Trainers Guide (for curriculum implementation)

DEL 4.2 – WP4

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Introduction

This guide is designed to equip educators with the tools and skills necessary to fully leverage the potential of immersive technology to offer an innovative and engaging educational experience for students. In an increasingly globalized and interconnected world, training in the tourism sector requires a dynamic and adaptive approach. The skills needed in the tourism industry are continually evolving, and the ability to quickly adapt to new scenarios and technologies has become essential. The immersive virtual platform that we will explore in this guide represents a response to this need, providing an interactive and realistic learning environment where students can develop practical and theoretical skills in a safe and stimulating way.

Adopting immersive technologies in tourism training offers numerous benefits for both students and teachers. An immersive virtual platform allows for:

- **Realistic Experiences**: Simulate real-life situations in tourism contexts, enabling students to acquire practical skills in a controlled and risk-free environment.
- **Active Learning**: Promote active and engaging learning, where students are not mere spectators but active participants in the learning process.
- **Access to Global Resources**: Provide access to resources and learning scenarios that might not be available locally.
- **Flexibility and Customization**: Allow greater flexibility in teaching and the possibility to personalize learning according to each student's needs.
- **Integration of Advanced Digital Skills**: Promote the acquisition of advanced digital skills, essential in an increasingly technology-oriented job market.

The main objective of this Guide is to provide a clear understanding of the functionalities and potential of the immersive virtual platform, as well as to offer practical tips and educational strategies for effectively integrating it into the curriculum. Among the specific goals we aim to achieve are:

- **Introduction to the Platform**: Acquaint teachers/trainers with the interface and main functionalities of the platform.

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- **Educational Use:** Present practical examples of how the platform can be used to enhance the teaching of tourism-related topics.
- **Creating Immersive Experiences:** Provide instructions on how to create and customize immersive experiences tailored to specific educational needs.
- **Assessment and Monitoring:** Describe tools and methods to assess students' skills and monitor their progress within the platform.

This guide also proposes two storyboard to create future virtual lessons about the topics selected related to identified curricula.

Last, the guide contains different training programs, addressed to teachers/trainers, to enable them teaching using digital technologies in hospitality and restaurant sectors.

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1. EON Platform

The immersive training activities of the V.I.R.Tu.A.L. Project will be developed through the EON Platform. This guide aims to provide a range of information on the functionalities and user interface of EON-XR, a platform for the creation and use of augmented and virtual reality lessons. This platform is designed to be user-friendly, allowing even users without programming experience to create interactive and engaging AR/VR content for learning and training.

A more detailed overview of these specific features is available in the appendix to this document (provided by the Platform manager). The platform offers two main types of lessons: 3D lessons and 360° lessons. For both, it is possible to create and edit content, add various types of media (audio, video, PDF, images), and interactive activities such as quizzes.

The user interface includes sections such as Overview, Information, Statistics, and Audit Logs to manage lessons. Users can start lessons, share them, and organize collaborative meeting sessions. For 3D lessons, features like annotations, part explosions, X-ray viewing, and animations are available. The 360° lessons offer similar features adapted to the panoramic environment.

The platform supports content creation through tools such as Text-to-Speech for generating audio narrations and offers 3D recording features to capture interactions with models. EON-XR also includes a resource library, playlist and package management, and tools for content optimization. Users can filter and organize their educational materials.

Finally, the platform provides functionalities for XR meeting sessions, allowing real-time collaborations between multiple participants in virtual or augmented environments. Overall, EON-XR presents itself as a comprehensive solution for the creation, management, and sharing of immersive learning experiences in 3D and 360°, and offers support resources, including video tutorials and user guides.

Here is an overview of its operation:

- Users access the platform through a web browser at https://eon-xr.com, either as individual users or as members of a registered institution.
- Users can create two types of lessons:
    - 3D lessons: based on interactive 3D models

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  - 360° lessons: based on immersive 360-degree images

- The platform supports the import of various types of content, including CAD models, PLM data, scanned models, and other media.
- Users can add interactive elements to lessons, such as annotations, quizzes, audio, video, and PDFs.
- EON offers tools like Text-to-Speech for generating audio narrations and 3D recording to capture interactions with models.
- Users can organize lessons into playlists and packages for efficient management. Lessons can be shared with other users and support collaborative XR meeting sessions.
- The created content can be published on over 30 different devices, from smartphones to AR glasses and VR headsets.
- The platform offers tools for learning assessment and usage data analysis.
- EON-XR can integrate with learning management systems (LMS) and other enterprise systems.

1.1. EON Tutorial

Here is the tutorial on how to create a basic 3D lesson using the EON-XR platform[1].

- **Access the platform**: Go to https://eon-xr.com and log in with your credentials

[1] Note: The examples provided in the following brief tutorial are not specifically related to the VIRTUAL training products.

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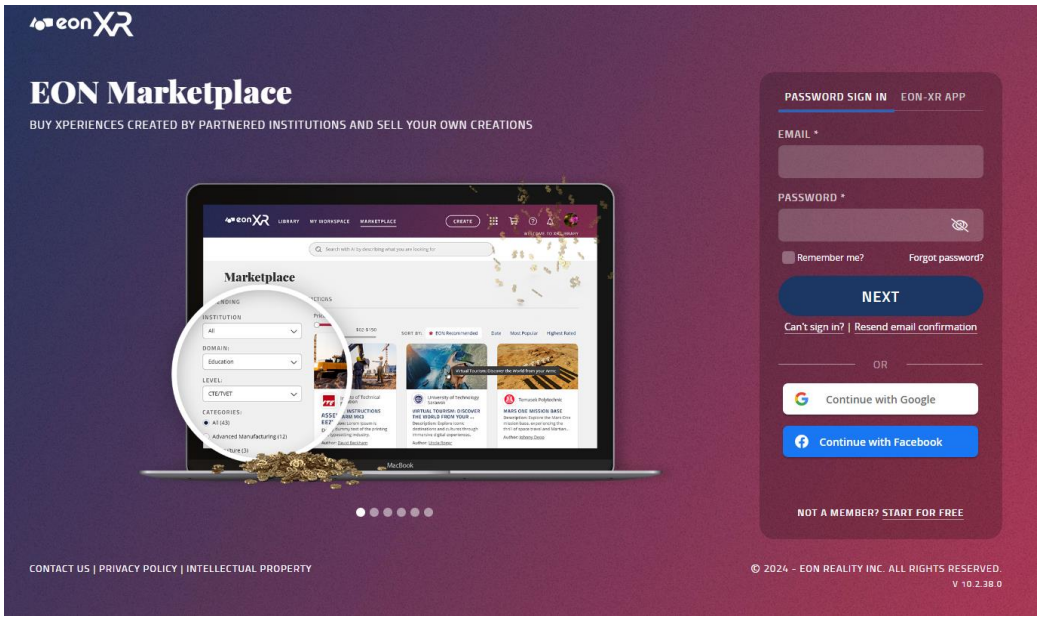
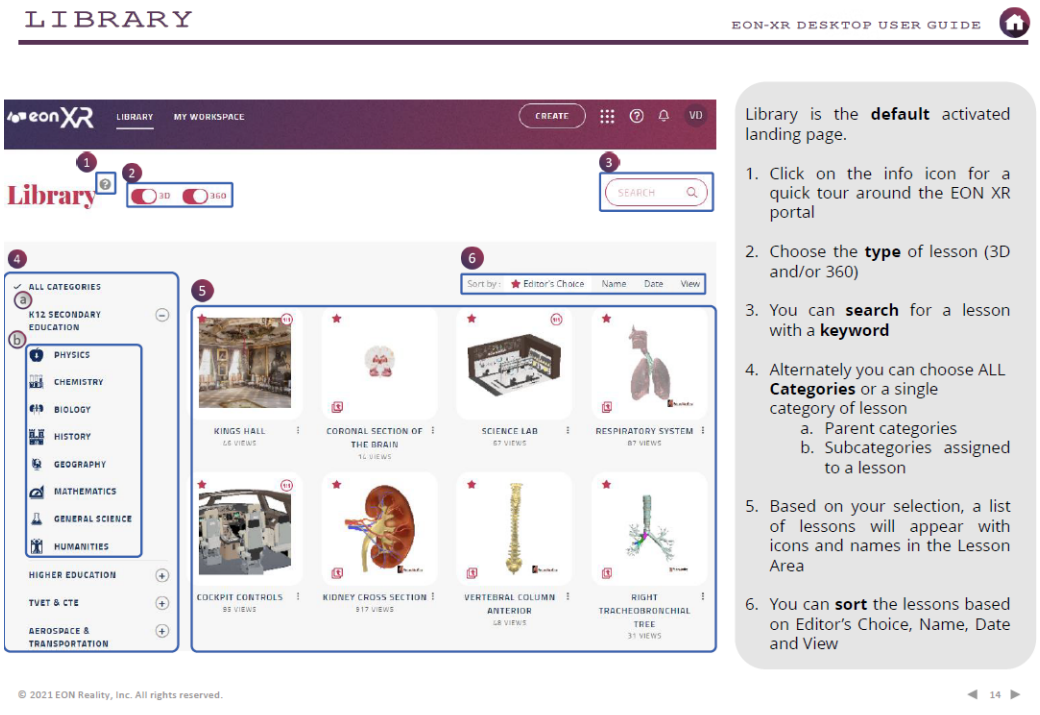


