



## Training Young People on Augmented Reality Authoring Showcasing Intangible Cultural Assets as Use Cases

# D3.1: Training Assessment Framework

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## Executive Summary

The main objective of this deliverable was to present a comprehensive framework of the two types of evaluation to be offered during the training activities of the project, namely, the overall evaluation of the training from the end-users and the pre- and post-tests assessing the user's gained knowledge and competencies.

The framework examined the Kirkpatrick Model and adapted two of its four levels, namely Reaction and Learning, for framing the approach to evaluation of the training's impact on end-users.



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# 1 Introduction

The purpose of D3.1 is to introduce the AR4Youth Training Assessment Framework, which was created to regulate two distinct types of evaluation, namely, the overall evaluation of the training from the end-users and the pre- and post-tests assessing the user's gained knowledge and competencies.

In particular, the Framework aims at ensuring that the end-users participating in the AR4Youth training sessions have gained the purported knowledge and skills while securing that their feedback will be utilised for the continuous adaptation and improvement of the platform.

## 1.1 Purpose and Scope

The successful development of the AR4Youth Training Assessment Framework will feed the design of the “Assessment Templates” (PR3.2) which will be used as an evaluation tool by the end-users to assess, on the one hand, the training material and, on the other hand, their knowledge before and after engaging with the AR4Youth platform. Furthermore, the deliverable relates to PR1 “AR4Youth Training Material” which centralises on the development of the training content to be included in the digital platform (PR2).

## 1.2 Approach for PR and Relation to other PRs and Deliverables

The successful development of the AR4Youth Training Assessment Framework will feed the design of the “Assessment Templates” (PR3.2) which will be used as an evaluation tool by the end-users to assess, on the one hand, the training material and, on the other hand, their knowledge before and after engaging with the AR4Youth platform. Furthermore, the deliverable relates to PR1 “AR4Youth Training Material” which centralises on the development of the training content to be included in the digital platform (PR2).

## 1.3 Methodology and Structure of the Deliverable

The Kirkpatrick four-level model of learning evaluation, established by Kirkpatrick in 1959, has been used as the main resource to create the AR4Youth Assessment Framework. This framework sets the criteria for assessing the knowledge acquired by young people participating in the training activities of the project achieved through the design of a pre- and post-testing.

In addition, this document illustrates the framework for evaluating various elements of the training from the perspective of end-users participating in the activities in order to ensure that the training content successfully reflects its intended objectives and that collected feedback will be utilised for the improvement of the training content and the platform.

While Section 1 provides an overview of the Kirkpatrick four-level model of learning evaluation, which serves as the primary assessment framework for the AR4Youth training activities, Section 2 outlines the objectives of the two types of evaluation by elaborating on specific indicators which will be used in the development of the assessment forms.

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## 2 The Kirkpatrick Model

Understanding the necessity of assessing the effectiveness of any training program, it is essential to develop a comprehensive evaluation methodology through which the main elements of the evaluation procedure should be outlined and discussed. The framework is expected to be utilised by youth workers as a guide tool allowing them to identify various elements related to the evaluation of the training material, including among others: target audience of the evaluation, alignment of the evaluation with the training goals and objectives, complexity and types of evaluation questions, collection of data and feedback, duration of the evaluation procedure. To achieve this goal, the New World Kirkpatrick Model (Kirkpatrick & Kayser Kirkpatrick, 2021) will be utilised for the development of the AR4Youth Training Assessment Framework.

### 2.1 Navigating through the Kirkpatrick Model

The New World Kirkpatrick Model is a framework for evaluating training and learning programs. It builds upon the original Kirkpatrick Model developed by Donald Kirkpatrick in the 1950s. Its updated version, comprising the following four levels of evaluation, was refined by Dr. Jim Kirkpatrick and Wendy Kayser Kirkpatrick in 2010:

- Level 1: Reaction: This level assesses participants' reactions to the training, including their satisfaction, engagement, and perceptions of the training's usefulness and relevance.
- Level 2: Learning: It focuses on measuring the knowledge, skills, competencies, and attitudes that participants have acquired as a result of the training.
- Level 3: Behaviour: This level examines whether participants apply the newly acquired knowledge and skills in their real-world work environment following the completion of the training.
- Level 4: Results: The final level evaluates the tangible outcomes and impact of the training on the learners, such as increased productivity, improved performance, or other key performance indicators.

