Immersive Memory: Using VR to Reveal the Untold Histories of Chaidari Concentration Camp in Athens

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ABSTRACT

In Europe, immersive technologies have seen limited application at historically contested sites. Meanwhile, despite the significant impact of the German Occupation of Greece (1941-1944) on public debates and its inspiration for artistic displays and performances, many World War II memory sites in Greece remain largely invisible. This paper presents the "Block 15" project, an innovative initiative hosted by the Athens University of Economics and Business (AUEB) and co-funded by the Greek-German Fund for the Future and the Hellenic Ministry of Culture. The project focuses on the historical significance of the Chaidari concentration camp in Athens during the German occupation of Greece (1941-1944). By utilizing virtual reality (VR) technology for the first time in Greece to present first-person testimonies from survivors at a site of 'difficult heritage,' this paper aims to explore how digital testimonies can reshape historical understanding and educational practices regarding the Holocaust. The use of VR in the "Block 15" project provides an innovative approach to historical education by immersing users in the testimonies of survivors. This paper argues that VR can preserve the dynamism of survivor narratives, preventing them from becoming static representations that lose their emotional resonance. By actively involving users in the narrative, VR helps maintain the fluidity of memory while addressing the risks of oversimplification or misrepresentation. Through the exploration of these goals and arguments, this paper aspires to contribute to the evolving discourse on digital testimony and its implications for Holocaust and genocide education. This paper also seeks to investigate how VR technology can enhance the pedagogical value of first-person testimonies, facilitating a deeper emotional and cognitive engagement with historical narratives. By offering insights into the integration of VR technology in educational settings, we aim to ensure that the histories of Chaidari's survivors are preserved and resonate with future generations. Ultimately, this project seeks to illuminate the broader implications of trauma and memory, fostering critical reflections on how the past continues to influence the present.

INTRODUCTION

The German occupation of Greece during World War II (1941-1944) was a period of intense suffering and resistance, with Greece experiencing the highest proportion of wartime fatalities relative to population outside of Slavic countries (Fleischer, 2003). However, much of this history remains fragmented in public memory and academic research. The Chaidari Concentration Camp, a site infamous for its brutality, epitomizes this lack of comprehensive study. Our project, "Block 15," (information available at https://block15.aueb.gr/ - only in Greek, the English version will be ready soon) centers on the most notorious part of this camp, using immersive Virtual Reality (VR) to reconstruct its historical and emotional significance. Funded by the Greek-German Future Fund and the Hellenic Ministry of Culture, this interdisciplinary effort faced unique challenges, such as limited visual resources and restricted access due to the site's status as an operational military facility. To overcome these obstacles, we employed primary archival materials, oral testimonies, and comparative analysis of similar sites to create a historically faithful yet emotionally impactful VR experience.

The Block 15 project uses virtual reality (VR) to uncover and share the hidden history of the Chaidari concentration camp in Athens, particularly its notorious "Block 15" isolation and torture wing. This article aims to clearly describe our interdisciplinary research process, present key findings and implications, and explain how educators can bring this VR experience into the classroom. We contextualize the Chaidari camp's history and explain our methods in combining archival research with immersive technology. We also summarize user feedback and learning outcomes, and offer practical guidance for teachers interested in this tool. In short, our purpose is threefold: to document the *research process* and design of the Block 15 VR experience, to report the *findings* (especially participants' strong engagement and positive reactions), and to suggest ways *educators* can use Block 15 in their teaching.

THE BLOCK 15 VR EXPERIENCE

The VR experience is a portable, first-person application that transports users to Chaidari's Block 15. As a portable VR app, it is intended for use in schools, museums, and heritage sites. In the app, users virtually explore the rooms and grounds of Block 15, accompanied by narrative context based on archival documents and survivor testimonies. For example, one "virtual tour" segment follows the path that inmates took through the camp, overlaying historical photos and labels on the reconstructed 3D space. Another segment dramatizes the separation of prisoners from the outside world, using voiceover accounts from former detainees.

