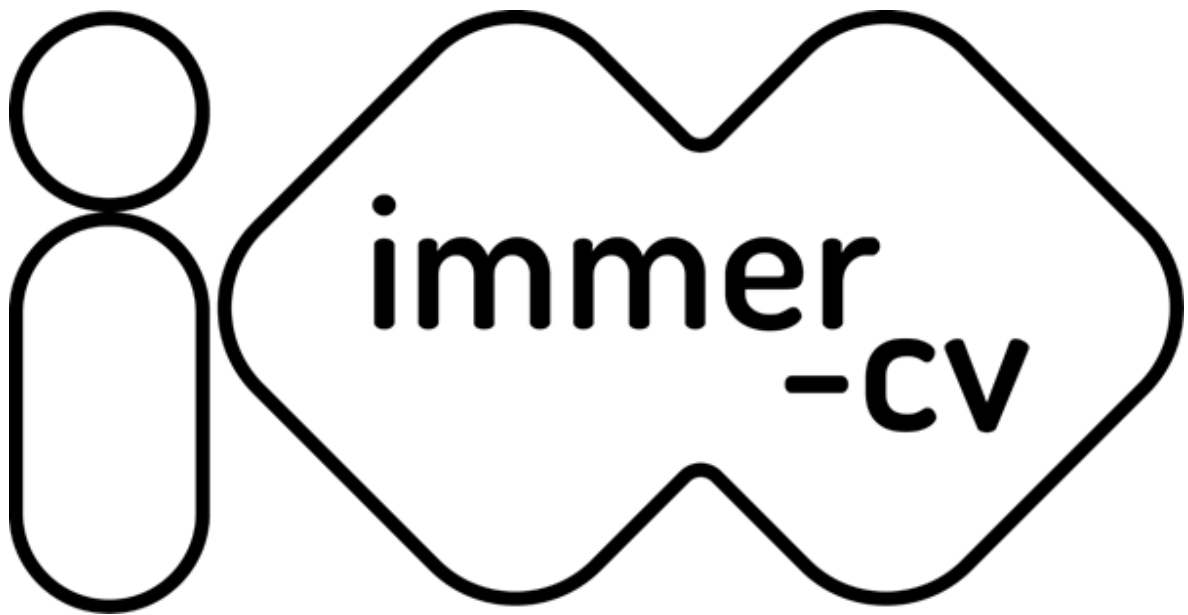




IMMER-CV: Curriculum development for Management of Immersive technologies by Professionals in Cultural and Creative Sectors

Title: Valencia Co-creation Workshop Report

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EXECUTIVE SUMMARY

This report presents the outcomes of Activity 3 of the IMMER-CV project, which focused on the participatory validation and co-design of a curriculum for immersive technology management in the Cultural and Creative Sectors (CCS) in Valencia. Two co-creation workshops were conducted—in Athens and Valencia—engaging professors, researchers, students, and cultural professionals through a structured, interactive methodology.

Participants collaborated across four exercises to identify current training gaps, prioritise sectoral needs, generate practical solutions, and co-design curriculum modules. The results revealed strong interest in immersive technologies, especially among students, who expressed high motivation, creativity, and a preference for hands-on, challenge-based learning. Professors provided strategic and pedagogical insight, often pointing to structural issues in current educational offerings.

The findings confirmed the relevance of the IMMER-CV curriculum's modular structure and underscored the need for hybrid formats, soft skill development, and institutional support. The workshops successfully shaped the curriculum, ensuring it is grounded in real-world needs and aligned with the evolving demands of the CCS.



1. INTRODUCTION

1.1. Background and goals

Rapid technological progress has been accompanied by a major transformation in many sectors. Among them, their involvement in the creative and cultural industries has transformed the way we see, feel and represent art and culture. However, merging immersive technology with the creative and cultural industries requires intense interdisciplinary collaboration that is not always easy to achieve.

For this reason, the IMMER-CV project aims to develop a curriculum for the management of immersive technologies by professionals in the culture and creative industry. On the one hand, the IMMER-CV project aims to provide cultural managers and technology professionals with the necessary knowledge to effectively use immersive technologies and, on the other hand, to develop comprehensive educational training and workshops adapted to the different learning needs.

The following section presents Activity 3 of the IMMER-CV project, which aims to explore the practical needs of teachers, students and professionals through a participatory co-creation workshop, with the aim of defining learning outcomes and formulating practical strategies.

1.2. Purpose and importance of the co-creation workshop

As mentioned, the co-creation workshop aimed to create solutions together with all the participants, so that everyone involved could work together to identify their needs and jointly develop solutions. Thus, rather than being a mere consultation or collection of opinions, the workshop was set up in such a way that all voices were taken into account, encouraging dialogue and discussion to enrich the decision-making process during the workshop.

Co-creation is a methodology that encourages the participation of all actors involved in the development of a project. In this Workshop, co-creation made it possible to align the objectives, needs, expectations and experiences of those who teach, apply or learn knowledge in their respective areas. In this way, the interaction between the different actors involved allowed the emergence of needs, problems and solutions that would not have been apparent in other more traditional methods. Furthermore, this collaborative approach not only improves the quality of the results but also highlights the importance of shared knowledge and interdisciplinarity as a driver of innovation. In conclusion, the co-creative workshop made it possible to develop more inclusive and effective solutions, built on the listening and participation of all agents.



2. Workshop design and methodology

For the workshop, a dedicated co-creation guide was developed to support both the session held in Valencia and the one in Athens. This guide served as a flexible framework to help orient the facilitation of the workshops, while allowing space for in-situ adaptations based on the specific context and characteristics of each location.

Participants were divided into two groups of similar profile, and the activities were carried out collaboratively in group format. The guide was structured around four main exercises. The purpose of these exercises was to enable participants to identify challenges they had encountered in using immersive technologies within their field, and to define their training needs through open dialogue and collaborative exploration with other participants. The ultimate aim was to generate ideas and outline a training plan that meaningfully connects the technological domain with the artistic and cultural sector.

All activities were conducted using the Miro platform. The full co-creation guide is presented in the following section.

2.1. Co-creation framework design

The co-creation workshop was structured into four sequential exercises, each designed to progressively explore challenges, identify needs, generate ideas, and collaboratively build curriculum components tailored to immersive technologies in the cultural and creative sectors. The total duration of the workshop is estimated to be approximately 1.5 to 2 hours, and the methodology combined group discussion, guided reflection, and hands-on collaborative tools, both physical and digital. Each exercise builds upon the previous one, allowing participants to move from problem identification to practical solution development.

The guide used was as follows:

Target group:

- 5-6 art professionals/art curators/professors/cultural managers/future end users
- 3-4 postgraduate students enrolled in master programs or similar.

Resources required:

- Wide space.
- Paper, pens and/or electronic devices
- Blackboard, screen or projectors.