### 2.2 Elaborating on the Four Levels of Training Evaluation

In particular, **Level 1: Reaction** focuses on assessing the immediate reactions and responses of participants to the training program as it seeks to explore, through an evaluation survey, how participants feel about the training experience, their satisfaction with it, and their perceptions of its usefulness and relevance. To facilitate this process, Level 1 is further divided into three components:

- Overall Satisfaction: The goal is to examine how content participants are with the training, including the quality of the materials, the competence of the trainers, and the overall training environment;
- Engagement: This component examines the degree to which participants were actively engaged in the training contributing to the overall generation of new knowledge;



- **Relevance:** This parameter involves understanding whether participants see the training as relevant to and in alignment with their roles, responsibilities, and career goals.

**Level 2: Learning** aims at assessing what participants have learned during the training, including the knowledge, skills, competencies, and attitudes they have acquired, primarily evaluated through the completion of a pre- and post- training assessment by them.

**Level 3: Behaviour** focuses on assessing whether participants apply the knowledge, skills, and behaviours they acquired during the training in their actual job or work environment and whether the new knowledge leads to substantial improvement in job performance. A post-training survey completed by the participants a few months after the completion of the training could give the opportunity to the participants to report on how they applied the acquired knowledge in their job.

Finally, **Level 4: Results** aims at assessing the tangible outcomes and impact of the training program on the participants examining, in particular, the degree to which the training has contributed towards addressing its long-term expected results as documented before the realisation of the training activity.

Since Level 3 and Level 4 focus on the long-term evaluation after the training has been implemented, the AR4Youth Assessment Framework project will centralise on covering the first two levels.

### 3 AR4Youth Training Assessment Framework

The AR4Youth Assessment Framework constitutes an integral element of the training programme developed in the context of the project serving the need of identifying, on the one hand, the strengths of the learning procedure and on the other hand, weaknesses which should be further improved in order to maximise the effectiveness and impact of its content. Similarly, the framework could be used as a vital resource to assess the knowledge, skills and competences acquired by end-users following the completion of the training programme. In this section, the two types of evaluation to be undertaken during the AR4Youth training activities, namely, (a) overall evaluation of the training from the end-users and (b) the pre- and post-tests assessing the user's gained knowledge and competencies will be elaborated.

#### 3.1 Training Evaluation by end-users

A number of factors have been considered in the design of the framework for the Training Evaluation by end-users in order to ensure the collection of meaningful data which can be used for the further improvement of the learning procedure. These factors include among others: survey medium, type and number of questions, duration of completing the survey, relevance. Taking into account these factors, the AR4Youth Training Assessment will be designed in the form of an online questionnaire which will be shared with the end-users either through an email or a QR code. In order to ensure the collection of immediate feedback while the training experience is fresh in their minds, increasing the accuracy and relevance of their responses, the participants will be prompted to complete the survey before leaving the training venue. In order to increase the response rates by end-users, the questionnaire will be anonymous and will take no more than five minutes to complete. An important factor influencing the response rate relates to the type of questions asked; to this respect, the survey will include a mix of question types providing a well-rounded view of participants' experiences, prioritising Yes/No and Likert scale questions.

Finally, for the design of the Evaluation Framework, Level 1: Reaction and Level 2: Learning from the New World Kirkpatrick Model were taken into consideration by emphasising on the following parameters:

**Table 1: Kirkpatrick Level 1&2 Parameters**

Parameter	Comment
Overall Satisfaction	<ul style="list-style-type: none"> <li>▪ Knowledge</li> <li>▪ Objectives</li> <li>▪ Expectations</li> <li>▪ Training materials</li> <li>▪ Logistics</li> <li>▪ Strong points</li> <li>▪ Weak points</li> <li>▪ Recommendations for improvement</li> </ul>
Engagement	<ul style="list-style-type: none"> <li>▪ Training methodology</li> <li>▪ Facilitator</li> <li>▪ Dynamics</li> <li>▪ Participation</li> </ul>