- **Choose a lesson**



- **Create a new lesson**

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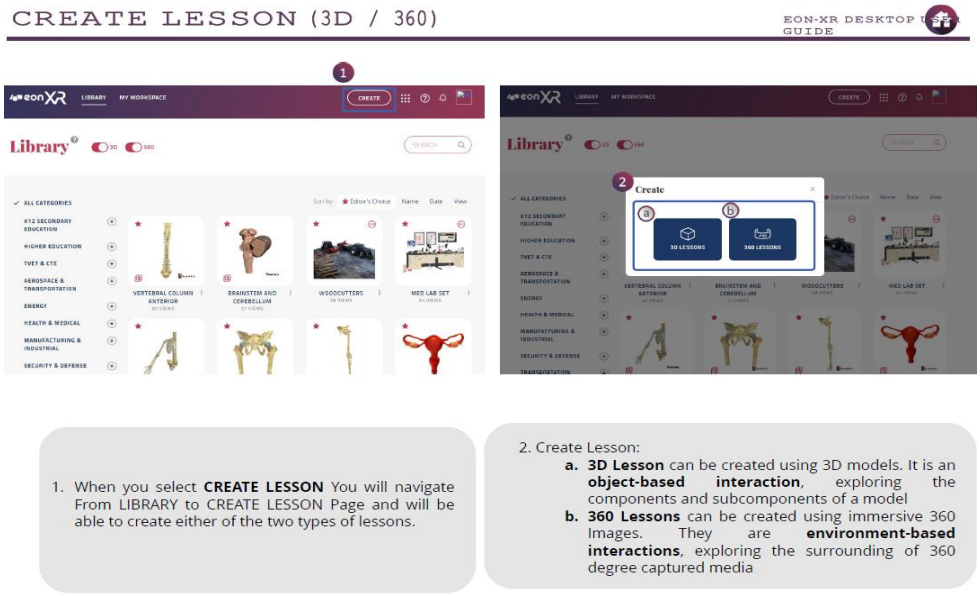
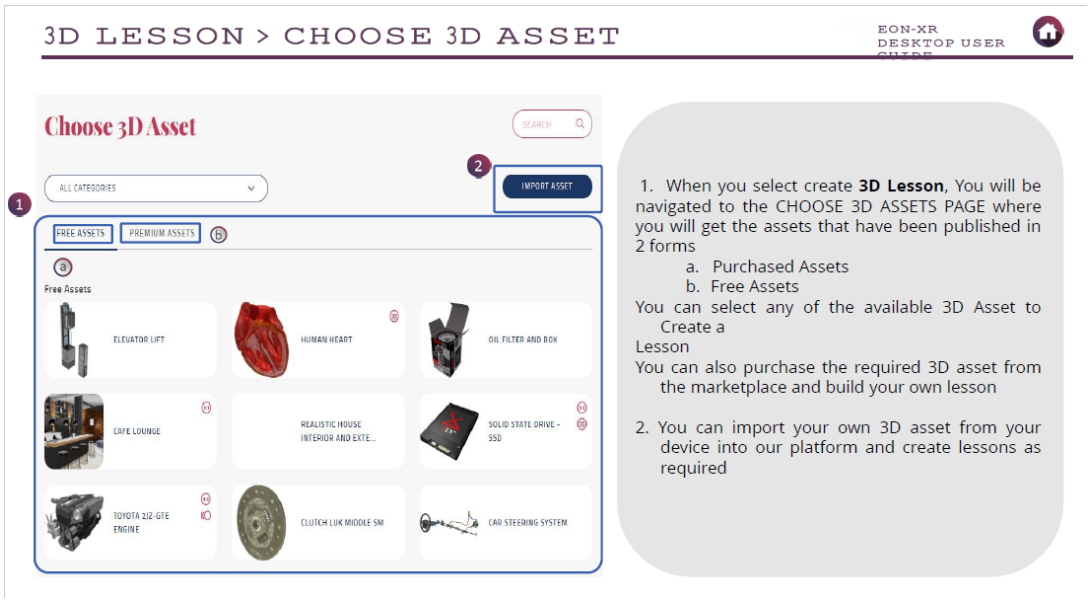
From the main page, click on "CREATE LESSON" and select "3D Lesson".



- **Select a 3D model**

Select a 3D model from the asset library.

Click on "CHOOSE 3D ASSET" and then click "NEXT".



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- **Lesson Set up**

Assign a name to the lesson.

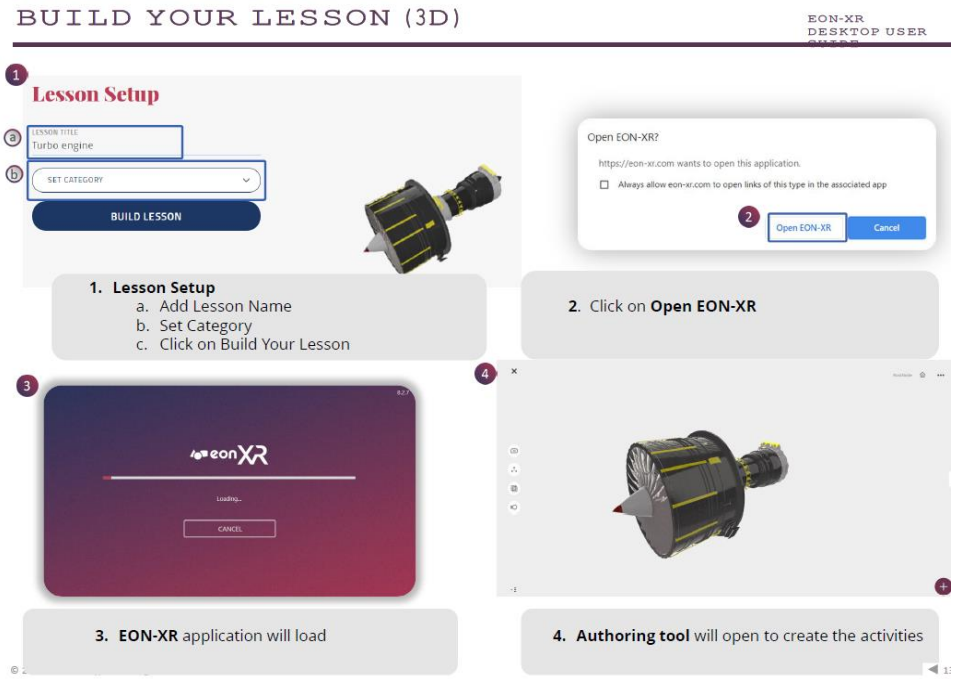
Select a category from the dropdown menu.

Click on "Build Your Lesson."

Open the EON-XR editor.

Click on "Open EON-XR."

Wait for the EON-XR application to load.



- **Add activities to the lesson**

Use the toolbar to add various activities: a. Click on the "Annotation" icon to add labels to the model. b. Use the "Audio" icon to add voice explanations. c. Add a supporting video with the "Video" icon. d. Create a quiz using the "Quiz" icon.

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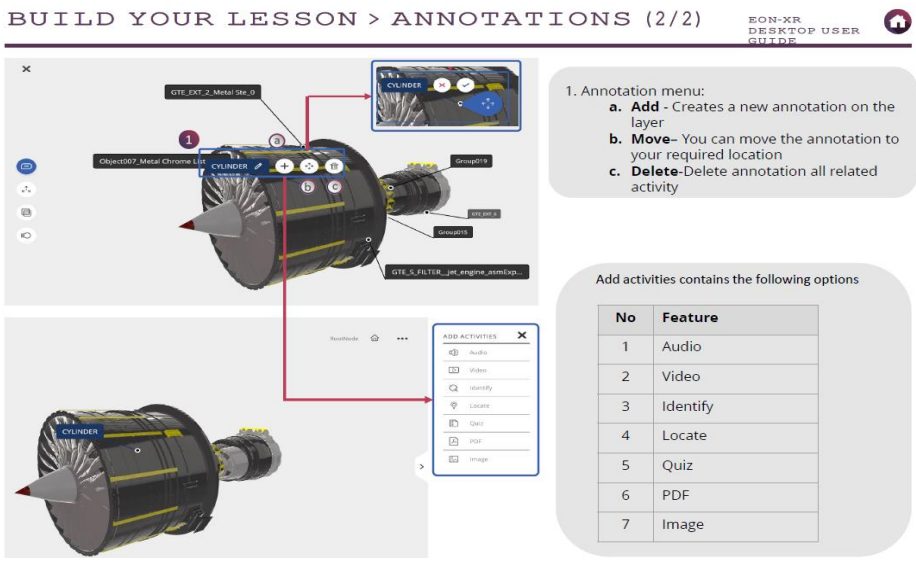

- **Customize the activities**

For each added activity, customize the content and settings.

Use "Set Camera View" to set the ideal view for each activity.

Save the lesson

Click on "Save" to save the changes.

Use "Exit" to leave the editor.

Preview the lesson

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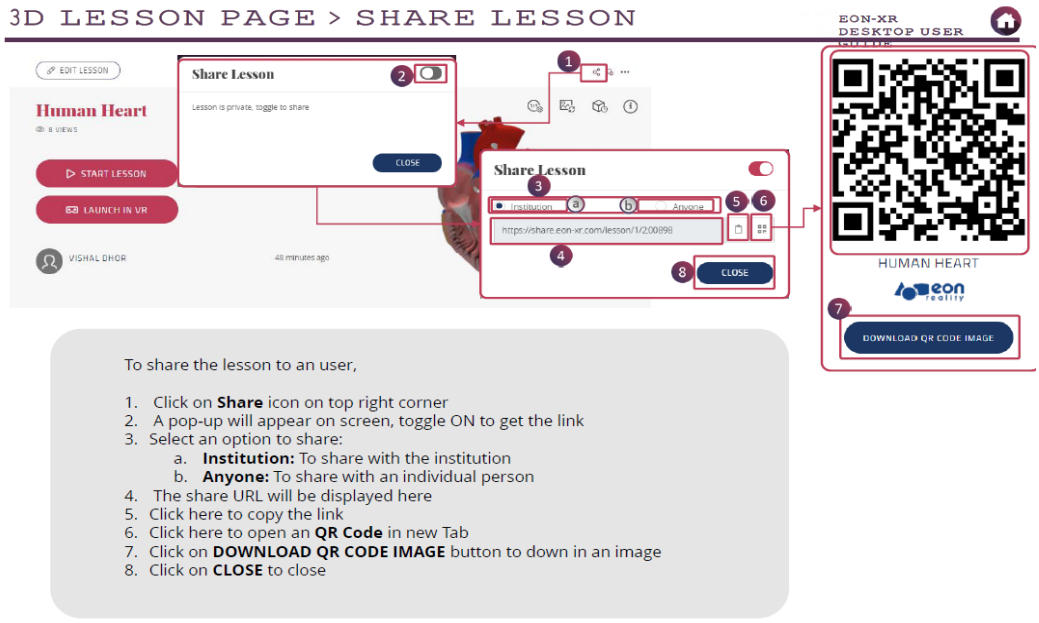
Return to the main lesson page.