Agenda: duration between 1,5-2 hours

Table 1 IMMER-CV Co-creation workshop programme

Co-creation workshop programme	Duration
Introduction to the objective of the session and presentation of the participants	10 minutes
A brief overview of the current challenges	20 minutes
Defining sectoral needs	20 minutes
Brainstorming of ideas	25 minutes
Co-creating solutions	30 minutes
Conclusions and Closing session	10 minutes

Introduction to the objective of the workshop and presentation of the participants

The workshop will start with a brief presentation of the IMMER-CV project, the aim of the study (i.e. identify user's needs and develop vocational training solutions to improve their skills in the use of immersive technology in the artistic and cultural field) and the introduction of the participants. Participants will be asked to share personal information i.e. their name, surname, occupation and role in the company, field of expertise, company of employment, and if they have some experience using immersive technology in their field. This process will allow participants and workshop managers to get to know each other better and facilitate the discussion.

Exercise 1: a brief overview of the current challenges - Empathy Map

In the beginning of this session, the workshop managers/facilitators will present successful use-cases of the application of immersive technology in the cultural field (either extended reality or other immersive experiences). Then they will initiate a discussion about problems already identified in other contexts in relation



to training plans in immersive technology applied to the cultural and artistic sector.

Method: Participants will meet in two separate groups initially only with peers (students with students, cultural managers with cultural managers...). During these sub-group discussions, participants are requested to present the problems faced by their sector in the application of immersive technology from their viewpoint in order to discuss with the whole group at a later stage. To guide this step, you can use the questions described below based on an Empathy Map (Fig. 1) adapted to the context of the Workshop.

This step can be done in an introductory way, highlighting some important questions to provide a general overview of the emerging issues and the current state of the CCI environment.

- Guide questions tailored to Art Managers (AM), Students (S) or both (B):
- What do they **think and feel**:
 - B: Do you have the necessary skills to apply immersive technology in your field, in your opinion? Please scale from 1 (Not at all) to 10 (Yes).
 - B: Have you ever received any training on VR, AR or any other immersive technologies? If so,
 - What frustrations have you encountered when you are trying to learn these immersive technologies?
 - Did you identify any gaps/topics missing in your training?
 - B: Do you think that the current educational curriculum available at training schools, universities, institutes, seminars, etc. is satisfactorily adapted to new technologies? And why? Please scale from 1 (Not at all) to 10 (Absolutely)
 - AM: Do you feel that art practitioners are sufficiently qualified to apply immersive technology nowadays? Explain why. Please scale from 1(Not at all) to 10 (Absolutely)
 - S: Do you feel confident that after completing your studies you will have acquired the required knowledge and skills to apply immersive technology? Scale from 1 (Not at all) to 10 (Absolutely).
- What do they **see**:
 - B: Do you know of any practical examples of the use of immersive technology in your field?



- B: Have you participated/attended/watched any immersive technology shows? What were your thoughts about the use in immersive technologies in the art sector?
- B: Have you ever seen any immersive training plans and/or curriculums announced for the cultural and artistic field? Would you be interested in participating? Please scale from 1 (Not at all) to 10 (Absolutely).
- What do they **say and do**:
 - B: During conversations with your colleagues about the use of immersive technology in the CCI sector,
 - have you ever talked about the lack of information as an important problem?
 - what other issues did you discuss, eg. pros and cons, artistic results, etc.?
 - S: Do you think that you and your peers have the necessary resources to be adequately trained in immersive technology?
 - AM: Do you think that students and future art practitioners have access to the necessary resources to be adequately trained in immersive technology?
 - B: Did you take any initiatives to learn/train about immersive technology?
- What do they **hear**:
 - B: Have you received recommendations of courses or training programs in immersive technologies? If yes,
 - Do you think they are suitable for the arts or cultural sector?
 - B: Do you know people from your sector, who have been trained in the use of immersive technologies or people in general, who have participated in similar projects? If so,
 - Do you know what their experience was like?

Miro Board Setup and Interaction: The Miro board for Exercise 1 was structured around an Empathy Map, depicted as a central circular diagram divided into four colored quadrants: Think & Feel, See, Hear, and Say & Do. This visual served as the orientation point for the activity. Two horizontal arrows, labeled Group A (left side) and Group B (right side), indicated the direction in which each group of

participants would work. The board was mirrored, with each group assigned to a symmetrical layout of four large colored boxes corresponding to the empathy areas. Each box included pre-formulated guiding questions and emoji-based response scales (e.g. 1 to 10 or YES/NO), along with space for open-text answers using sticky notes.

Participants were first shown the central circle, and then asked to move to their designated half of the board. Group A responded on the left-hand side, while Group B used the right-hand side. Each participant interacted directly with the board by adding digital sticky notes, icons, or written inputs to the relevant sections. This spatial division allowed for easy comparison between groups and created a clear visual mapping of individual and group perceptions across the four empathy dimensions. The setup also enabled facilitators to synthesize the results and identify common patterns, training gaps, and perceived barriers from the participants' perspective.

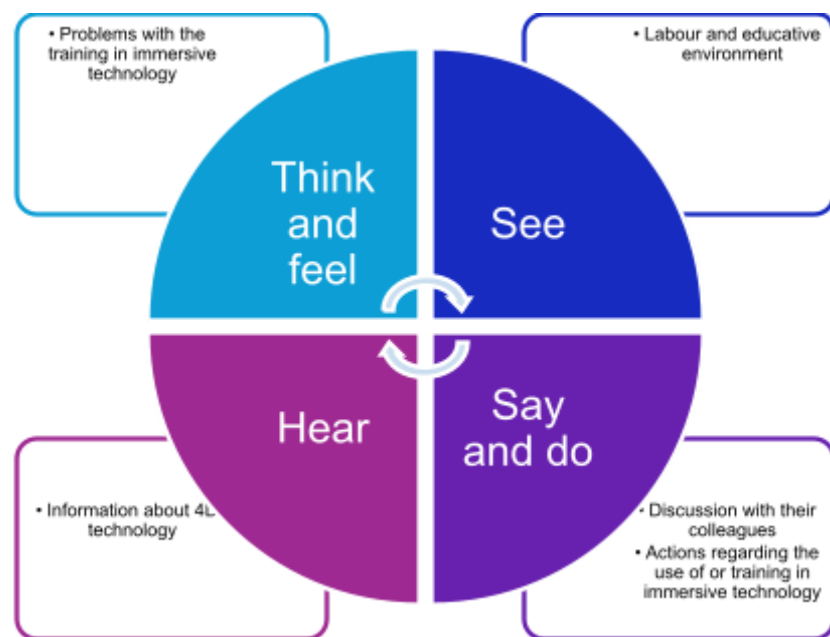


Figure 1 Miro Board Exercise for Empathy Map framework used in Exercise 1, with four core quadrants: Think & Feel, See, Hear, and Say & Do. commonalities and differences. The workshop managers will collect all empathy maps and formulate a final one.