Relevance	<ul style="list-style-type: none"> <li>▪ Use of acquired knowledge</li> <li>▪ Capacity in using the knowledge</li> <li>▪ Support to use the knowledge</li> </ul>
Knowledge/Skills/Competences	<ul style="list-style-type: none"> <li>▪ New knowledge/skills/competences acquired</li> <li>▪ Personal development</li> </ul>

Possible questions for each level that can be used in the AR4Youth Training Assessment include:

### 3.1.1 Level 1: Reaction

#### **Overall Satisfaction:**

- On a scale of 1 to 5, how would you rate your satisfaction with the training?
- Did the training meet your expectations?
- Did the training materials enhance your learning experience?
- Were the training venue and facilities suitable for the activity?
- Were there any factors that hindered your ability to actively participate?
- What improvements, if any, would you suggest to enhance the training experience?

#### **Engagement:**

- How engaged did you feel throughout the training program?
- Which elements of the training activity did you like the most?
- Which parts of the training activity did you find weak?
- Did the training environment (e.g. methodology) foster a positive and conducive learning atmosphere?
- Were facilitators effective in maintaining a dynamic and interactive learning environment?
- How did the variety of learning methods contribute to your engagement and understanding?
- Were there opportunities for you to actively participate in the activity?

#### **Relevance:**

- How relevant did you find the training content to your current job role?
- How might the skills and knowledge gained contribute to your professional advancement?
- Are you willing to apply some of the acquired knowledge in your work?
- Do you feel capable of applying the acquired knowledge in your work?
- What kind of additional support do you need to be able to successfully adapt the acquired knowledge in your work?

### 3.1.2 Level 2: Learning

- How would you rate your knowledge or skills related to the training content before participating in the activity?
- What new knowledge or skills have you gained as a result of the training?

- On a scale of 1 to 10, how confident do you feel in applying the newly acquired knowledge and skills?
- How do you envision your personal development in terms of skills and competences after completing the training?

### 3.2 Pre- and post- Evaluation

Understanding the need of assessing the immediate impact of the training activity to the end-users as well as identifying elements of improvement, a pre- and post-evaluation will be included in the Training Assessment Framework. While a pre-assessment aims at providing insights into participants' knowledge and skills relevant to the content of the training, a post-assessment emphasises on knowledge and skills acquired by the participants following the completion of the activity. By comparing and analysing pre and post data, the consortium will be able to assess the effectiveness of the training activity, measure the impact of the activity on the participants and finally, identify areas for improvement in order to optimise the learning experience in the future activities.

Contributing towards minimising the environmental impact of the project, the pre- and post-assessment will be in the form of online questionnaires shared with the participants either through email or a QR code and completed before and immediately after the activity respectively. To maintain respondent anonymity while facilitating a comparative analysis between the pre- and post-evaluations, each participant will be assigned a randomised code which will be used to complete each evaluation.

The following parameters adapted from Level 2: Learning of the Kirkpatrick Evaluation Model will be taken into account when developing the pre- and post-assessments.

**Table 2: Kirkpatrick Level 2 Parameters**

Indicator	Parameter
Length	The duration for the completion of each assessment should not exceed 10 minutes
Language	<ul style="list-style-type: none"> <li>• The language used in the assessments should be simple and understandable by young people and technical definitions should be avoided;</li> <li>• The assessments will be translated in the national language of each partner</li> </ul>
Complexity	A variety of question types should be used, from yes/no and multiple choice to Likert scale and open-ended questions in order to adjust the level of complexity of the questions
Content	<ul style="list-style-type: none"> <li>• The questions should assess different aspects of the content related to the training, such as Augmented Reality and Cultural Heritage;</li> <li>• Pre-Assessment: Emphasis on existing knowledge, skills and competences of participants</li> <li>• Post-Assessment: Emphasis on new knowledge, skills and competences acquired by the participants as well as their willingness, commitment and capacity to implement the acquired knowledge in their daily work</li> </ul>



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## 4 Conclusions

Aiming at establishing the Training Assessment Framework to govern the training activities organised and run in the context of the project, the deliverable elaborated on specific guidelines to be used by the partners in order to design two types of evaluations: (a) evaluation of the training activity by end-users: the goal is to assess the satisfaction of the participants and the efficiency of the activity for future improvements; (b) pre- and post-assessment: the goal is to assess the knowledge, skills and competences acquired by the participants while investigating their capacity and determination in applying the knowledge in their work environment.



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