Click on "START LESSON" to view a preview.

- **Share the lesson**

Click on "Share" icon to obtain a shareable link



To share the lesson to an user,

1. Click on **Share** icon on top right corner
2. A pop-up will appear on screen, toggle ON to get the link
3. Select an option to share:
   a. **Institution:** To share with the institution
   b. **Anyone:** To share with an individual person
4. The share URL will be displayed here
5. Click here to copy the link
6. Click here to open an **QR Code** in new Tab
7. Click on **DOWNLOAD QR CODE IMAGE** button to down in an image
8. Click on **CLOSE** to close

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2. A storyboard for training curriculum in a virtual environment (Hotel)

Below is a possible storyboard to use to support the training of Learning Unit n. 2 of Module no. 1 (Deliverable 4.1).

Panel 1: Introduction.

A messy hotel room with disheveled sheets and scattered items

Panel 2: **Entry in the room.**

The housekeeper out of the door …

Entering an occupied room without disturbing is one of the most appreciated qualities of housekeeping service.

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Even if you are certain the room is vacant, learner should follow the following procedure:

- Check for the "DO NOT DISTURB" sign.
- Knock three times using your knuckles.
- Announce yourself using the phrase: “Good morning, I am [name], from housekeeping”
- If there is no response, repeat the previous steps.
- If there is still no response, gently open the door and announce yourself softly.
- If the guest is in the room and responds, apologize and communicate that you will return later; if they are sleeping, quietly close the door and leave without making noise.
- If the guest returns while you are servicing the room, ask if they prefer you to finish or if they would like you to return later.

Panel 3: **Preparation.**

The housekeeper with a cleaning cart loaded with supplies.

- Learner prepares the Guestroom Cleaning Trolley:

  Cloths of different colors and paired sponges; Wet mop; Washing equipment; Sprayers; Bathroom, glass, floor cleaners ...; Disposable bags for waste bins; Courtesy items

- Learner must be careful with handling the detergents. The learner must understand to:

  Identify the products; Label all bottles in case of product fractionation; Never try to identify products by smelling them.

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Panel 4: **Removing the sheets and making the bed.**

The housekeeper making the bed with clean sheets.

- Learner carries out the following procedure in phases:

- Stand on one side of the bed and spread the sheet in the center of the mattress, with the edges hanging down the sides of the bed; secure it at the two corners.
- Move to the other side and repeat the process.
- Spread the second sheet, turned inside out, securing it at the two bottom corners.
- Lay the blanket and tuck the edge of the second sheet (headboard side) over the blanket.
- Extend the blanket towards the floor, spread the bedspread, and make the fold.
- Beat the pillows several times between your hands. Put a clean pillowcase on each pillow, place them on the fold of the bedspread, tucking it in with the pillows inside

Panel 5: Finding objects and similar.

Oh, there's a piece of paper on the floor!

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- Learner checks what to do when they find something while tidying up the room:

If something is found on the floor (newspapers, receipts...), it should be placed on a piece of furniture in a clearly visible manner. Nothing found in the room should ever be thrown away, even if it's found on the floor.

Panel 6: Surface Cleaning.

The housekeeper cleaning tables, furniture, and other items in the room.

- Learner carries out the following procedure in phases:
- Start from the door, with sideways movements, moving backward.
- Go back, following a second meridian line, with sideways movements, still moving backward.

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- Detach the cloth or fringe from the tool, folding it onto itself, trapping the dust and disposing of it, if disposable

Panel 7: Bathroom Cleaning.

The housekeeper cleaning the sink, bathtub, and toilet.

- First, learner carries out the following procedure in phases:

- Empty the waste bins and place them outside the room;
- Spray the cleaning product on the fixtures;
- Clean the fixtures and adjacent areas;
- Remove stains and fingerprints from the mirror with a damp cloth;
- Restore consumable products;
- Vacuum or sweep the floor;
- Wash the floor and replace the waste bins.

- Learner continues cleaning the various components of the bathroom:

  SINK

  Spray the surfaces, including mirrors, soap dispensers, and shelves. Always work from bottom to top to avoid re-soiling previously cleaned surfaces. Start from the outside of the sink and finish by cleaning the inside and the faucet. For stubborn dirt, scrub with the abrasive side of the paired sponge.

  TOILET - REGULAR CLEANING

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Flush the toilet. Spray the cleaner inside the bowl, on the seat, rim, and exterior. Place the toilet brush in the bowl. Brush the inside with the toilet brush and flush. Clean the flush button, seat, rim, and exterior of the bowl with the red cloth.

SHOWER AND TILES

Clean the internal walls with a sponge using a detergent. Always start from the top and work downwards to allow dirt to flow towards the shower tray. Clean the tiles in the same manner, paying attention to the corners. Clean all chrome accessories inside. Rinse with water, ensuring that the drain hole is not blocked. Dry everything with a cloth.

It is particularly recommended to apply the color-coding system for cloths. Red: Indicates the cleaning of a bacteria-prone area. Adopting a color-coding system for different areas facilitates work and contributes to better hygiene in environments.

Panel 8: Vacuuming and Mopping the Floor.

The housekeeper vacuuming and mopping the floor.

- Learner carries out the following procedure in two phases to complete the room cleaning:

- Dip the mop or mop head into the bucket to saturate it with the cleaning solution.
- Glide the mop or mop head across the floor, ensuring it adheres well to the surface, using "S" shaped motions.

Panel 9: Final Inspection.

The housekeeper inspecting the room to ensure everything is perfectly clean and tidy.

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Once the cleaning is finished, the learner inspects the room to ensure maximum quality. Finally, the learner must look around the room one last time, ensuring everything is in its place and the room exudes a welcoming atmosphere.

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3. A storyboard for training curriculum in a virtual environment (Restaurant)

Below is a possible storyboard to use to support the training of Learning Unit n. 2 of Module no. 2 (Deliverable 4.1).

Panel 1: **Dining Area Setup.**

A restaurant dining area with tables set for service, and a waiter standing at a guéridon.

Learner holds a service napkin on the guéridon as they prepare the table.

Panel 2: **Cutlery Arrangement on Tray.**

The waiter/maitre arranges the cutlery on a tray, ensuring they are properly aligned and organized.

Learner carries out process of arranging cutlery on a tray in an orderly and precise manner before bringing them to the table for service. This allows for efficient transportation of the cutlery and presenting them to the customers in a professional and accurate manner.

During table setup, cutlery can be brought with a service napkin or on a tray.

Panel 3: **Replacement Cutlery Service.**

The waiter/maitre carries replacement cutlery to the table on a plate with a napkin.

Learner brings additional or replacement cutlery to a table during the meal service. This may be necessary if a guest requires a new set of utensils for any reason, such as dropping utensils on the floor or needing a fresh set for a different course. The learner will typically bring the replacement cutlery arranged neatly on a plate or tray with a napkin. This ensures that the guest can continue their meal without interruption, and it contributes to the overall dining experience.

If the customer drops the cutlery, it must be collected and replaced with clean cutlery. During service, replacement cutlery is brought to the table arranged on a plate with a napkin.

Panel 4: **Dish and Beverage Service from Right.**

The waiter serves dishes and removes them from the right side of the guest.

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Learner serves and removes dishes, serves beverages and clears them from the right side of the guest during a meal. In traditional dining etiquette, dishes are typically served and cleared from the right side of the diner. This practice ensures smooth and efficient service without disrupting the diner's experience.

Panel 5: **Service from Left.**

The waiter serves bread, salads, sauces, and grated cheese from the left side of the guest.

Learner serves food and beverages to guests from their left side during a meal. In traditional dining etiquette, many items, such as bread, salads, sauces, and grated cheese, are typically served from the left side of the guest. This approach helps maintain a smooth flow of service and contributes to an enjoyable dining experience for the guests.

Panel 6: **Plate Arrangement.**

The waiter arranges the tableware, ensuring the logo of the plate faces the guest.

Learner serves the dish at the table by placing his four fingers under the plate and his thumb just above the edge. Learner must never touch the inside of the plate. The plate logo should face the guest. Serve all ladies first.

It is recommended to carry two or three plates at a time with your left hand.

Learner should not touch food or the inside of plates, glasses or cups.

Learner cannot extend your arms in front of seated guests.

Panel 7: **Dual-sided Service Presentation.**

The waiter presents dishes and wine from both the right and left sides.

Learner presents food or beverages to guests from both the right and left sides during a meal. This approach ensures that all guests have equal access to the items being served and allows for efficient and attentive service. By presenting items from both sides, waitstaff can accommodate the preferences and needs of guests seated around the table without causing inconvenience or disruption to the dining experience.

Panel 8: **Pre-course Cutlery Arrangement.**

The waiter arranges cutlery on the table before serving the course.

Learner arranges the cutlery on the dining table before the service of a specific course during a meal. This involves setting the appropriate utensils needed for the upcoming course in a neat

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and organized manner on the table. By arranging the cutlery beforehand, it ensures that guests have the necessary utensils readily available when the course is served, facilitating a smooth and efficient dining experience.

Panel 9: **Pre-dessert Setup.**

The waiter clears crumbs and bread before serving dessert and arranges dessert cutlery.

Learner must:

- clean up crumbs and residues from the main course
- organize the plates and cutlery needed for dessert
- arrange any napkins or other accessories.

It is important to prepare the table accurately to ensure a pleasant presentation and efficient service of dessert to the diners.

Panel 10: **Miniature Pastries Service.**

The waiter serves miniature pastries without cutlery at the end of the meal to a group of diners.

Learner presents and serves small-sized pastries or desserts at the end of a meal. These pastries are typically bite-sized or miniaturized versions of traditional desserts and are served without cutlery to a group of diners. This service is often offered as a final sweet touch to conclude the dining experience on a delightful note. Miniature pastries may include items such as petits fours, mini cupcakes, tartlets, macarons, or other small treats.

Panel 11: **Clear the table.**

The waiter clears the table using important precautions.