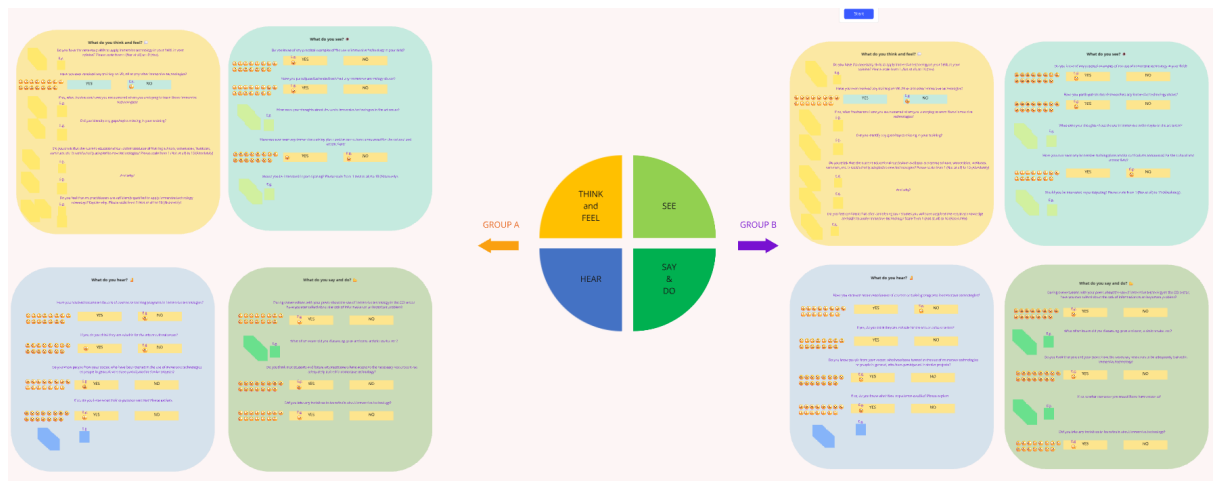


Figure 2 Full Miro board view of Exercise 1, showing Group A and Group B working in parallel across mirrored empathy quadrants

What do you think and feel?

Do you have the necessary skills to apply immersive technology in your field, in your opinion? Please scale from 1 (Not at all) to 10 (Yes).

E.g. 2

Have you ever received any training on VR, AR or any other immersive technologies?

YES NO

E.g. NO

If so, what frustrations have you encountered when you are trying to learn these immersive technologies?

E.g. There are all technical stuff but no creative part

Did you identify any gaps/topics missing in your training?

E.g. There are no about the creative part

Do you think that the current educational curriculum available at training schools, universities, institutes, seminars, etc. is satisfactorily adapted to new technologies? Please scale from 1 (Not at all) to 10 (Absolutely)

E.g. 2

And why?

E.g. Because it is not enough to have technical skills, you need to have creative skills

Do you feel that art practitioners are sufficiently qualified to apply immersive technology nowadays? Explain why. Please scale from 1 (Not at all) to 10 (Absolutely)

E.g. 4

Figure 3 Empathy Map – Think & Feel section

What do you see? 🧐

Do you know of any practical examples of the use of immersive technology in your field?

E.g. YES NO

Have you participated/attended/watched any immersive technology shows?

E.g. YES NO

What were your thoughts about the use in immersive technologies in the art sector?

E.g.

Have you ever seen any immersive training plans and/or curriculums announced for the cultural and artistic field?

YES NO

Would you be interested in participating? Please scale from 1 (Not at all) to 10 (Absolutely).

E.g. 8

Figure 4 Empathy Map – See section

What do you hear? 🗣️

Have you received recommendations of courses or training programs in immersive technologies?



If yes, do you think they are suitable for the arts or cultural sector?



Do you know people from your sector, who have been trained in the use of immersive technologies or people in general, who have participated in similar projects?



If so, do you know what their experience was like? Please explain.





Figure 5 Empathy Map – Hear section

Figure 6 Empathy Map – Say & Do section

Exercise 2: Defining sectoral needs - Map of Needs

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Method: Creation of a Map of Needs to summarize the specific needs of the different stakeholders. This activity can be carried in two separated groups. Each group will discuss what competences or training they need to effectively apply immersive technology. The questions and table below can serve as a guide for the activity:

To facilitate the process, the following questions can be asked:

- B: What kind of training do you think you need to effectively apply immersive technology in your field?
- What kind of training do you think you need to supervise the application of immersive technology in your field?
- B: What resources would help you to improve your competences in the use of immersive technology?
- B: What kind of training do you think would be most useful (specialized courses, further training, practical training, on-line courses, etc.)
- B: What skills do you think that need to be improved to use immersive technology in your field?
- B: What resources do you think you would need to create an adequate training plan applied to your field or work/study?
- B: What kind of institutional support do you think you would need to be able to carry out this training?

For example, you can follow the table below:

Write your current field of expertise....

Write the sector in which the activity is carried out.....

Table 2 Map of Needs

Category	Description	Priority (high, medium, low)
Training needs		
<i>Specialised courses</i>	Training programmes focused on immersive technology applied to art or culture.	
<i>Practical training</i>	Workshops and activities that offer a real experience in the use of immersive technology	

<i>General training</i>	General (Theoretical) knowledge of the available tools and the use of immersive technology.	
Resources needs		
<i>Spaces for experimentation</i>	Spaces where technology can be experimented with	
<i>Technical support</i>	Technical assistance in the training process	
<i>Up-to-date technology</i>	Have the latest technology available	
<i>Online tutorials</i>	Available on-line tutorials on how to use immersive technology	
Competence requirements		
<i>Technical skills</i>	Technical skills for using immersive technology	
<i>Management skills</i>	Training in the planning and executing projects integrating immersive technology	
<i>Creative skills</i>	Training in the creation of cultural/artistic content integrating immersive technology	
Support and collaboration needs		
<i>Education funding</i>	Scholarships/Opportunities to financially support training	
<i>Institutional partnerships</i>	Communication between educational, cultural and technological institutions.	
Need for information		
Information about new technologies	Access to information on emerging technologies and their application	
Information spaces	Informative spaces on new cases, application of immersive technology in art or culture.	
<i>(Please indicate any others that you think are important)</i>		

Each group will rate each priority accordingly. Once they have finished, the groups will share those needs they have identified as high priority, and a list will be compiled. This will provide an overview of the main needs of the participants in immersive training and capacity building.