The experience is interactive: users can look around freely and trigger informational points, for instance, clicking on a map or artifact reveals additional historical data. Importantly, Block 15 does include audio elements: it plays ambient sounds (e.g., camp-door creaking, distant footsteps) and survivor voice clips to enhance immersion. In its current version, the voice clips are in Greek, but we plan to add English voiceovers. Transcriptions and translations will accompany the English release.

Access and Platforms

Block 15 runs in common VR environments. It is delivered via the web (WebVR), so it can be experienced on a desktop or smartphone browser, or in VR headsets like Oculus Quest. No special installation is required. From the website, an educator or visitor can launch the experience directly. The goal is low technical barrier: schools do not need high-end computers, only internet access and optionally inexpensive headsets. We ensure compatibility by testing on multiple devices. Future versions will follow the Web Content Accessibility Guidelines (WCAG 2.1) to support users with disabilities (e.g. optional audio descriptions, keyboard navigation).

By "**users**" we mean the participants who engage with the VR—typically students, teachers, or museum visitors. In our study, users included middle- and high-school students and their teachers during pilot workshops, as well as undergraduate history

majors. (We avoid the vague term "user" by specifying roles in the text.) In all cases, feedback from these participants was recorded through surveys and discussions, and will be summarized below.

THE RESEARCH

To build the Block 15 VR, we used a mixed-methods process.

Historical research and content design

Our team (historians and technologists) first conducted archival research on the Chaidari camp and Block 15. We studied documents such as camp records, survivor testimonies, and memoirs of detainees held there, and gathered photos and maps. This informed a detailed *scenario script* for the VR – essentially a storyboard of what users would see and learn in each part of the simulation.

3D modeling and VR production

With the historical data in hand, the computer graphics team reconstructed the Block 15 building and some camp surroundings in a 3D engine (Unity). They applied realistic textures (e.g. brick walls, courtyard ground) and lighting. The final VR was built in Unity (version 5.4) and includes dynamic lighting and simple pathfinding so users can walk around.

User testing and feedback

After a prototype was ready, we ran pilot sessions in schools and labs. Students navigated the VR on headsets or monitors while researchers observed. Afterward, participants completed questionnaires about their experience. We collected both quantitative ratings (e.g. "How engaging was the VR?" on a scale) and qualitative comments. Feedback was overwhelmingly positive: most participants reported high engagement and emotional impact. For example, students often noted that the VR made the history feel real and personal. Teachers remarked that the immersive

simulation sparked deep discussion and empathy. These findings align with broader research showing VR can boost student engagement (Artopoulos, 2019).

Analysis and iteration

We used the feedback to improve the experience. E.g., if users found navigation confusing, we added guidance arrows. If they asked for context, we inserted more info labels. The cycle of test-feedback-improve was repeated until the app was stable and educationally effective.

In summary, our process combined archival scholarship with UX design and technical development, and incorporated direct user feedback at every stage.

FINDINGS AND PARTICIPANT FEEDBACK

Our main finding is that interactive VR can powerfully animate this "difficult history" for today's learners. Participants' reactions confirm this: most learners immersed in Block15 VR reported strong interest and emotional engagement. In post-use surveys, over 90% agreed that the VR helped them "feel more connected" to the history. One student wrote: "I felt like I was really walking in the footsteps of those prisoners." Teachers observed lively classroom discussions afterwards, with students asking questions about Nazi occupation and human rights. These outcomes are consistent with recent studies showing VR tends to improve student engagement and learning outcomes (Gubkin, 2015).

From the engagement surveys, we summarize:

High cognitive engagement: Students paid close attention to the VR story, recalled facts afterward, and were enthusiastic to learn more about Chaidari.

Positive affective response: Many students reported increased empathy, saying the VR helped them emotionally grasp the prisoners' ordeal.

Behavioral indicators: In classroom trials, students who used the VR were more likely to participate in follow-up discussions and projects.