- Learner tries to clear tables on each trip to and from the service area.
- Learner follows some rules:
- Clear as quickly as possible.
- Handle the cutlery gently but firmly and do not bang the plates when scraping or pilling them.
- Do not hurry the guests when clearing.
- Start clearing with the person to the right of the host.
- Stand at the back right hand corner of the guest's chair, lean forward and pick up the used plate and cutlery in your right hand.

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- Transfer the plate to your left hand, holding it between your thumb and index finger.
- Use the knife to move left-overs to the front of the plate.
- Place the knife under the handle of the fork at a right angle.
- Move around the table in an anti-clockwise sequence and place himself/herself behind the next guest.
- Hold the first guest's empty plate in your left hand behind the back of the guest, lean forward and pick up the second plate and its cutlery.
- Transfer the second plate to left hand.
- Position the plate on the platform above the first plate.
- Place the fork alongside the other fork on the first plate, and using the knife, push the leftovers off the second plate onto the front of the first plate to join the scraps that are already there.
- Place the knife alongside the other knife on the first plate.
- Continue moving around the table in an anti-clockwise sequence and collect the remaining plates and cutlery.
- Stack the plates on the second plate and arrange the cutlery on the first plate, following the same procedure as for the second plate.

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4. Maximising VR's potential trough Experiential Learning

VR supports more powerful visualization, improves educational interaction, enhances collaboration, strengthens students' practical understanding, and delivers globally. Research and development must coincide with unlocking the maximum output and fully utilizing its benefits, as with any new technology. It should be noted that VR does somewhat limit human interaction if not appropriately monitored and introduced with a guided programme and can cause isolation in younger generations. Still, with the proper research, developments and safeguards, the benefits of VR outweigh the risks. VR technology can transform graduates' skillsets immediately recognized through practical applications. Learning through play, first-hand experiences and applied knowledge creates a more appealing environment for students and results in much stronger skillsets.

Whether through VR or other experiential learning tools, educational technology is at a turning point for leaders, educators, regulators and other stakeholders to take a proactive approach to invest in future generations and ride the wave of change. We have started to see these plans pan out in national transformation plans, even in emerging economies such as the United Arab Emirates (UAE) and the Kingdom of Saudi Arabia. The UAE simulates the future through its recently inaugurated The Museum of the Future in Dubai, an architectural wonder.

The museum showcases an epic display of "Tomorrow Today" through augmented and virtual reality, visually demonstrating how technology reshapes our future and how our "Future Heroes" can learn through play and develop new skillsets.

As governments worldwide compete to be more resourceful and invest in social infrastructure, technologies such as VR are changing the status quo making education less conventional and advancing K-12, higher education and even vocational training. They are driven to improve outcomes and develop a more robust, better qualified and experienced workforce.

Virtual Realities, Augmented Realities and Experiential Learning are the forces of change and we believe now is the time to act.

Experiential Learning

Experiential Learning Theory is a dynamic view of learning based on a learning cycle driven by the resolution of the dual dialectics of action/reflection and experience/abstraction. Learning is

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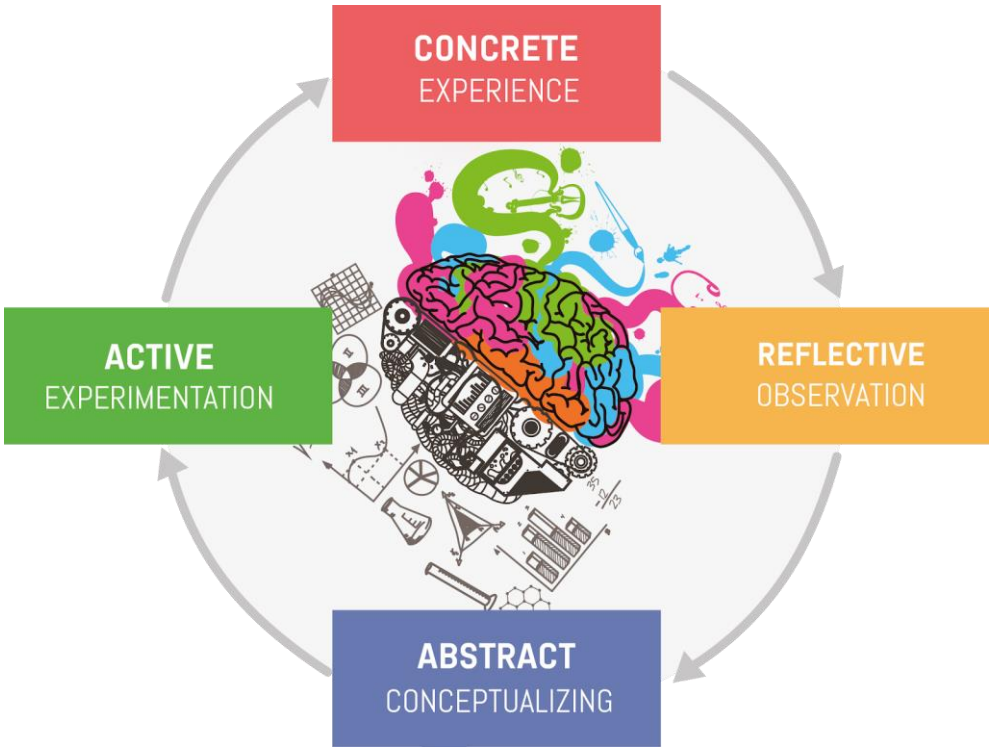
defined as “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.” . Grasping experience refers to the process of taking in information, and transforming experience is how individuals interpret and act on that information.

Learning arises from the resolution of creative tension among these four learning modes. This process is portrayed as an idealized learning cycle where the learner “touches all the bases”—experiencing, reflecting, thinking, and acting—in a recursive process that is sensitive to the learning situation and what is being learned. Immediate or concrete experiences are the basis for observations and reflections. These reflections are assimilated and distilled into abstract concepts from which new implications for action can be drawn. These implications can be actively tested and serve as guides in creating new experiences.



Debriefing around Experiential Learning Cycle

There are a number of models of debriefing that have been presented and refined over the years.

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A heavily-cited model by Kolb leads learners through several stages from experiencing to learning.

The first stage focuses on what the learners felt and experienced during the event (in our case – in the VR simulation). The second stage introduces other points of view by engaging an individual's experiences with the experiences of others. The third stage has the learners relate the concepts in the activity to previously learned concepts in the class and consider how the activity can be expanded. The fourth stage focuses on enabling users to make a connection of the activity to the real world.

Greenaway further refined this model to make it easier for facilitators to remember and apply. His four-stage active reviewing sequence starts with Experience, where learners reflect and discuss the activities that occurred. The next stage is Express, where the learners consider the emotions that they felt during the process. Examine comes next in this model, where learners are encouraged to mentally detach from the experience to consider, more holistically, what happened and how well everything went. Finally, the Explore phase has learners thinking about the future and how the activity can connect back into the real world.

Thiagi, one of the modern leaders in corporate training, brings together ideas of these models and extends them his popular debriefing model. There are six stages to his debriefing process after a simulation or experiential learning activity. First, the learners explore how they feel after the activity. Second, the learners explore what they recall as happening as part of the activity. Third, the learners explore what they learned during the activity. Fourth, the learners tie that learning to their own experiences from the real world or other things they have learned before. Fifth, the learners consider what happened and how what they learned might apply in a different context. Sixth, the learners plan out their next steps

CEFE Debriefing Model

The trainer presents virtual simulations as if they were "real experiences", thus leaving space for individual solution approaches on the participants' side. This does justice to an adult's need to be able to develop their own ideas independently.

In this way, learning can come from the person's own direct experience. It also makes it possible to learn from the experience of other participants and to learn with the assistance of the trainer, who has an effect on broadening the participants' horizons by controlling and guiding the evaluation process. In this way, it integrates a broad spectrum of experience.

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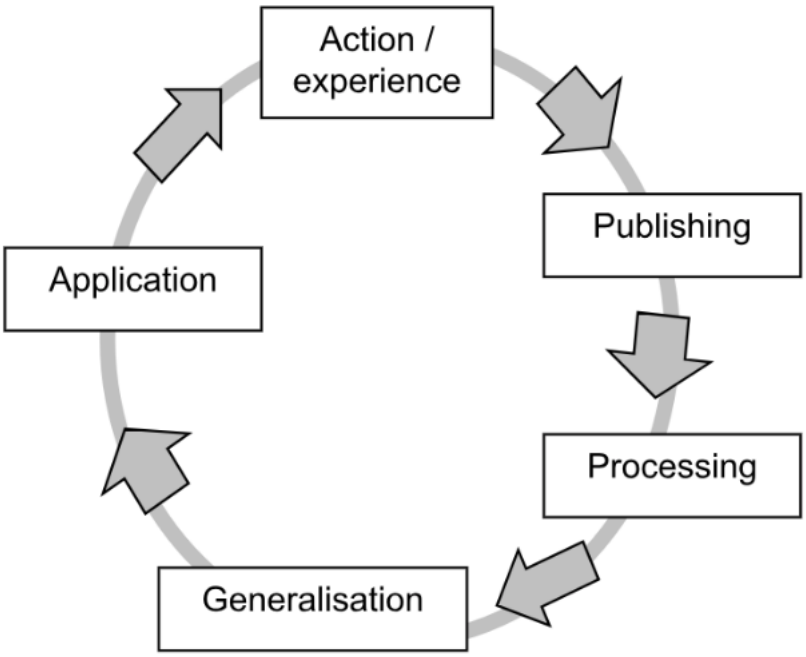
By having to take on other roles and reflecting on them afterwards, the participants get to know different perspectives.

How does the learning in EXPERIENTIAL seminars take place? We suggest you these five steps:



1. **Action / experience**

In the phase action / experience participants "live" a virtual simulated reality which is typical for example for tourism businesses or students from tourism and catering sector.

It is the duty of the trainer to separate and delimit the situation.

This phase is actually the sections 1, 2 and 3 in this guide – how to create virtual reality courses and how to run them.

Trainer then gives instructions constituting the basic framework within which the participants can act. Depending on the intention, these instructions can be either extensive and complete or sparse and even imprecise and incomplete. With these instructions you as a trainer are creating a 'world' in which the participants can act during this phase.