Miro Board: The Miro board for Exercise 2 was designed to visually capture the training and resource needs of participants through a structured prioritization exercise. The board mirrored the layout of Table 2 mentioned above, with columns organized by category: Training Needs, Resources Needs, Competence Requirements, Support and Collaboration Needs, and Need for Information. Each row included a short description of a specific need. Participants were divided into two groups: Group A and Group B. Each group was given a set of colored dots to indicate their evaluation of each need's importance:

- Group A used yellow-toned dots:
 - Light Yellow = Low priority
 - Yellow = Medium priority
 - Orange = High priority
- Group B used purple-toned dots:
 - Light Purple = Low priority
 - Purple = Medium priority
 - Dark Purple = High priority

By placing their respective dots next to each item, participants indicated how critical they considered each need. The color-coded input allowed for quick visual comparison between the two groups, highlighting both differences and consensus areas. The result was a clear, side-by-side mapping of sectoral priorities from both student and professional perspectives.

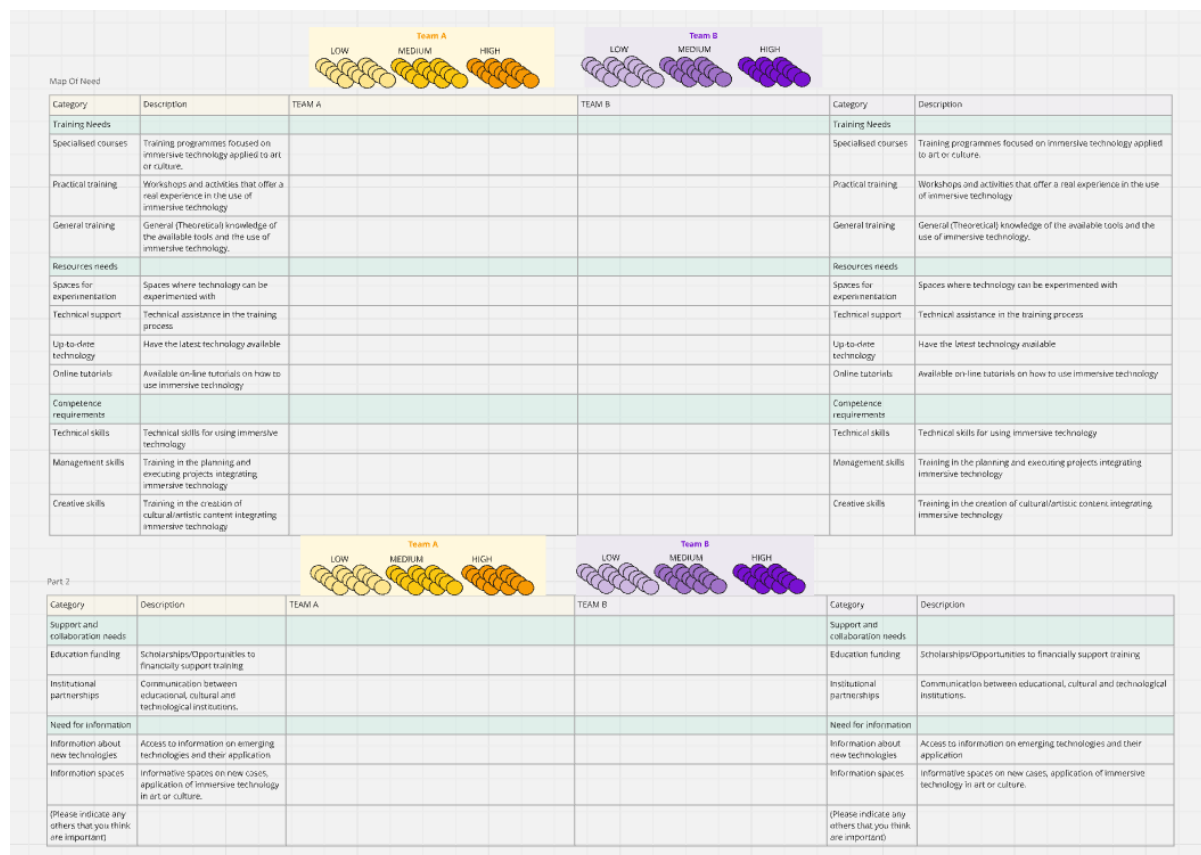


Figure 7 Miro Board Exercise for Map of Needs

Outcome: To have a visual map that can serve as a guide for finding solutions.

Exercise 3: Brainstorming of ideas - Brainwriting Technique

Based on the Map of Needs and the identification of problems, ideas will be provided with the aim to design training plans that meet the needs outlined above.

Methodology:

Brainwriting technique: each participant (or group) starts by writing 3 ideas (based on the needs outlined above) on a piece of paper in 5 minutes. Then, they pass it to the partner (or group) on the left, who must write 3 more ideas based on the ones they have just received. Several rounds take place and once finished, each participant (or group) must read out the ideas on their card to select the best ideas and, by voting, the participants choose which ones the organization should work on.

For example, you can follow the questions below to guide the process based on the “How might we” technique:

- How might we manage collaboration between artists, cultural managers and technical staff to improve training?
- How might we make a training plan flexible enough to meet the needs of each artistic-cultural sector?
- How might we ensure that the training programme addresses both technical and creative aspects?
- How might we create experimental spaces for immersive technology?
- How might we ensure that stakeholders are properly informed about the training modules?
- How might we ensure that the immersive training plan is adapted to the (artistic-cultural) knowledge of the participants?
- How might we develop an immersive training plan that enhances the previous skills of the participants?
- How might we ensure information on new application cases of immersive technology?

Table 3 Brainwriting Table

Category	“How might we”	Ideas
Training needs	Ex: how might we make a training plan flexible enough to meet the needs of each artistic-cultural sector?	
Resource needs	Ex: how might we create experimental spaces for immersive technology?	
Competence requirements	Ex: how might we ensure that the training programme addresses both technical and creative aspects?	
Support and collaboration needs	Ex: how might we collaborate between artists, cultural managers and technical staff to improve training?	
Need for information	Ex: how might we ensure information on new application cases of immersive technology?	

Miro Board: The Miro board for Exercise 3 was structured to support a two-part brainwriting activity focused on generating practical solutions to previously identified training and resource needs. Each column represented one of the five core categories: Training Needs, Resource Needs, Competence Requirements, Support and Collaboration Needs, and Need for Information. Each block contained a guiding “How might we...” question to spark idea generation.

In Part A, participants were split into Group A and Group B, each assigned to a specific row of blocks:

- Group A worked left to right on the top row.
- Group B worked right to left on the bottom row.

In each block, team members collaborated to write three initial ideas. Once completed, the groups rotated across the board until they encountered the other group's responses. They then added three new ideas—ensuring these were distinct from the previous ones—resulting in a total of six ideas per category. This design encouraged both original input and iterative thinking.

In Part B, participants selected the most promising solution in each block using color-coded dot voting:

- Group A used blue, green, and yellow dots.
- Group B used red, pink, and purple dots.

This allowed for transparent selection of top ideas while making group preferences and consensus immediately visible. The exercise concluded with one “winning” idea per category block, forming a participant-generated shortlist of actionable solutions for curriculum development.