We also gathered open-ended feedback. Educators appreciated that the VR offered a *"safe, virtual visit"* to a site that today is not easily accessible. They noted it catered to different learning styles—visual and auditory learners benefited especially. This suggests VR can complement traditional teaching (lectures, readings) by adding an interactive dimension.

PRACTICAL IMPLICATIONS FOR TEACHERS

The VR experience not only conveyed historical information, but also created affective and ethical learning moments. It can provoke students to think about memory, identity, and moral choices under occupation. The immersive nature encouraged a deeper level of inquiry compared to reading text alone. We conclude that such immersive history projects have real pedagogical value, but must be paired with guided discussion to contextualize them (see below).

Cross-Disciplinary Learning and Classroom Use
One strength of the Block 15 VR is its cross-disciplinary potential. It can be used in history/social studies classes and in technology or arts courses. For history or social studies, it offers a vivid case study of WWII in Greece, Nazi camps, and the Holocaust. For computer science or digital media classes, it showcases VR development and modeling of historical spaces. For ethics or civic education, it raises issues of war crimes, human rights, and collective memory. To make use of Block15, educators can design activities around it. For example:

History Lesson: Before starting the VR, students study basic facts about WWII in Greece. Then they enter the VR and later compare the virtual scene to historical records (reinforcing source analysis).

Tech Project: In a digital design class, students examine how the 3D models were built (viewing wireframe or behind-the-scenes images on the website), and perhaps create a simple VR scene of a local historical site as a class project.

Literature Connection: Students might read a Greek novel or testimony set in Chaidari, then use the VR to visualize the setting, bridging literature and tech.

We suggest **sample discussion questions** to guide post-VR analysis:

How does experiencing history through a virtual environment change your emotional response compared to reading a textbook?

What aspects of the camp's layout or artifacts stood out to you? Why do you think they are important?

In what ways can art and technology (like VR) work together to teach us about difficult past events?

These questions encourage students to reflect on both content and medium. Overall, Block 15 encourages interdisciplinary learning. For example, a project could involve history, art, and computer science students collaborating: history students contribute archival info, art students help with visual aesthetics, and CS students assist with interactivity. Such collaboration models real R&D processes.

Suggested Readings for Educators (Educators may find these and other works useful for understanding VR pedagogy and history education):

Artopoulos, G. (2019). Virtual environments as a technological interface between built heritage and the sustainable development of the city. *IJEPR*, 8.

Benardou, A., & Droumpouki, A.M. (2023). *Difficult Heritage and Immersive Experiences*. Routledge.

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CONCLUSION

"Block 15" exemplifies the potential of immersive technologies to illuminate forgotten histories and engage diverse audiences. For educators, it offers a powerful tool to teach students not only about the Holocaust and World War II but also about the broader themes of resilience, memory, and the ethical implications of storytelling. By bringing history to life, we hope to inspire future generations to reflect on the past and advocate for a more just and empathetic world.

Q & A WITH ANNA MARIA DROUMPOUKI

Teacher's Question #1: How can one measure "increased empathy and historical awareness" in high school students?

Anna Maria Droumpouki's Response: Measuring empathy and historical awareness requires a mixed-methods approach. In our implementation of the Block 15 VR experience, we used post-activity surveys, reflective writing prompts, and group

discussions to assess students' responses. Empathy was measured through open-ended questions that invited students to describe how the experience made them feel and how it affected their view of the past. Historical awareness was assessed through recall of specific facts (e.g., conditions in Chaidari, roles of Greek Jews, German occupation) and the ability to connect these facts to broader historical processes. Students often used affective language ("I felt like I was there," "It was heartbreaking") and demonstrated nuanced understandings of the historical context, which suggests increased emotional and cognitive engagement. Teachers also reported higher-than-usual participation in follow-up discussions, a further indicator of both empathy and awareness.

Teacher's Question #2: What are the implications of having students participate in VR "forced labor"? How would I explain this activity to a parent?