In the action phase, the participants can act freely within the framework of the conditions stipulated. This phase serves the development of individual planning, execution and control tools.

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When there are situations which also have to be dealt with in groups, there are further co-ordination processes, conflict-solving situations etc.

Goal of the action phase in the experiential learning: To generate data

In order to generate data from participants, consider asking some of these questions:

- What is going on?
- What situation will we explore?
- How do you feel about that?
- What do you need to know…?
- Would you be willing to try?
- Could you be more specific?
- Could you offer a suggestion?
- What would you prefer?
- What are your suspicions?
- What is your objection?
- If you could guess at the answer, what would it be?
- Can you say that in another way?
- What is the worst/best that could happen?
- What else?
- And?
- Would you say more about that?

2. Publishing

The publishing phase is a short but important phase which directly follows the action phase (after the VR experience). In this phase all the results, strategies, actions done, decisions, etc., are made public for all the participants and prepared for a comparison. This is best performed using charts prepared by the trainer in advance, into which the results are entered, thus being

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visible for everyone. They are an important discussion basis for the following phase. They have the additional function of clearly emphasising the end of the action phase and therefore marking the return to the seminar situation. The process of coming out of the simulated situation is continued in the first part of the processing.

Goal: To report data generated from the experience

Consider some of these questions:

- Who would volunteer to share what happened in the VR simulation? Who else?
- What went on? What happened?
- How did you feel about that?
- Who else had the same experience?
- Who acted differently?
- Where there are any surprises/puzzlements?
- How many felt the same?
- How many felt differently?
- What did you observe?
- What were you aware of?

3. Processing

The processing phase is decisive for the learning process. If simulation exercises are to lead to learning success, the exercise and evaluation of the exercise have to form a didactic unit in which a learning object, experienced from many different perspectives and levels of experience, is examined and discussed. Processing is the most important step on the way to achieving the learning objectives; and the step in which you as a trainer have the greatest influence on achieving them. In this process, the participants - after an initial phase where there is room for expressing emotion - should take a critical, reflective distance from the simulation exercise.

A requirement for the success of the evaluation of the action phase (which is often not adequately observed) is that the participants slip out of their roles and return to their personalities as learners.

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For example, if during the simulation the participants had to assert certain interests in the conflict with others (difficult clients), then it is necessary for them to leave these roles in this phase, so they are able to reflect on and evaluate the interaction with and between the opponents. Clarification of emotions occurring in the simulation exercise or even of ill-feeling between the participants must be done before starting processing; otherwise, it prevents the seminar continuing efficiently.

To summarize, processing fulfils the following tasks:

1. verbalizes the emotions of the participants after the exercise or simulation has finished, making it possible to leave the role and return to the learner personality,

2. collates the experiences gained by the participants, enabling everyone to share each experience,

3. reveals prejudices and looks for explanations,

4. ascertains the decision-making processes and strategies which were worked with during the exercises,

5. evaluates the different strategies or actions,

6. ascertains the significance of emotions provoked by the experience in the course of the individual phases of the exercise,

7. states and reflects on the different views which the participants have formed with regard to the processes and experiences.

Normally, you will not manage to perform all these tasks in the first exercise/simulation of a seminar. The participants first have to get used to this type of learning. Therefore, it can be useful to explain the basic rules of discussion in processing before, or with the help of, the first exercise.

Processing must be well prepared. So well, that over the course of the discussion, you know exactly at which point to intervene to bring the discussion back to the important points or when you can or must behave quietly because the knowledge is coming from the group dynamic. Behaving appropriately here is also a question of experience. In order to jointly achieve workable results, you must always endeavour to create and maintain an atmosphere of trust.

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Goal: To make sense of the data generated for both individuals & groups.

Consider some of these questions:

- How did you account for that?
- What does that mean to you?
- How significant was it?
- What was the good-bad?
- What struck you about that?
- How do those fit together?
- How might it have been different?
- Do you operate something operating there?
- What does that suggest to you about yourself/your group?
- What do you understand better about yourself/your group?

4. Generalizing

In this phase the participants distance themselves from their own case and draw general conclusions from the experiences / VR simulation. They should look for parallels between the simulated and the 'real' world and transfer the insights which they have gained to the real world. In this way, they can transform them into general understanding. This understanding must be found together and structured with your assistance. Then you can define the situations in which this knowledge can be applied, so the participants are able to implement it in new situations.

To sum up, generalizing fulfils the following tasks:

1. Recognises contexts and transfers to other situations.

2. Works out the general from the specific.

3. Conclusions of the individual participants on how they can improve their behavior in the future.

You can assist the generalizing phase with prepared handouts containing general knowledge (for example, a manual with clear steps how to properly clean the hotel room). At this point,

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you can also implement other methodical elements. For example, you can give a lecturette in which you present similar cases from real life and applicable solution strategies, or theoretical background knowledge.

Goal: To develop testable hypotheses and abstractions from the data

Consider some of these questions:

- What might we draw/pull from that?
- Is that plugging into anything?
- What did you learn/relearn?
- Is this simulation happening in the real live/business?
- Could this happen to you?
- Does that remind you of anything?
- What principle/law do you see operating?
- Does that remind you of anything? What does that help explain?
- How does this relate to other experiences?
- What do you associate with that?
- So what?

5. Application

In this phase the learning achievements are applied in a new situation. Application within the framework of a training seminar is the beginning of a further exercise or simulation, which creates possibilities for the application and consolidation of what has just been learned. If one of the key results of the previous exercise was that the participants engage in very little independent searching for information and have now formulated strategies on how they wish to proceed in the future, it is important to again focus on one of the subsequent exercises on this learning objective. Within the context of the next processing stage, additional consideration can be given to whether the participants were able to translate their new knowledge into action. Application outside the course entails dealing with real-life situations with the help of the newly acquired tools.

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Goal: To bridge the present and the future by understanding and/or planning how these generalizations can be tested in a new place.

Consider some of these questions:

- How could you apply/transfer that?
- What would you like to do with that?
- How could you repeat this again?
- What could you do to hold on that?
- What are the options?
- What might you do to help/hinder yourself?
- How could you make it better?
- What would be the consequences of doing/not doing that?
- What modifications can you make work for you?
- What could you imagine/fantasize about that?
- How was this for you?
- What were the pluses/minuses?
- How might it have been more meaningful?
- What the good/bad news?
- What changes would you make?
- What would you continue?
- What are the costs/benefits?
- If you had to do it over again, what would you do better/differently?
- What additions/deletions would help?

Trainer that using experiential learning need to know the process of learning!

How do we process information from our environment?

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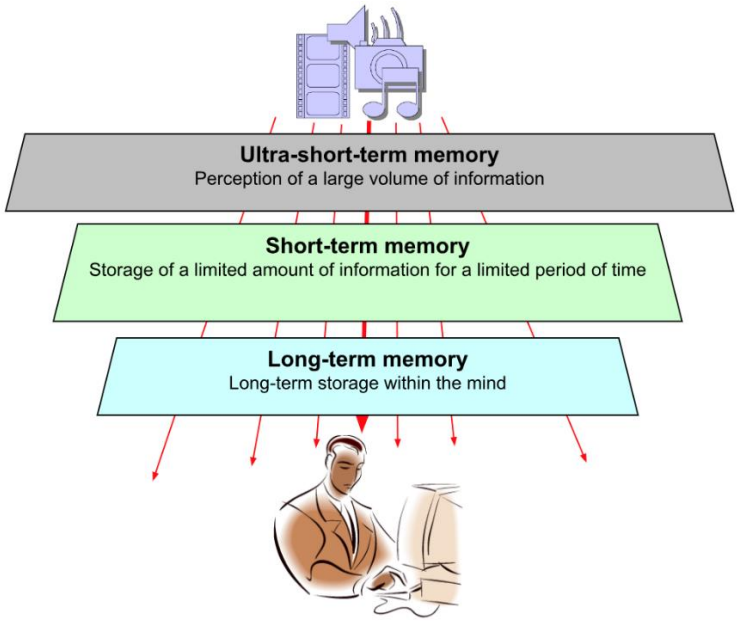
Reading or hearing something and not being able to remember it afterwards – only a problem for adults? Do you, too, watch the news on television and find that afterwards all you can remember are the first and last reports you saw? Has there also been an occasion where you have read a text and thought that you had understood its content, then were asked to repeat its most important details, only to find that you were unable to do so?

Weren't you concentrating? Is your ability to retain information less than it should be? Or was this simply a normal occurrence? Is this always what happens when someone tries to remember something? Are adults particularly prone to this, being in the popular conception more forgetful?

Imagine the brain as a three-level filter!

The everyday experiences described above are easier to understand once you take a closer look at the way in which the human mind takes in and processes information from the environment. As a rule, the information processing function of the brain is viewed as a three-level filter. These levels are defined as the **ultra-short-term memory, short-term memory and long-term memory**. The volume of information grows ever smaller from one level to the next. In the end only a fraction of the information with which we are bombarded every day ends up within our long-term memory.



Ultra-short-term memory

What happens in ultra-short-term memory?

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Approximately 10 million pieces of information are sent to the brain from the sense organs (eyes, ears, sense of touch, etc.) every second, yet we are only aware of processing a small fraction of these. All of these impressions remain in our brain cells for a number of seconds in the form of electrical currents. This is why ultra-short-term memory is also known as “perception memory”. Most of these currents disappear within a short time without leaving behind any lasting traces. The information they contained is thereby lost. Only those impressions which are particularly pronounced – and of which we are therefore more aware – manage to reach the next level of memory. This occurs due to the fact that the intensity of the electrical currents is great enough to bring about chemical changes in the brain.

Short-term memory

What happens after this in short-term memory?

Only those impressions strong enough to result in chemical bonds are able to reach the short-term memory. But even these connections are not particularly stable, and they can be destroyed once again if too much new information is introduced within a short period of time. As a result of memory lapses after accidents, it has been discovered that information remains in the short-term memory for approximately 20 minutes before it is finally stored in the form of proteins in long-term memory. If anything occurs during this period which disturbs the production of these ‘memory proteins’ (e.g. the shock resulting from an accident), the conversion to long-term memory is impaired.

