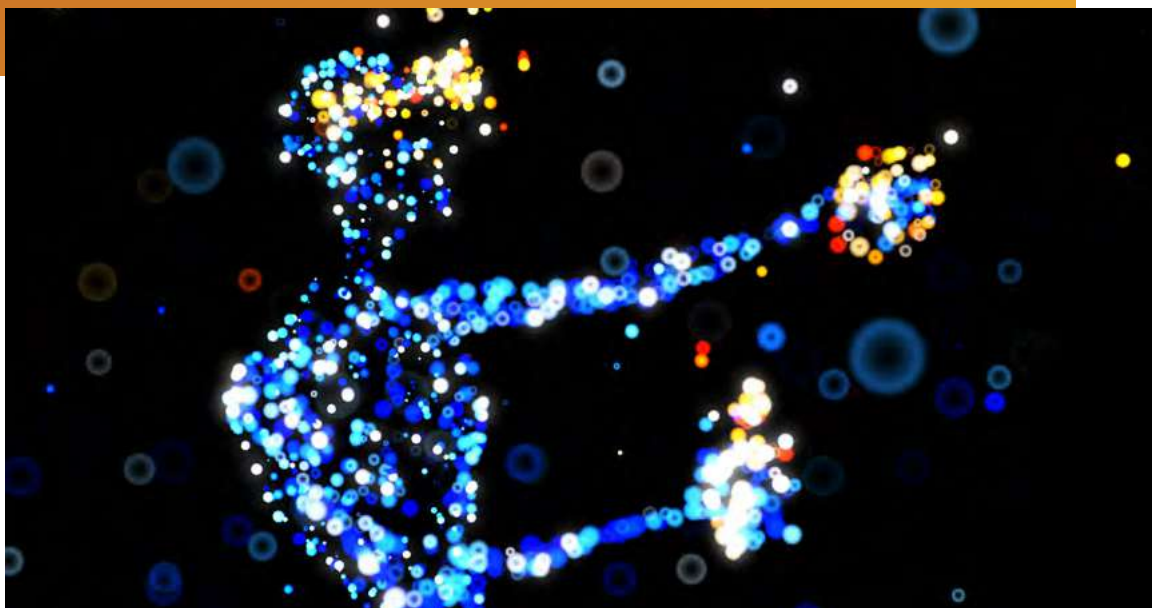
- Replace or recharge batteries.
- Re-pair controllers with the headset.
- Ensure nothing is blocking the sensors.

Tracking issues

The HTC Vive Focus Vision uses inside-out tracking with integrated cameras, meaning it does not rely on external base stations.

For reliable tracking:

- Keep the front-facing cameras clean and unobstructed (wipe lenses gently if necessary).
- Avoid training areas with mirrors, glass walls, or highly reflective/bright surfaces, as these confuse the cameras.
- Maintain consistent lighting — avoid very dark rooms or direct sunlight on the play space.
- If the learner's height appears wrong (e.g., floating above or below the table), redo the room setup or floor calibration to re-establish the correct ground level.
- Adjust the lighting — avoid overly bright or dark environments.
- Re-centre the play area through the device menu.
- Clear obstacles that may interfere with sensors.



Audio not working

- Check volume settings on the headset.
- Test with another pair of headphones if possible.
- Restart the device if the issue persists if possible.

When in doubt

- Restart both the headset and the VR application.
- Switch to a backup activity (slides, video, demo).

Controllers not responding

- Replace or recharge batteries.
- Re-pair controllers with the headset.
- Ensure nothing is blocking the sensors



Performance and Overheating

Extended VR use can cause performance slowdowns or overheating.

- Monitor for warning messages on the headset indicating high temperature. If shown, pause the session and allow the device to cool in a ventilated area.
- Before each session, close all unused background applications running on the headset to free memory and processing power.
- Ensure the training room is well ventilated to prevent heat buildup.
- As a precaution, schedule moderate not too long sessions to avoid excessive overheating which might could affect the experience.

6 Pedagogical Best Practices & Debriefing



During VR

- Give short, clear instructions.
- Encourage learners to describe what they see/do.

After VR

Run a group debrief:

- What did you experience?
- What was difficult?
- How does this link to today's topic?

Assessment ideas

- Short quiz on VR content.
- Group discussion or poster.
- Practical task connecting VR to real-world skills.

2

FOR THE

Learner

1 Your First Steps in VR

Before using VR

Remove loose jewellery or bags.

Tie back long hair.

Put on the headset slowly and adjust the straps.

During VR

Move calmly, don't run.

What did you experience?

Use the "reset" or "home" button if you feel lost.