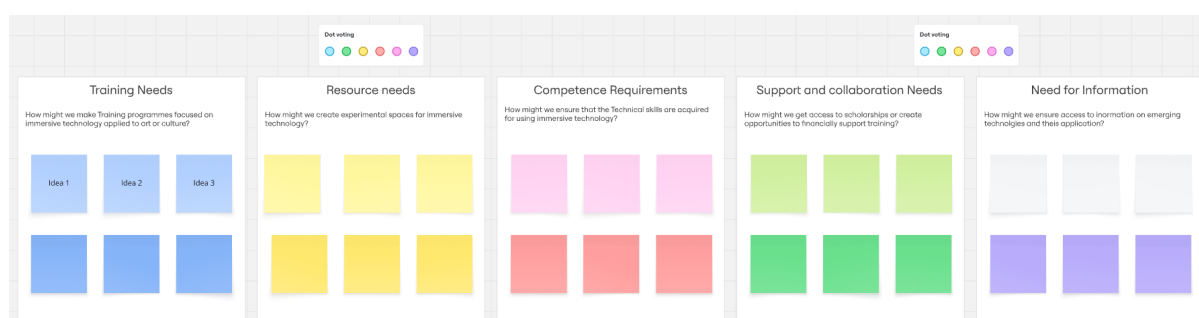


Figure 8 Miro Board exercise for Brainstorming of Ideas

Outcome: Come up with clear ideas that respond to the needs of the sector to continue to provide workable solutions.

Exercise 4: Co-creation solutions - Building a suitable curriculum per module

The workshop will end with the design of a training plan according to what has been discussed above (problems and needs). This activity can be carried out in mixed groups. The activity can be carried out using digital platforms (e.g. PowerPoint, Miro-Board) or on paper.

- **First step:** participants will be divided into mixed groups and will have to design a module or training plan according to the competence or training they have identified as missing in the previous sessions. The idea should

include name of the module, objective, importance, type of training, duration, competence to be developed and format.

- You can use these questions to guide the process:
 - Should we learn how to use immersive technology technically or is it more important to know how to integrate the technology into a creative process?
 - Should it focus more on general training, or on specialized courses?
 - Should it be more theoretical or practical, or both?
 - Should it focus on a specific sector, or can it apply to all those related to culture/art?
 - Should other types of competences, such as the “soft skills”, be incorporated?
 - Should it be delivered online, face-to-face or blended?
- You can use the following table:

Table 4 Curriculum Development per Module

Module	Module development
Name of the module	
Aim of the module	
Relevance of the module	
Training type	
Competence developed	
Duration	
Format	

- **Second step:** Feedback in real time. Each group presents its module or training plan to the other participants. After the presentation, a short questions-and-answers session is opened with an emphasis on the feasibility of the proposal in a real context and how it could be applied in practice.
- **Last step:** Final discussion. After the presentations, the groups will be able to adjust their prototypes, based on the recommendations they have received.

Miro Board: The Miro board for Exercise 4 was designed to facilitate collaborative curriculum design through a structured, side-by-side format. Participants were



divided into two groups: Group A and Group B. Each group was assigned a blank module template—Group A worked on Module 1, and Group B on Module 2.

Above the module tables, a set of guiding questions was presented to help structure the group's thinking. These prompts addressed key curriculum design aspects, including whether training should be technical, creative, or integrative, the target audience and sectoral relevance, the theoretical vs. practical balance, and others. Each group collaboratively completed their assigned template, filling in fields such as Module Name, Aim, Relevance, Training Type, Competence Development, Duration, and Format. At the end of the session, each group presented their proposed module to the other, opening the floor for a short exchange of feedback, clarifications, and suggestions. This peer-review component helped refine the proposals and encouraged participants to reflect on the feasibility and relevance of each curriculum element.

		Should we learn how to use immersive technology technically or is it more important to know how to integrate the technology into a creative process?	Should it focus more on general training or on specialised courses?	Should it be more theoretical or practical?	Should other types of competences, such as "soft" skills be incorporated?	Should it be delivered online, face-to-face or blended?	
Module 1							
Name of Module	Aim of Module	Relevance of Module	Training Type	Competence Development	Duration	Format	Comments
Type Here	Type Here	Type Here	Type Here	Type Here	Type Here	Type Here	Type Here
Module 2							
Name of Module	Aim of Module	Relevance of Module	Training Type	Competence Development	Duration	Format	Comments
Type Here	Type Here	Type Here	Type Here	Type Here	Type Here	Type Here	Type Here

Image 1 Miro Board exercise for Building a suitable curriculum per module

Outcome: Get an insight into what the main stakeholders need to be properly trained in immersive technology. In this way, the proposals can serve as a guide for the design and implementation of future training modules.

Closing session

The closing will be followed by a final reflection on how the solutions that have emerged will guide future work and be adapted to the needs of users.

Final questions:



- What did you learn in the workshop?
- What is the most important thing that you took away from this experience?

2.2.Methodology

As already described in the guide, the participants were divided into two groups: for Valencia Group A was for workers and Group B for students, while for Athens Group A was for professors and Group B for students. The exercises were continuous with each other, where they started by defining the problems that each group had identified in their field and ended up developing a training module based on all the identified inputs. Thus, in the first exercise, each group had to develop an empathy map to identify the problems they have encountered in relation to the adaptation of immersive technology in the field of culture and art. Then, with the problems identified, needs were identified through a Needs Map that was divided into 5 key categories for the correct integration of technology with the artistic-cultural sector: training, resources, skills, collaboration and support from other institutions, and information. Exercise 3 was prepared for the groups to start thinking about solutions to the problems and needs identified in the previous exercises, and Exercise 4 consisted of the final objective of the workshop: to develop a curriculum or training plan that would adapt technology with the cultural and creative industries.

The Miro platform was used to carry out the activities. Miro is an online workspace that allows you to develop team workflows remotely through an infinite virtual whiteboard. In fact, its constructed templates cover the following areas of action: brainstorming and ideation processes, methodologies and workflows in agile environments, mapping, diagrams and schemes, research and design thinking, strategy and planning, and practical meetings or workshops. In addition, it has a simple voting system or a timer with a countdown. Therefore, Miro was an ideal platform for the Workshop and allowed the different activities to be carried out in a more dynamic and agile way.

3. Workshop execution in Valencia

3.1. Co creation workshop in Valencia

The co-creation workshop in Valencia was held on Wednesday, January 29, 2025, in a classroom of the Department of Applied Economics located in the Faculty of Economics of the University of Valencia. The session was conducted by Bárbara López Cabrera, researcher from the Applied Economics Department of the University of Valencia, and Dr. Chuan Li, Assistant Professor at the University of

Valencia and cultural entrepreneur specializing in international collaborative projects. The selected venue was a computer lab, providing participants with workstations with access to the Miro platform, which was used throughout the session for collaborative exercises. Before the start of the activities, participants were welcomed with a brief presentation of the IMMER-CV project, its objectives, and the purpose of the workshop. This was followed by an explanation of the methodology and structure of the four exercises. Participants were then divided into working groups, and all exercises were carried out in parallel within the scheduled timeframe.