Short-term memory is only able to receive about seven pieces of information simultaneously. For this it does not matter whether it is dealing with individual items or related factual information. You can imagine this memory as a bookshelf in which no more than seven books may be placed. If you want to put as much information as possible into this bookshelf, then you must either make the books very thick, or write them in very small type.

Long-term memory

What happens to the information in long-term memory?

The longer and more intensive your dealings with a set of information are, the greater the chance that the protein production is successful, thereby creating lasting “deposits” in the brain. As a result of these, a person will no longer forget this information. The fact that older people

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often have detailed memories of their childhood experiences is an example of the fact that information which has managed to reach long-term memory is stored there forever.

We can compare long-term memory with a library. This library looks different than the bookshelf in short-term memory; it has room for an infinite number of books. So, in this library the problem is no longer the number of books, but rather how we are to find a book if it has not been used for a while. Therefore, just as in a large library, it is important that we develop a good system with which to arrange, and later find, these books. The fact that a piece of information has been stored in long-term memory does not necessarily mean that it can be called up at any time. It is much more probable that it has been "misplaced" somewhere and that we will only be able to find it once we are able to remember the path by which it was put there, or when we come into contact with specific stimuli from our environment. Here is an example: Try and remember the names of all the other students from your last year at school. Chances are that you will not be able to do this. However, if someone were to give you a list which included all the correct names, as well as an additional thirty names, you would probably have no problems crossing off all the names which did not belong.

The learning process and competencies

'Learning' cannot be seen. As we have already said, learning occurs when a person has acquired new competencies when compared with a point of time in the past. In other words, the individual has 'changed' between these two points in time. In relation to the human mind, learning signifies that new information has been stored in the long-term memory. New competencies make it possible for a person to act in a different manner. Competencies can be broken down into four main groups:

1. Cognitive competencies describe the ability to express, by means of memory and/or thought, specific knowledge and/or to find solutions to certain tasks and problems.
2. Psychomotoric competencies describe the skill with which certain materials or tools can be employed.
3. Affective competencies encompass a person's ability to develop and, when necessary, to change his or her attitude towards people, things or facts.
4. Social communicative competencies describe the ability to shape relationships with other people. This refers, in effect, to the ability to express oneself in a comprehensible manner, to listen to others and to be able to deal with conflicts.

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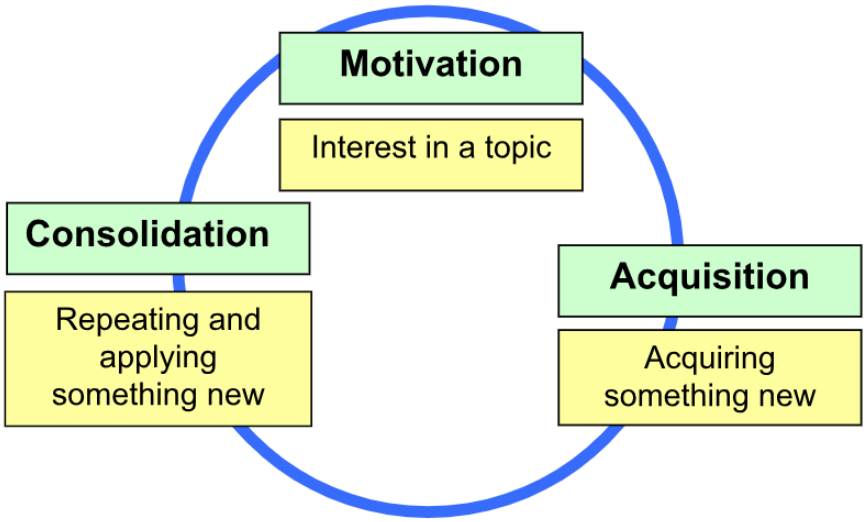
How the learning process is happening?

As a trainer, you cannot always see (directly) whether or not something has been learned because it may not be expressed in the form of a behavior which is visible to you. As touched upon earlier, learning can take place over both shorter and longer periods of time. So what exactly is happening during this time period? Or, to use the terminology which we have employed previously: Which steps characterize the path from the learning prerequisites to the learning outcomes. Regardless of whether the learning takes place within the frame-work of an organized learning event with a trainer or on an independently-controlled basis, that which occurs during a successful learning process can be summarized in three steps:



Motivation

The interest which brings a person either to read a book, enroll in a VR course or to listen to a trainer. We call this step motivation. It is important to reach a level of moderate motivation. Neither disinterested boredom nor hysterical over-motivation is conducive to learning.

Acquisition

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The step known as acquisition, where the individual acquires something new. Here it is important to know which learning outcome is to result from the learning process. If you are learning completely on your own, you should first decide which information you are seeking. When doing this you may find it helpful to formulate a specific question, e.g. “What is the difference between serving from the left or right side of the customer?” If you are within an organized teaching-learning situation, it is enough for the trainer to know which goals he or she is pursuing. This is also the procedure for most exercises and simulations. In these, the participants generally do not know which goals are being pursued within the individual exercise or simulation. The trainer, however, must be aware of the goal being aimed for in order to control the processing and generalizing steps.

The following could all be part of the acquisition phase: group discussions, reading an article or a chapter from a book and summarizing the key points, listening to a presentation and asking questions afterwards, jointly evaluating an experience and drawing conclusions from it, yet also watching as someone demonstrates something, and then doing this oneself.

Consolidation

In the step known as consolidation that which has just been acquired is repeated and thereby transported into the long-term memory. Typical examples for this consolidation step are review questions and frequent application. As a result of this, that which has been acquired is repeatedly recalled into consciousness and thereby consolidated. As a trainer you can promote consolidation by presenting new exercises which offer an opportunity to make use of competencies acquired through previous exercises or simulations and to further develop them.

Additional Hints for Conducting EXPERIENTIAL LEARNING in VR seminars

Experiential learning is an inductive procedure. The advantage of the inductive procedure is that, through their own experiences, the participants are much more aware of the need to reflect upon these areas. In other words, they are more motivated and open to the subject. In addition, they are able to study the problem and possible solution approaches independently. And finally, people learn better from their mistakes than from a “smooth” pre-prepared solution, which is presented to them from the beginning, and which does not allow them to penetrate the problem.

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Participants are motivated in several ways. There is not only an intrinsic motivation to acquire new knowledge when people go for training, EXPERIENTIAL LEARNING take place in a positive learning climate which is another motivating factor, and motivation is created in the concrete, simulated situation, challenging the participants with a task. The ensuing reflection on their own behaviour and comparison with that of the other participants, the analysis of the advantages and disadvantages of different ways of solving problems can lead to the identification of areas for improvement and constitutes another motivational effect. You can have a lot of influence on this motivation by the way you act as a trainer: The clarity of your instructions and particularly your preparation of processing have a decisive influence on the motivation of the participants.

A positive learning atmosphere is essential in order to successfully implement experiential learning techniques. It is inherent to the training method that the participants commit mistakes, perceive them, and correct them. This learning process crucially depends on a trustful atmosphere which is characterized by respect for other's strengths and weaknesses. In addition, the method strongly builds on the exchange of ideas and constructive feedback amongst the participants which can only be achieved in a conducive atmosphere.

An integral part of this method is the integration of skill training and behavioral training. To attend to behavioral aspects also requires a constructive communication structure amongst participants and amongst participants and trainers.

Recommendations for trainers

There is no right or wrong within this context. In order to both motivate and activate the participants, it is important to find a style which corresponds to your own personality structure. Please remember that it is the trainer's duty to ensure a successful training in accordance with the seminar objectives and to take the needs and wishes of the participants into account.

The trainer's attitude, his or her interventions, explanations and behaviour serve to a great extent as a model character. Trainers are assigned the role of being experts. On the one hand the expert role is related to the content (specialised knowledge within the field in which the EXPERIENTIAL LEARNING course is being given). On the other hand, the expert role is drawn from the didactic problem awareness: Trainers are able to perceive learning difficulties and recognise to what degree these are the result of didactical work. They are sensitive to the differences in learning and know that these are determined by various life histories and socio-cultural backgrounds.

There are a number of fundamental rules concerning behaviour within the seminar, the observance of which has proven to be useful:

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- Make group attitudes visible: bringing conflicts and fears to light, analyzing their causes and presenting their effects are first steps towards avoiding disruptive elements.
- Establish and maintain contact to the group: The trainer can draw conclusions concerning the mood within the group and about his or her personal behavior towards the behavior of the participants.
- Be precise and exact: Disruptions within the group are often the result of deficient specificity with regard to objectives, instructions and questions asked.
- Be prepared to deal with insecurity: The fear of making a mistake can keep trainers and participants from playing an active role in the learning process. Therefore, the participants' actions and statements need to be taken seriously. Particularly in practice situations, trainers must make it clear that mistakes are the norm and that they present opportunities from which to learn.
- Do not fight against the group or against individual participants: In situations where the trainer feels as if he is being attacked, or is in actual fact being attacked, he or she should react as calmly as possible. The participants should be allowed to provoke the trainer. One should avoid entering a power struggle with the participant in question. Such a struggle drains energy and offers slim prospects of success: Over the long term, the trainer is bound to lose. In order to vent anger and tension in a controlled fashion, it is much better to make resistance and disapproval clear.

Positive (+) and negative (-) behaviors from TRAINERS that influence the learning climate

It is possible to distinguish between the various types of behavior from the trainers, which have a positive or negative influence on the learning climate. These are presented below:

Behaviors which tend to have a negative influence on the learning climate are:

- orders, commands,
- warnings, threats, admonitions,
- moralizing, preaching,
- providing solutions; offering advice without being asked to,
- providing logical arguments for emotional problems,

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- judging or making excuses for an individual participant,
- praising or agreeing ”from a high level”,
- deriding, making a fool of or shaming someone,
- claiming to analyze individual participants in an objective manner,
- not allowing participants the opportunity of solving their problems themselves, instead calming and consoling them,
- grilling, probing, asking until they say ”the right thing”,
- shirking from unpleasant questions, diverting attention and cheering them up.

