



eTwinning Across Cultures: Collaborative Heritage Education

Project Code Erasmus+ 2024-1-DE01-KA220-HED-000249049

WEBINAR:

Pedagogical Utilization of Augmented Reality for Cultural Heritage Education (PART A)

27 May 2026, 17:00 CET



**University of Crete
eLearning Lab**





Presentation Structure



01

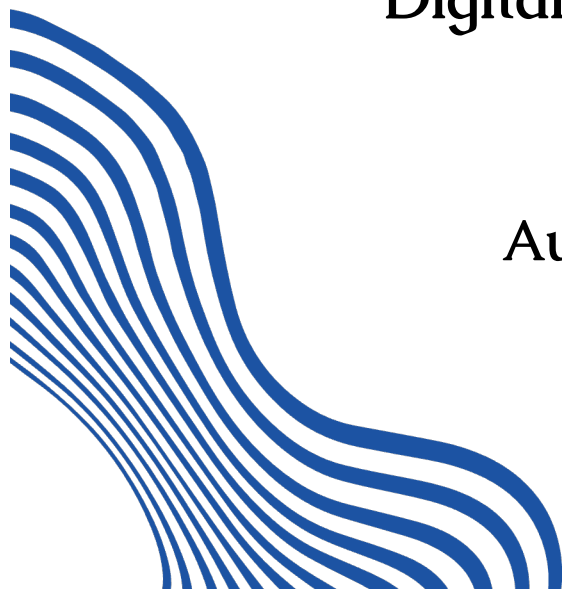
Cultural Heritage –
Digital Cultural Heritage

03

The benefits of AR in
education

02

Augemented Reality
VS
Virtual Reality



04

Blippar in action



01

Cultural Heritage – Digital Cultural Heritage

What is “Cultural Heritage”?

Includes tangible and intangible **objects**, **historical sites**, **traditions**, and **practices** that are an integral part of human history (Efthimiou, et al., 2023).

What is “Digital Cultural Heritage”?

Refers to digitized representations of tangible and intangible cultural assets (such as 3D models of monuments, digital files, and collections of audio and audiovisual material) and to purely digital works that are products of contemporary cultural production (Papachristou, 2025).

02

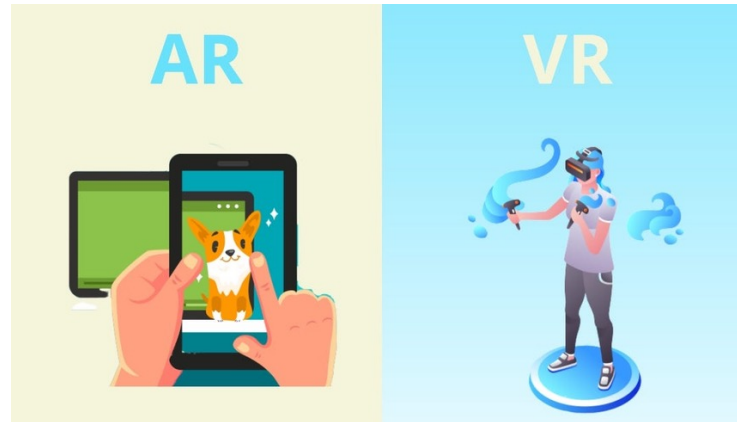
Augmented Reality VS Virtual Reality



Augmented Reality

It combines two worlds—the **real** and the **digital**—through a single interface: a **smart device** (Papadopoulos, 2021).

It is a technology used on **mobile devices** that combines the **camera** and the **GPS system** to **enrich** real-world images with virtual objects (multimedia elements), such as text, photos, videos, audio, 3D models, 3D images, etc., thereby enhancing the user experience (Chen et al., 2017).



Image's source: medium.com

Virtual Reality

Virtual Reality fully **replaces** the user's perception of their surrounding environment, immersing them into a digital world (Azuma 2017; Chen et al., 2017; Speicher, Hall & Nebeling, 2021).

03

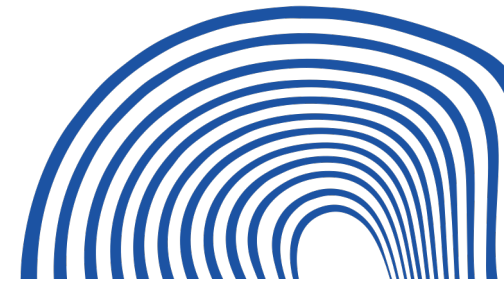
The benefits of Augmented Reality in Education





Why AR in Education?

As “digital natives,” students need **dynamic**, **multisensory** environments; mobile-based e-learning enables “here-and-now mobile learning,” extending to experiences that are not feasible in real life (Tsiavos & Sofos, 2019; Panagopoulou & Karagiannidis, 2017).



Why AR matters in Cultural Heritage Education?

AR bridges gaps between learners and historical artifacts

- Contextualisation — reconstructs lost or damaged heritage
- Visualization — shows hidden layers (e.g., frescoes, architectural phases)
- Interactivity — encourages exploration and inquiry
- Accessibility — supports diverse learners

It preserves and revitalises intangible cultural heritage

- AR can document and animate:
- Traditional crafts
- Music and dance
- Rituals and oral histories
- This is crucial for endangered or fragile traditions

Benefits of AR in education

A. Cognitive Benefits

- Improved understanding of abstract concepts, spatial structures, and memorization (Radu, 2014, as cited in Daoulas et al., n.d.; Tsiavos & Sofos, 2019; Verykio, 2024).
- Visualization of concepts that students cannot observe in the real world (Bacca et al., 2014, as cited in Tsiavos & Sofos, 2019).
- Improved learning curve — students learn faster and more effectively compared to other methods (Verikios, 2024).

Benefits of AR in education

B. Motivation & Emotional Engagement

- Increased motivation, interest, and attention – students experience the learning process as a game (Taskiran, 2019; Lee & Park, 2019, as cited in Apostolou, 2021; Tsiavos & Sofos, 2019).
- Positive impact even on students with learning difficulties and low typical engagement (Panagopoulou & Karagiannidis, 2017).
- Enhancement of student-centered learning and individual initiative (Verikou, 2024).

Benefits of AR in education

C. Collaboration, Communication & Skills

- Creating authentic communication situations and promoting collaborative learning (Lee & Park, 2019; Liu et al., 2016, as cited in Apostolou, 2021).
- Development of critical thinking, creativity, problem-solving, and discovery-based learning (Daoulas et al., n.d.; Verykio, 2024).
- Cultural heritage is not only about facts — it's about **identity, memory, and meaning**.

AR transforms cultural heritage learning by making the invisible visible and the past experiential.

- Cultural heritage education aims to foster historical understanding, identity, and engagement.
- AR provides interactive and context-rich learning experiences
- Increasingly used in museums, archaeological sites, and classrooms.

It supports deep understanding, emotional engagement, and active participation.

04

Blippar in action



AR empowers learners as **co-creators** of knowledge

AR encourages inquiry, problem-solving, and interpretation, aligning with constructivist pedagogy.

Learners can:

- Investigate historical evidence
- Compare facts and data
- Make hypotheses about the past
- Create their own AR content

This shifts them from **passive recipients** to **active cultural interpreters**.

The Lighthouse of Rethymno

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Workshop of handmade leaves

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The Loggia of Rethymno

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Saint Francis Monastery

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Kara Musa Pasha Mosque

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Thank you!