Image 1. Co-creation Workshop, Valencia.



Image 2 & 3. Co-creation Workshop, Valencia



Image 4 Co-creation Workshop, Valencia



3.2. Key stakeholders involved

The Valencia workshop gathered a group of working professionals and students from the local community, creating a collaborative learning environment. In the workshop, 5 workers from the technological and/or artistic-cultural sector participated, alongside 4 students enrolled in Bachelor's, Master's, or Doctorate programs. Among the participants were individuals working in arts and cultural organizations, creative industries, technology organizations, and academia, bringing together diverse perspectives and expertise from multiple sectors. As described in the guide, participants were divided into two groups: sector workers (group A) and students (group B).

3.3. Exercise 1 – Overview of current challenges

The first exercise aimed to capture participants' personal and professional perceptions regarding immersive technology in the Cultural and Creative Sectors. Using an empathy map structure, participants reflected on four areas: Think & Feel, See, Hear, and Say & Do. As described in the methodology, participants were divided into two groups: sector workers and educators (Group A) and students (Group B).

Starting from the results of the "Think & Feel" quadrant, both groups reported having received no previous information on immersive technologies. However, their perspectives on educational offerings differed significantly. Group A perceived the educational offer as inaccessible or overly theoretical, expressing insecurity about education's capacity to effectively apply this technology. They also rated current educational preparation in this area unfavorably. In contrast, Group B perceived that the curriculum is well adapted, providing more favorable scores than Group A and showing greater confidence in their future technological competence, although they also highlighted the lack of adequate training offerings.

Regarding the "See" quadrant, both groups had attended examples or demonstrations of immersive technology, though few knew about specific training plans. All participants showed great interest in participating in such programs if they were available. In the "Hear" section, both Group A and Group B acknowledged that they had not received recommendations on training plans that integrated immersive technology with the cultural and artistic field, although some knew people who had participated in related projects or courses.

The "Say & Do" responses revealed distinct patterns between groups. In Group A, 3 out of 5 participants reported discussing with colleagues the lack of information



as the main problem when adapting new technologies. They also identified additional barriers including high equipment costs, lack of adequately prepared teams, property rights issues, challenges of recreating classic exhibitions with technology, and the cultural sector's resistance to becoming "mere entertainment." The student group (Group B) provided more uniform responses, with all participants reporting discussions with colleagues about the lack of information. However, unlike Group A, students expressed belief that they had the necessary resources to learn these technologies and reported taking personal initiatives to learn and train in immersive technologies.

3.4. Exercise 2 – Map of Needs

In Exercise 2, participants were asked to evaluate and prioritize specific categories of needs for immersive technology training, assigning levels of importance: low, medium, or high. As established in the methodology, Group A comprised sector workers and educators, while Group B was formed by students.

In the training needs category, both groups highlighted the need for specialized courses and practical training, demonstrating consensus on the fundamental importance of hands-on learning approaches in immersive technology education.

Regarding resources needs, distinct priorities emerged between the two groups. Professionals (Group A) demanded more technical support as their primary concern, reflecting their immediate operational needs in the workplace. Students (Group B) prioritized access to up-to-date technology and spaces to experiment, indicating their focus on learning infrastructure and exploration opportunities.

When it comes to competence requirements, professionals (Group A) mostly voted for high priority on technical and creative skills, reflecting their understanding of the balanced skillset required in professional practice. Students (Group B) were divided between technical and management skills, suggesting their awareness of both operational capabilities and leadership competencies needed for career advancement.

Both groups demonstrated agreement on support and collaboration needs, with institutional cooperation being given high priority by both groups, indicating shared recognition that successful immersive technology integration requires systemic institutional backing.

In the information needs category, both groups identified the need for greater access to information on new technologies and application cases, reflecting the rapidly evolving nature of immersive technologies and the importance of staying current with developments in the cultural and creative sectors.



3.5. Exercise 3 – Brainstorming of Ideas

Based on the results of Exercise 3, participants from both groups collaborated in a joint brainstorming session to propose and prioritize concrete solutions to key training challenges in immersive technologies. Unlike previous exercises where groups worked separately, this collaborative approach allowed for cross-fertilization of ideas between sector workers and students.

The brainstorming phase generated ideas focused on improving training, resources, and support in the use of immersive technology. Through a voting process, three main solutions emerged as the most prioritized by participants. The highest-rated solution was the "Design of curricular projects adjusted to the sectors," indicating strong consensus on the need for specialized, sector-specific training programs that address the particular requirements of cultural and creative industries rather than generic technology training.

The second most voted solution emphasized "Training based on practical experiences and collaboration between public, educational and technological institutions." This preference reflects participants' recognition that effective immersive technology education requires multi-stakeholder partnerships and hands-on learning approaches that bridge theoretical knowledge with real-world application. The emphasis on institutional collaboration suggests awareness that no single entity can provide comprehensive training in this rapidly evolving field.

The third prioritized idea focused on the "Creation of accessible training spaces," highlighting the importance of physical and virtual environments where learners can experiment with immersive technologies. This solution addresses the resource barriers identified in Exercise 2, particularly students' need for experimentation spaces and professionals' requirements for technical support environments.

The collaborative nature of this exercise demonstrated remarkable convergence between the two groups' perspectives, with both sector workers and students agreeing on the fundamental importance of practical, sector-specific, and institutionally supported training approaches. This consensus suggests that despite their different immediate needs identified in previous exercises, both groups share a common vision for comprehensive, accessible, and collaborative immersive technology education in the cultural and creative sectors.

3.6. Exercise 4 - Building a suitable curriculum per module

In the final exercise, participants achieved the main objective of the workshop by developing concrete training plans to integrate immersive technology in the artistic and cultural sector. Working separately, each group designed distinct curricula that reflected their unique perspectives and target audiences.



Group A proposed an extensive plan with modules such as immersive aesthetics, psychology of perception, and regulation. This comprehensive approach reflects their professional experience and understanding of the complex theoretical and practical considerations required for implementing immersive technologies in cultural and artistic contexts.

Group B opted for more introductory training, oriented towards secondary school or vocational training with a more practical approach. Their curriculum design prioritized accessibility and hands-on learning, reflecting their understanding of foundational educational needs and their preference for experiential learning.

The contrasting approaches highlight the complementary nature of both perspectives: professionals' emphasis on comprehensive, advanced training and students' focus on accessible, practice-based education. Together, these proposals suggest different educational pathways that could serve various learner needs within the cultural and creative sectors.