Behaviors which tend to have a positive influence on the learning climate:

- displaying helpfulness, acceptance and tolerance
- showing interest in getting the participants to learn, in order to contribute to the personality development of the participants,
- being open and showing feelings,
- displaying confidence and security while being able to talk about your own difficulties,
- giving instructions on communicative behavior within the group,
- dealing with conflicts on a partnership basis,
- giving feedback,
- providing positive reinforcement for the participants’ learning steps,
- speaking as a partner in a comprehensible and practical manner,
- bringing together, organising, clearing up uncertainties and synthesising,
- promoting phases of reflection,
- pointing out limits regarding discussion and emotional proximity,
- seeing to it that phases of relaxation and heavy concentration are alternated and linked together,
- respecting taboo zones,

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- preventing sensationalism from turning into absolute openness,
- making it clear that the participants as well as the trainer have the right to make mistakes,
- remaining calm when you (the trainer) are the topic of discussion,
- allowing participants the right to provocation within reason and in accordance with the situation,
- being able to question oneself as well as the training programme.

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5. Methodologies for evaluating learning in the context of teaching delivered on virtual or immersive platforms

Validating the effectiveness of education using Virtual Environments (VE) is crucial for its broad adoption as a teaching method rather than merely a technological novelty. The effectiveness of learning tools and programs can be assessed through various approaches.

Different categories exist for potential learning outcomes or corresponding variables that can be used to gauge the effectiveness of training or learning. The most common categories are outlined below, but this is not an exhaustive list as the measurements can vary greatly depending on the specific content of the training.

Firstly, knowledge about the subject matter can be assessed. Declarative knowledge, which encompasses factual information, is intuitive and provides a convenient way to quantify outcomes, as it can be easily measured and interpreted. Knowledge is typically assessed using tests, with multiple-choice questions being a straightforward method to evaluate and compare individuals.

Secondly, skills can be evaluated. This is particularly relevant when the training content is practical, such as negotiation skills (Ding et al., 2020). A specific aspect of skill assessment is skill transfer. Skills can be taught and measured in various contexts. The most straightforward method involves using the training context itself to measure learning outcomes (in this context, likely some form of VE). However, skills can also be assessed in the actual target environment, which is known as skill transfer. This type of assessment is particularly valuable because it determines whether the acquired skills can be transferred from an artificial environment to a real one that closely resembles the setting where the skills will be applied in practice.

Measuring attitudes can be used to evaluate the effectiveness of training methods or materials. Attitudes are related to the subjective assessment of training, which is frequently used. This assessment includes various questions aimed at capturing the characteristics of the subjective experience and can be conducted in several ways: closed-ended questions, open-ended questions, one-on-one interviews (Dalinger et al., 2020), focus groups (Adams et al., 2019), and more. Subjective experience is likely the most informal learning outcome and should not be the sole indicator of the effectiveness of the training environment being tested.

Motivation is a common construct used in studies of training effectiveness, as it indicates the willingness to engage in learning activities. Without motivation, effectively delivering learning material is extremely challenging. Standard questionnaires (e.g., Sattar et al., 2019) are one

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method of measuring motivation, but due to the immersive and continuous nature of VR training experiences, researchers are also exploring other methods of measuring engagement, such as noninvasive measurement of parameters that indicate effort in tasks (e.g., Czarnek et al., 2021).

Many other constructs can serve as indicators of training effectiveness, including emotions (Harley et al., 2020), locus of control (Nykänen et al., 2020), attention (Hart & Proctor, 2020), flow (Hou & Lin, 2018), and observation of in-training behavior (den Haan et al., 2020). Additionally, physiological indices can be used to indirectly measure the effectiveness of specific learning tools. Although using such indices is not very common today, efforts have been made in the past decade to use cardiovascular measures, electrodermal activity, eye tracking, functional near-infrared spectroscopy, and EEG (e.g., Legrand et al., 2011).

The methods mentioned can, to some extent, be mapped onto Kirkpatrick's model of training evaluation, which has been used for decades and remains effective (Kirkpatrick, 1976, 1994). This framework is quite universal and can be applied to various forms of training, although it was primarily designed for vocational contexts. Kirkpatrick defines what evaluation means and its goals, emphasizing that the effectiveness of training programs is determined by evaluating them to improve existing programs and identify and exclude ineffective ones. This model defines four levels of training effectiveness assessment:

1. **Reaction**: Operationalized as an affective response to training, including engagement, satisfaction, and its relevance to everyday practice.
2. **Learning**: This involves assessing the achievement of learning outcomes. It is good practice to include pre- and post-tests of the learning outcomes.
3. **Behavior**: This assesses the application of new knowledge and skills in daily practice. While this is easiest in a vocational setting, it can also be applied in other domains.
4. **Results**: This level goes beyond individual benefits, assessing tangible results from the perspective of the entire organization, such as quality improvement.

When studying the effectiveness of any form of learning, there are specific points in time at which the desired learning outcomes can be measured. A pre-test measures the initial level of knowledge, skills, or other variables. This is valuable as it establishes baseline levels of learning outcomes, reduces the risk of a ceiling effect, and allows the calculation of learning gain indices. An in-training measurement can also be applied, measuring learning outcomes without interrupting the learning process. This non-intrusive measurement provides insight into the learning process as it occurs and can be conducted, for example, by calculating scores in a learning application or analyzing in-training behaviors. Another method of in-training

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measurement is the use of physiological indices to indirectly measure learning progress, which is beneficial as it does not disrupt the learning process. A mid-test is used to measure learning outcomes between separate sessions of the entire learning activity, useful when training is divided into multiple stages. Post-tests are conducted immediately after the learning, while retention tests are carried out after a period, ranging from a few days to several months. By using a combination of these measurements, secondary indices such as learning gain (the difference between post-test and pre-test scores) can be calculated. Multiple measurements also allow for a detailed observation of the learning curve and the application of Mayer and Moreno's (1998) principle of individual differences.

Ordinarily, there are several specific methodologies for evaluating learning in the context of teaching delivered on virtual or immersive platforms. These methodologies take advantage of the unique capabilities of these environments to provide effective, engaging, and nuanced assessments. Here's an overview of the key methodologies:

1. Formative and Summative Assessments

- **Formative Assessments**: These are ongoing assessments aimed at monitoring student learning and providing feedback to improve teaching and learning. In virtual and immersive platforms, formative assessments can include:
    - Interactive quizzes and polls.
    - Real-time feedback during virtual simulations.
    - Self-assessment tools and reflective activities.
- **Summative Assessments**: These are evaluations at the end of a learning period to measure the extent of student learning against the objectives. Virtual platforms can facilitate:
    - Online exams with automated grading.
    - Virtual presentations and project submissions.
    - Performance assessments within immersive simulations.

2. Competency-Based Assessments: it focuses on evaluating students' ability to apply their knowledge and skills in real-world scenarios. In immersive environments, this can be achieved through:

- Simulated tasks that mimic professional challenges.

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- Virtual labs and interactive case studies.
- Skills demonstrations in a controlled virtual setting.

3. Learning Analytics. Virtual and immersive platforms generate a wealth of data on student interactions and behaviors. Learning analytics involve analyzing this data to assess learning progress and outcomes. This includes:

- Tracking time spent on tasks and engagement levels.
- Monitoring completion rates of activities.
- Analyzing performance trends over time.

4. Authentic Assessments. They aim to evaluate learning through activities that reflect real-life applications. In a virtual/immersive context, this could involve:

- Simulations of real-world environments (e.g., virtual internships, business simulations).
- Creation of digital portfolios that showcase a range of competencies.
- Problem-solving tasks in a simulated environment that require critical thinking and application of knowledge.

5. Peer Assessments. They involve students evaluating each other's work, which encourages collaborative learning and provides diverse perspectives. Virtual platforms can support this through:

- Peer review tools integrated within learning management systems.
- Collaborative projects in a shared virtual workspace.
- Feedback mechanisms where students assess and comment on each other's contributions.

6. Game-Based Assessments. They use elements of gaming to evaluate learning. In immersive platforms, this can include:

- Progress tracking through levels or missions in educational games.
- Achievement of badges and rewards for demonstrating competencies.
- Interactive scenarios where decisions impact outcomes, simulating real-world consequences.

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7. Simulations and VR/AR-Based Assessments. Immersive platforms can use virtual reality (VR) and augmented reality (AR) to create highly interactive and realistic scenarios for assessments. Examples include:

- VR simulations that replicate real-life environments where students can practice and demonstrate skills.
- AR applications that overlay information on real-world objects for interactive learning tasks.
- Simulated environments where students can perform tasks and receive immediate feedback on their performance.

8. Digital Portfolios. They are collections of student work that showcase their learning progress and achievements over time. In virtual environments, these can include:

- Multi-media projects, such as videos, blogs, and digital presentations.
- Evidence of learning in the form of completed assignments, quizzes, and peer feedback.
- Reflective journals documenting learning experiences and personal growth.

9. Adaptive Assessments. They use algorithms to adjust the difficulty of questions based on student responses, providing a personalized assessment experience. Virtual platforms facilitate:

- Adaptive quizzes and tests that adjust in real-time based on student performance.
- Customizable learning paths that adapt to student progress and areas of difficulty.
- Interactive learning modules that change based on user interactions.

10. Mixed-Methods Assessments. They combine multiple assessment methodologies providing a comprehensive evaluation of student learning. In virtual and immersive platforms, mixed methods can include:

- A combination of formative quizzes, peer reviews, and final projects.
- Integration of both quantitative data (e.g., test scores) and qualitative data (e.g., reflective essays).
- Use of diverse tools to gather a holistic view of student learning.

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6. Proposal of training courses on AR and VR in Hospitality and Restaurant

In this section, we delve into a proposal for training courses focused on Augmented Reality (AR) and Virtual Reality (VR) within the hospitality and restaurant sectors. As technological advancements redefine customer experiences and operational efficiencies, embracing AR and VR presents a transformative opportunity for professionals in these industries. This proposal aims to outline comprehensive training modules designed to equip learners with the knowledge and practical skills needed to leverage these immersive technologies effectively.