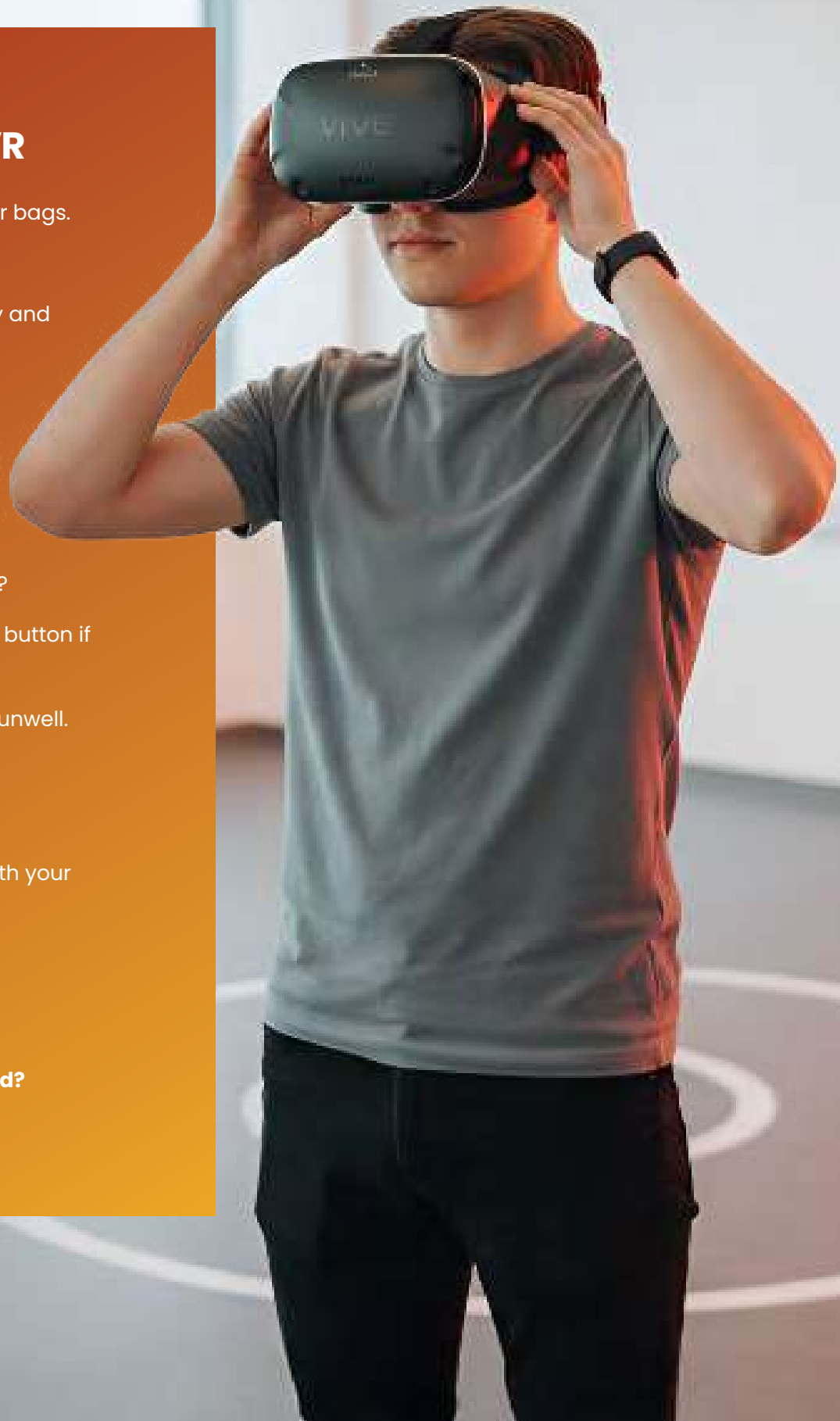
Tell the trainer if you feel unwell.

After VR

Share your experience with your group.

Reflect:

- What did you learn?
- How can it be applied?



3

QUICK

Reference

Trainer Checklists

Topic	Checklist Items
Set-up & Updates	<ul style="list-style-type: none">• Headsets and controllers fully charged• Software/apps updated• VR application tested
Content Management	<ul style="list-style-type: none">• Licences and access codes ready• Scenarios pre-loaded and favourited• Backup activity prepared (slides, video)
Classroom Safety	<ul style="list-style-type: none">• Floor clear of bags, chairs, cables• At least 2 m² free space per VR user• Boundaries marked on the floor
Environment	<ul style="list-style-type: none">• Balanced lighting• Ventilation ensured• Desks/chairs organised for observers
Equipment Corner	<ul style="list-style-type: none">• Charging station prepared• Cleaning kit ready• Spare batteries or power banks available
Group Preparation	<ul style="list-style-type: none">• Explain what VR is and expected benefits• Present rules (no running, respect space)• Reassure about discomfort and safety
Roles & Etiquette	<ul style="list-style-type: none">• Rotate active user, supporter, observer• Respect personal/virtual space• Encourage teamwork and shared learning
Safety & Health	<ul style="list-style-type: none">• Stop immediately if dizzy/nauseous• Schedule breaks every 15–20 min• Hydrate regularly• Clean lenses/faceplates between users• Provide disposable face masks if needed
Troubleshooting	<ul style="list-style-type: none">• No image → check power/connection• Controllers not working → re-pair/replace batteries• Tracking lost → adjust lighting/re-centre• Still not working → restart device & app
Learner Guidance	<ul style="list-style-type: none">• Remove jewellery/bags before VR• Adjust headset straps carefully• Move calmly, no running• Report discomfort immediately• Share reflections after VR

For additional materials, practical examples, and inspiration, visit the VR VET Platform on the project website.

Here you will find:

- Training resources to support classroom practice in NDT
- Guidance and tools for using VR in education and training
- More details on the **Living Labs network**, showcasing innovative approaches and shared experiences



vr-vet.eu

**Explore, connect, and take inspiration from the wider
VR VET community!**



[/company/vr-vet-non-destructive-testing/](https://www.linkedin.com/company/vr-vet-non-destructive-testing/)

References

HTC. (2024). VIVE Focus Vision – Standalone VR headset [Product image]. VIVE Official Website. <https://www.vive.com/us/product/vive-focus-vision/overview/>



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