3.7. Overall Outcomes – Input to IMMER-CV Curriculum

Key Takeaways from the Valencia Workshop

The results of the four workshop exercises offered valuable insights into training needs for immersive technologies within the Cultural and Creative Sectors. By engaging both sector workers and students, the workshop highlighted shared priorities and different perspectives on immersive technology education.

Based on Exercise 1: Both groups reported lacking previous information on immersive technologies. Group A perceived educational offerings as inaccessible or too theoretical, while Group B viewed curricula as better adapted and showed greater confidence in their future technological competence. Both groups had attended immersive technology demonstrations and showed strong interest in training programs, though few knew about specific training plans.

Based on Exercise 2: Both groups prioritized specialized courses and practical training. Professionals demanded more technical support, while students prioritized access to up-to-date technology and experimentation spaces. Group A focused on technical and creative skills, while Group B was divided between technical and management skills. Both groups assigned high priority to institutional cooperation and identified the need for greater access to information on new technologies.

Based on Exercise 3: The collaborative brainstorming generated three main prioritized solutions: design of curricular projects adjusted to sectors, training based on practical experiences and collaboration between public, educational and technological institutions, and creation of accessible training spaces.



Based on Exercise 4: Group A proposed an extensive plan with advanced modules including immersive aesthetics, psychology of perception, and regulation. Group B opted for introductory training oriented towards secondary school or vocational training with a practical approach.

Overall Implications: The workshop revealed clear convergences between sector workers and students regarding the lack of accessible information and training resources in immersive technologies. Both groups recognized the importance of specialized, practical training and institutional collaboration, while their different approaches suggest the need for multi-level training programs serving various educational contexts within the Cultural and Creative Sectors.

4. Workshop evaluation

At the end of the Workshop, participants were given an anonymous survey to assess the different points of the workshop, such as the assessment of the Workshop and their opinion regarding the co-created solutions. In addition to indicating their experience in the use of immersive technologies in the arts.

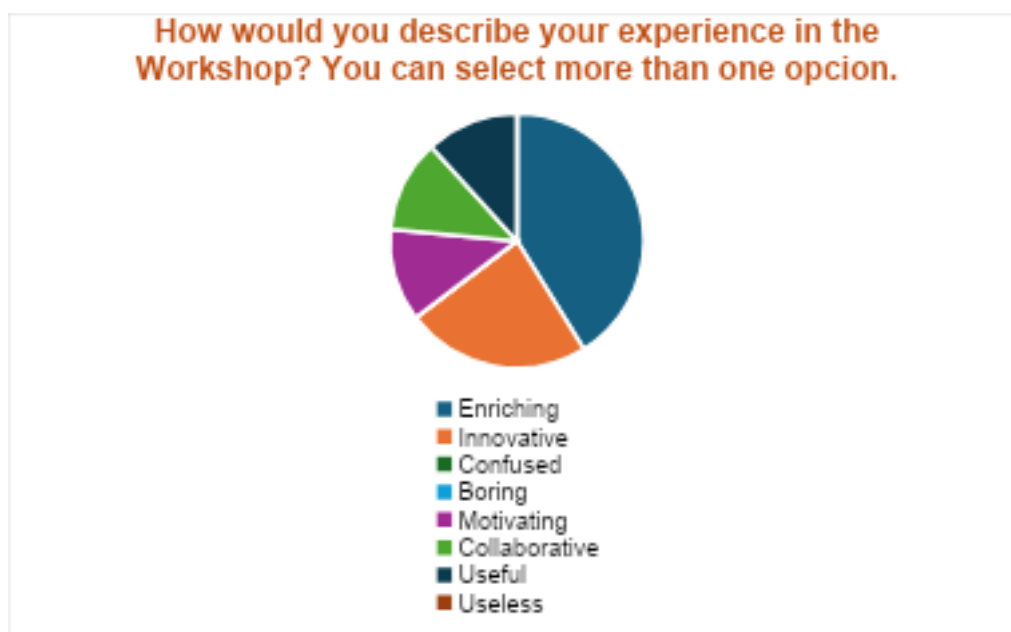
All respondents indicated that they had little or no experience using immersive technologies.

Regarding the evaluation of the workshop, they were asked to rate the organization, quality, usefulness of the activities and relevance of the workshop from 1 (not at all satisfied) to 5 (very satisfied). All these items received a favorable mean score. In addition, they all answered that they would participate in similar workshops again.



Graph 1: Survey results. Workshop Valencia

In the same way, all respondents chose favorable adjectives when describing their experience in the workshop, as shown in the following graph:



Graph 2: Survey results. Workshop Valencia

Thus, all of them mentioned that the experience had been enriching, innovative, motivating, collaborative and useful.

In general, the survey shows that most of them felt very comfortable sharing their ideas with the group and that their ideas were always or sometimes considered.