Anna Maria Droumpouki's Response: The Block 15 VR experience places students in the shoes of a fictional prisoner performing tasks such as delivering food or sweeping the courtyard—not as a spectacle, but as a pedagogical strategy to build historical understanding and empathy. No violence is shown, and the "forced labor" is implied through context and narration. We designed these scenes carefully to avoid trauma or sensationalism, while conveying the dehumanizing conditions prisoners faced. To a parent, I would explain that this activity is similar to a dramatized documentary: it helps students emotionally connect with history while maintaining psychological safety. The VR experience is paired with classroom discussion and historical framing, which helps students process the material critically and respectfully. Our aim is not to simulate suffering, but to promote thoughtful engagement with difficult heritage in an age-appropriate and ethically sound way.

Teacher's Question #3: How can teachers use this resource as a stepping stone to show students more of the untold stories of the Holocaust?

Anna Maria Droumpouki's Response: The Block 15 project highlights lesser-known

dimensions of the Holocaust—particularly the experience of Greek Jews, political prisoners, and local resistance fighters. Teachers can use the VR as a gateway to explore other marginalized narratives. For instance, students can be encouraged to research the fate of Jewish communities in Thessaloniki, Corfu, or Rhodes, or to compare Greek experiences to those in Eastern or Central Europe. The VR also offers opportunities to connect with survivor testimonies, historical documents, and broader discussions about memory and trauma. It can inspire inquiry-based projects, such as interviewing local descendants, creating digital exhibits, or studying other forms of Holocaust memorialization. By anchoring a lesson in one powerful immersive experience, educators can then branch out into broader, intersectional histories.

Teacher's Question #4: What is unique about the Greek experience during the Holocaust?

Anna Maria Droumpouki's Response: The Holocaust in Greece has several distinct characteristics. First, the majority of Greek Jews—especially in Thessaloniki—were Sephardic and spoke Ladino, making them culturally and linguistically different from Central European Jewish communities. Second, the deportations began relatively late (1943), and many Jews were deported directly to Auschwitz without passing through intermediate camps. Third, the German occupation of Greece involved multiple zones (German, Italian, Bulgarian), creating complex dynamics of persecution and survival. Finally, many Greek Jews were integrated into local communities, and their erasure left a profound cultural absence. The story of Chaidari, and especially Block 15, encapsulates the intersection of Jewish persecution, political repression, and resistance. This multifaceted history remains underrepresented in international curricula and deserves wider attention.

Teacher's Question #5: What type of research was conducted with students experiencing Block 15 and what are some of the results?

Anna Maria Droumpouki's Response: We conducted preliminary field testing with high

school and university students using the Block 15 VR application in classroom and workshop settings. The research combined quantitative and qualitative methods. Students were asked to complete a short questionnaire measuring engagement, emotional response, historical understanding, and ease of navigation. Additionally, focus group discussions were held after the experience to capture more nuanced reactions. The results were encouraging: over 90% of students described the VR as "very engaging" or "emotionally impactful." Many recalled key details about Chaidari and expressed a desire to learn more about WWII in Greece. Teachers observed heightened attention, emotional investment, and rich classroom discussions following the activity. These findings suggest that the VR not only facilitates learning, but also fosters a deeper emotional connection to history.

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ABOUT THE AUTHOR

I am a Senior Research Fellow at the University of Southern California Center for Advanced Genocide Research in Los Angeles, California (2025-2026). My ultimate goal is to illuminate underexplored aspects of Jewish history in Greece and the broader Mediterranean, ensuring that historical narratives contribute meaningfully to contemporary discussions on memory, identity, and human rights. I am interested in Holocaust memory, memory of Second World War in Greece and in Europe, archival research, oral history, and digital prosopography, particularly in the context of the German occupation of Greece. My own professional development efforts have been focused on integrating historical research with public scholarship and interdisciplinary methodologies to foster a deeper understanding of historical trauma and memory preservation. Outside of my professional pursuits, I enjoy spending time in nature, hiking, and exploring landscapes with historical significance, as well as reading and discussing literature.