The integration of AR and VR in hospitality and restaurant settings promises to revolutionize guest interactions, streamline service delivery, and enhance employee training methodologies. Throughout this section, we explore the strategic deployment of AR for augmented guest experiences, VR for immersive training simulations, and the overall impact on operational excellence and customer satisfaction.

By bridging theoretical insights with practical applications, this proposal seeks to empower stakeholders - from managers and chefs to front-line staff - with the competencies necessary to thrive in an increasingly digital landscape. Through curated learning pathways and hands-on experiences, the goal is to foster innovation and proficiency in utilizing AR and VR to elevate service standards and drive sustainable business growth.

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6.1 Course Title: *Introduction to AR and VR in Hospitality*

Duration: **45 hours**

Target Audience: **Trainers and Teachers in Hospitality Courses**

Prerequisites:

- *Basic understanding of hospitality industry principles*
- *Familiarity with computer applications and technology*

Course Structure:

Module	Content	Learning Outcomes	Methodologies
Module 1: Fundamentals of VR/AR	- Introduction to VR and AR technologies	- Understand the differences between VR and AR	Lectures, demonstrations
	- Applications of VR/AR in the hospitality industry	- Identify potential use cases for VR/AR in hospitality settings	Case studies, guest speakers
Module 2: VR/AR Tools & Software	- Overview of VR/AR hardware and software	- Gain familiarity with common VR/AR tools and platforms	Hands-on practice sessions, tutorials
	- Basics of content creation for VR/AR applications	- Learn to create simple VR/AR experiences for training and educational purposes	Practical exercises, group projects
Module 3: Implementing VR/AR	- Integration of VR/AR into hospitality training and education	- Develop strategies for incorporating VR/AR technology into existing curriculum and training programs	Workshops, brainstorming sessions

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	- Best practices for effective use of VR/AR in educational settings	- Understand principles of effective instructional design for VR/AR experiences	Role-playing, peer feedback
Module 4: Maximising VR's impact through Experiential Learning	-Basic principles of Learning and Experiential Learning	-Understand how the learning is happening in students mind and what brings to competences	Simulation exercise, presentation, group discussions
	-Tips for positive and negative atmosphere during VR classes	-Be aware and to use practical advices for effective VR seminars	Presentation, storytelling, observation
Module 5: Evaluation & Future	- Assessment methods for VR/AR training programs	- Explore techniques for evaluating the effectiveness of VR/AR-based training	Case studies, group discussions
	- Emerging trends and future developments in VR/AR technology	- Stay updated on advancements in VR/AR technology and their potential impact on hospitality education	Guest lectures, industry visits

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6.2 Course Title: *Advanced Applications of VR and AR in in Hospitality*

Duration: **40 hours**

Target Audience: **Experienced Trainers and Teachers in Tourism Hospitality Courses**

Prerequisites:

- *Proficiency in using VR/AR technologies*
- *In-depth understanding of tourism hospitality industry principles*

Course Structure:

Module	Content	Learning Outcomes	Methodologies
Module 1: **Advanced VR/AR Applications in Hospitality**	- Virtual Tours, Virtual Booking Experiences, VR Training Programs	- Create immersive virtual tours of hotels, resorts, and tourist attractions; Allow customers to experience rooms and amenities before booking; Use VR for staff training in customer service, emergency protocols, and maintenance procedures.	Demonstrations
	- AR Enhanced Services, AR in Marketing and Promotions, Maintenance and Operations	- Implement AR for interactive menus, virtual concierge services, and augmented navigation; Use AR for promotional campaigns, brochures, and interactive advertisements; Use AR for real-time information and support for maintenance and housekeeping staff.	Case studies, guest speakers
Module 2: Developing VR and AR Content	- Content Creation Tools Design Principles	- Acquire ability in create content for AR and VR tools	Case studies

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Module	Content	Learning Outcomes	Methodologies
	- Tools and software to develop VR and AR content	- Design engaging and effective VR and AR experiences	Design exercises Software applications
Module 3: Implementing VR and AR in Hospitality	- Project Planning	- Define steps to plan and execute VR and AR projects in a hospitality setting	Case studies
	- Integration with Existing Systems	- Ensure seamless integration with booking systems, CRM, and other platforms	Case studies, design exercises
Module 4: Evaluating VR and AR Solutions	- Performance Metrics	- Identify Key performance indicators (KPIs) for measuring the success of VR and AR applications	Panel discussions, brainstorming sessions
	- Customer Feedback	- Apply methods for collecting and analyzing customer feedback on VR and AR experiences	Field trips, guest speakers

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6.3 Course title: *Advanced Applications of VR and AR in Food and Beverage*

Course Title: Advanced Applications of VR and AR in Food and Beverage

Duration: **40 hours**

Target Audience: **Experienced Trainers and Teachers in F&B Courses**

Prerequisites:

- *Proficiency in using VR/AR technologies*
- *In-depth understanding of food and beverage industry principles*

Course Structure:

Module	Content	Learning Outcomes	Methodologies
Module 1: Advanced VR/AR Concepts	- Cutting-edge developments in VR and AR technologies	- Stay abreast of the latest advancements in VR/AR and their relevance to the food and beverage industry	Lectures, industry presentations
	- Advanced features and capabilities of VR/AR tools	- Master advanced functionalities of VR/AR software for creating immersive F&B experiences	Hands-on workshops, expert demonstrations
Module 2: Immersive Menu Design	- Principles of menu design	- Apply design principles to create engaging and user-friendly VR/AR menus for restaurants	Case studies, design exercises
	- Techniques for creating immersive F&B experiences in VR/AR	- Develop skills in designing interactive and visually appealing virtual food and beverage displays	Practical projects, peer critiques
Module 3: Interactive Training	- Simulation-based training for F&B staff	- Design and implement VR/AR simulations for training restaurant	Role-playing, scenario-based exercises

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Module	Content	Learning Outcomes	Methodologies
		staff on various tasks and scenarios	
	- Personalized learning experiences using VR/AR	- Understand how VR/AR can be used to deliver tailored training content that caters to individual learning needs	Group discussions, case-based learning
Module 4: Industry Applications	- Real-world examples of VR/AR applications in the food and beverage industry	- Analyse case studies of successful VR/AR implementations in restaurants and F&B establishments	Field trips, guest speakers
	- Challenges and opportunities for VR/AR adoption in F&B	- Identify potential barriers to VR/AR adoption in F&B and strategies for overcoming them	Panel discussions, brainstorming sessions

Module: Immersive Menu Design

Content	Learning Outcomes	Methodologies
Principles of menu design	- Define fundamental principles of menu design. (2 hours)- Explain the importance of aligning menu design with brand identity and target audience. (2 hours)	- Lectures (2 hours)- Readings (1 hour)- Discussion (1 hour)
Apply design principles to create engaging and user-friendly VR/AR menus	- Analyze case studies of successful menu designs. (3 hours)- Identify common pitfalls in menu design. (2 hours)	- Case studies (3 hours)- Group discussions (1 hour)- Critique sessions (1 hour)
Design exercises	- Translate traditional design principles to VR/AR environments. (4 hours)- Adapt design elements for VR/AR technology. (4 hours)	- Hands-on design exercises (3 hours)- Prototyping workshops (3 hours)- Peer feedback (2 hours)

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Content	Learning Outcomes	Methodologies
Prototyping VR/AR menus	- Utilize VR/AR design tools to prototype menu experiences. (5 hours)- Design menus that engage multiple senses and incorporate interactive features. (5 hours)	- Software tutorials (2 hours)- Prototyping sessions (4 hours)- Expert guidance (4 hours)
User-centered design approach	- Adopt user-centered design principles for VR/AR menus. (3 hours)- Conduct user testing to gather feedback and iterate designs. (4 hours)	- User testing sessions (3 hours)- Feedback analysis (1 hour)- Iterative design process (3 hours)
Optimizing menu usability and accessibility	- Implement best practices for usability and accessibility in VR/AR menus. (3 hours)- Address challenges such as legibility and navigation complexity. (3 hours)	- Accessibility guidelines (2 hours)- Usability testing (1 hour)- Adaptation strategies (2 hours)
Integration with restaurant operations	- Explore integration of VR/AR menus with restaurant operations. (3 hours)- Utilize menu data and analytics to inform business decisions. (2 hours)	- Business case studies (2 hours)- Operational integration discussions (1 hour)- Menu data analysis (2 hours)

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6.4 Course title: *Integrating VR/AR into Hospitality & Restaurant Management*

Duration: **40 hours**

Target Audience: **Seasoned Trainers and Teachers in Restaurant Management Courses**

Prerequisites:

- *Extensive knowledge of restaurant operations and management*
- *Previous experience with VR/AR technologies*

Course Structure

Module	Content	Learning Outcomes	Methodologies
Module 1: Strategic Integration	- Strategic use of VR/AR in restaurant management	- Develop a strategic plan for integrating VR/AR technologies into various aspects of restaurant operations	Case studies, strategic planning exercises
	- Identifying opportunities for VR/AR implementation in restaurant settings	- Recognize areas within restaurant management where VR/AR can add value and improve efficiency	Brainstorming sessions, SWOT analysis
Module 2: Guest Experience	- Enhancing guest experience through VR/AR	- Understand how VR/AR can be used to create memorable and immersive dining experiences for guests	Guest lectures, experiential learning activities
	- Designing VR/AR-enhanced customer interactions	- Develop skills in creating interactive and engaging VR/AR experiences that resonate with restaurant patrons	Design workshops, user testing
Module 3: Operational Efficiency	- Streamlining restaurant operations with VR/AR	- Explore ways in which VR/AR technologies can optimize	Process mapping, efficiency simulations

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Module	Content	Learning Outcomes	Methodologies
		workflows, reduce costs, and improve operational efficiency	
	- Training and development using VR/AR	- Design and implement VR/AR-based training programs for restaurant staff	Role-playing, skill-building exercises
Module 4: Evaluation & Adaptation	- Assessing the impact of VR/AR on restaurant performance	- Develop metrics and evaluation criteria to measure the effectiveness of VR/AR integration in restaurant management	Performance analytics, feedback mechanisms
	- Iterative improvement and adaptation	- Implement a continuous improvement cycle to refine VR/AR initiatives based on feedback and performance metrics	Continuous improvement frameworks, action planning

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