Graph 3: Survey results. Workshop Valencia

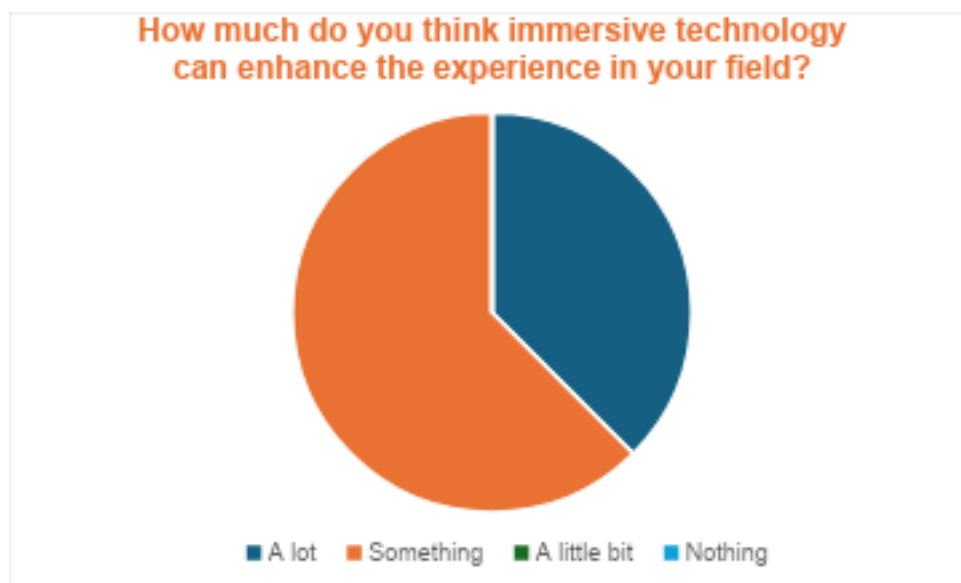


Graph 4: Survey results. Workshop Valencia

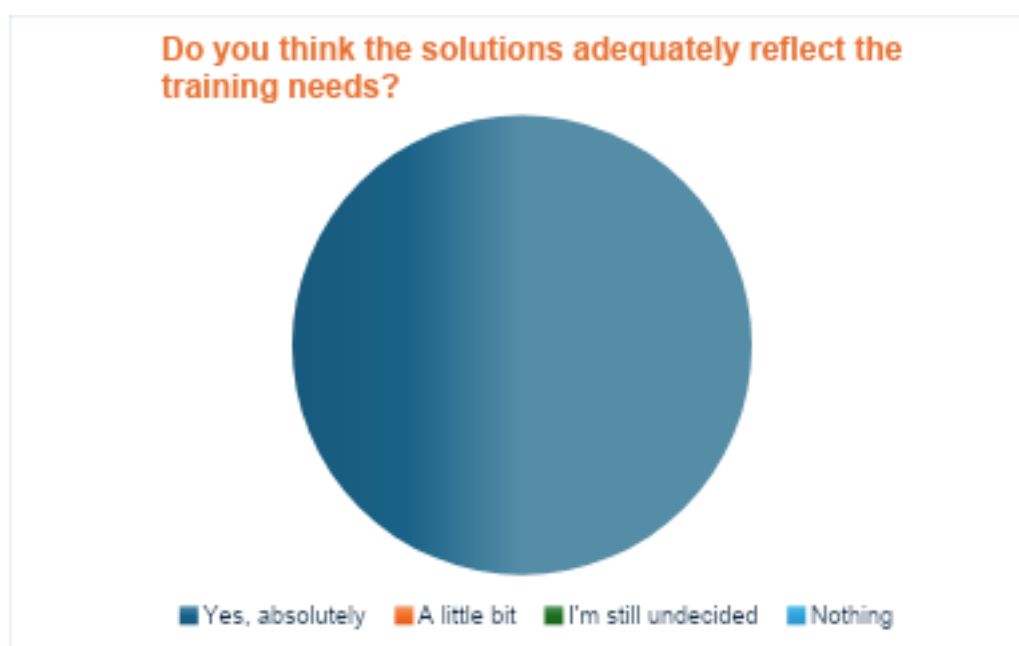
On the other hand, although most have not planned or attended any training on the application of immersive technology, they mentioned that attending the workshop had motivated them to learn more about technology in the cultural and artistic sectors.

Regarding the last part of the survey, which consisted of giving an opinion on the co-created solutions. Most answered that immersive technology could improve

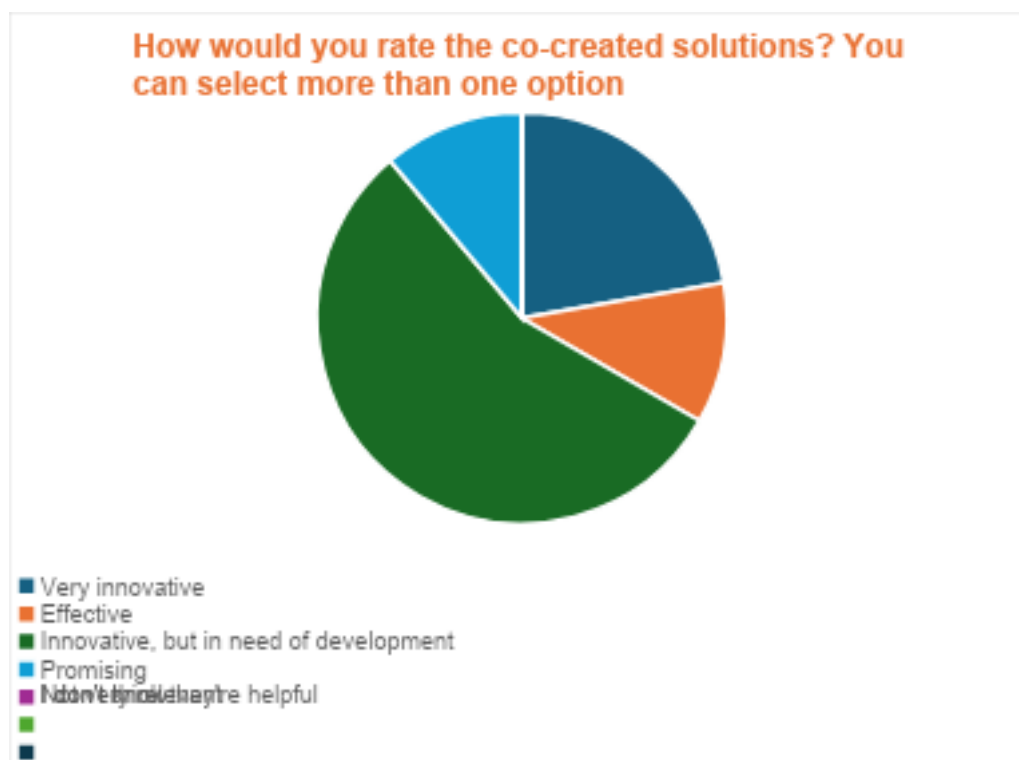
the experience in their field of action somewhat, although all were in favour of the solutions adequately reflecting training needs.



Graph 5: Survey results. Workshop Valencia



Graph 6: Survey results. Workshop Valencia



Graph 7: Survey results. Workshop Valencia

As can be seen, many of them stated that the solutions created are innovative, although they need development.

In fact, all of them responded that the training plans presented can be implemented in their professional field completely or with some adjustments,



Graph 8: Survey results. Workshop Valencia



Regarding the last question, where they had to rate the co-created solutions from 1 (not at all satisfied) to 5 (very satisfied). The final assessment took an average score of 4.12, showing that, in general, the participants were satisfied with the final result of the workshop.

5. Conclusions

The co-creation workshop carried out in Valencia helped the consortium understand the real needs, expectations, and learning conditions of professionals and students in the Cultural and Creative Sectors regarding immersive technology education at the local level, in Valencia. The workshop captured diverse insights on information gaps, resource limitations, pedagogical preferences, and training priorities.

The outcomes clearly demonstrated the need for sector-specific curriculum design, with emphasis on practical experiential learning, and collaboration between public, educational, and technological institutions. The workshop revealed universal recognition of the lack of accessible information on immersive technologies, while highlighting different resource priorities between professionals seeking technical support and students requiring access to experimentation spaces and up-to-date technology.

Importantly, the active involvement of both sector workers and students confirmed the necessity for multi-level training approaches that can serve different educational contexts and career stages. The contrasting yet complementary proposals, ranging from advanced comprehensive modules to accessible introductory training, underscore the importance of flexible educational pathways within the cultural and creative industries.

The findings from this activity provide valuable guidance for developing responsive, inclusive, and practice-oriented training programs that address the specific challenges of integrating immersive technologies in the Cultural and Creative Sectors, emphasizing the critical role of institutional cooperation and accessible training spaces in supporting this digital transformation.