

VIRTUAL VISITS AS AN ALTERNATIVE APPROACH TO LEARN URBAN AND ARCHITECTURAL HERITAGE PRESERVATION DURING LOCKDOWN

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Abstract

Among the challenges faced at the university, during the lockdown from mid-March 2020, it was the need to give continuity to the learning of subjects that involve a direct approach to cultural property. In "Architectural History, Theory and Composition 3 - Rehabilitation", undergraduated students of the University of Seville's Degree studies of Fundamentals in Architecture and teachers have practiced new ways of distance learning.

Traditionally, reading and consulting materials are provided in digital formats (catalogues and urban plans, publications on buildings, urban history, cartography). Complementary, the visits of immersion in the heritage reality are especially productive in academic terms. Buildings, spaces, and urban perceptions are identified, so that students develop ways of seeing and recognize their complexity. The social, cultural, artistic, archaeological, landscape dimension prepares preservation or rehabilitation practices. This includes a visit to a qualified sector of the historic centre of Seville. This experience was initially planned to be onsite but due to the pandemic became virtual. The possibilities offered by the digital resources resulted in deeper approaches to other features of cultural property that were not frequently repaired by Architecture students.

Keywords: Cultural property, higher education, heritage, lockdown, virtual visit.

1 INTRODUCTION

After March 2020 lockdown in Spain -and progressively all over the world-, a great challenge came affront the educative community. In the context of higher education, students are supposed to be pretty autonomous in managing digital resources, as well as quite used to searching references on the net with an academic purpose. However, Architecture study programmes still have a great component of recognising the built environment through a personal experience onsite. Architectural History is one of the areas in which study visits become a frequent tool for both teachers and students. Recognizing materials, architectural evolutions and familiarising with urban morphology are relevant assets when working on architectural heritage and cultural property. Though, the impossibility of conducting a physical visit to study sites has contested the way of reprogramming these learning outcomes.

The pandemic situation posed serious challenges to programme delivery and assessment in Higher Education Institutions [1], trying to engage the teachers in a new scenario [2]. The experiences of urgently developing resources for teaching in the lockdown situation have generated a new scenario. Some studies recognize the lack of preparation for off-campus teaching in a massive scale [3] or in situations when presentialism is essential like physical education [4].

Among the objectives of this paper is to explain the immediate response and the search for alternatives to the face-to-face visit, without having the technical tools to formulate an alternative virtual visit. The teaching methodology had to be adapted to these new constraints, as well as it had to maintain the planning of the subject, in order that students achieved the necessary learning results in the three months left to the end of the course.

The present research presents and analyses the results of the teaching methodology conducted in the subject "Architectural History, Theory and Composition 3 - Rehabilitation", undertaken by undergraduate students of the 4th year of the bachelor's in Architecture of the University of Seville. It is necessary to note that this subject takes part only in the second semester of the academic course, resulting in a 37% of in-campus teaching before lockdown and a 63% of distance teaching -live sessions, with interaction of the whole class- due to the sanitary crisis. In this subject, students are asked to develop a practical work on a specific area of the historic centre of Seville. The practices are frequently presented and debated in class and their assessment is based in a continuous evaluation system. Two on-site visits are normally planned to explain and distinguish the most relevant features

of this urban sector and its architecture. The exceptional situation resulted in a hybrid experience, with one study visit before lockdown and one virtual tour from home.

The study case that had been proposed this year was Triana, an urban sector of Seville with a very defined and recognized personality. In the geographical charts elaborated in Europe since the 16th century, it already appears represented and named differently, as another urban nucleus apart from Seville. Its morphology is closely related to the river, acting on its historic right bank as a port district, defensive structure of the historical crossing of the river and with a specializing production in agriculture, ceramics, fishing, trade, and navigation.

For this reason, the historic suburb of Triana is very formative for future architects. In an area of 420.000 square meters, we find concentrated architecture of many periods: Islamic, Gothic Renaissance, Baroque, the historicisms and revivals of the nineteenth century, samples of engineering of iron and reinforced concrete in its two bridges, in addition to the presence of the so-called regionalist architecture and the avant-garde of the modern movement. Its castle, palaces, churches, convents, factories, schools show this rich variety... But it is also rich in vernacular architecture: traditional single-family and collective patio houses, which remind us of the traditional ways of life of the urban Mediterranean culture.



Figure 1. Juan Talavera y de la Vega: *Plano Taquimétrico de Sevilla y sus afueras*. 1890. Archivo Histórico Municipal de Sevilla.

The particular idiosyncrasy of many of its inhabitants, for their distinctive feeling of belonging to something different from Seville, the maintenance of traditional crafts such (with a prominence of pottery), the celebration of festivals and collective rituals, many of them related to the river and its streets and squares, make their intangible heritage very rich.

Numerous buildings are restored and rehabilitated. Its public spaces are celebrated for being places of encounter and socialization, so many people cross the river to enjoy leisure time and the combination of tradition and modernity of the customs of its inhabitants that characterize it. Precisely, it stands out in its relationship with the river, with excellent views of it and the center of Seville, so the landscapes of, and from, Triana are especially valued.

Like the Trastevere in Rome or the Rive gauche in Paris, Triana is the other face of an ancient city, here it is Seville, founded by the Phoenicians and which was for more than two centuries the main port of Spain in its relationship with the Americas.

The objective of studying this urban sector was to motivate a social involvement of students on the problems of the heritage of Triana district and to know in greater depth the field of study of their practical work.

This paper aims to demonstrate how with a simple and accessible technology for all students, and a teaching approach directed according to heritage characteristics, it has been possible to supply, without additional economic costs, without on-site scanning by technicians with specialised equipment or copyrighted material. The pandemic has further revealed the urgent need for academic institutions

to embrace and integrate alternative modes of teaching and learning including social media platforms [5].

In short, it was necessary to resolve the need to learn to characterize, value and catalogue architectural and urban heritage, one of the mandatory skills to practice the profession of architect in Spain, from the impossibility of approaching the physical patrimonial fact.

This paper addresses the approach strategy from distance learning to the level of detail required to a finished work of architectural cataloguing, without the physical approximation of students.

2 METHODOLOGY

Before lockdown, the students had developed a visit to recognize the limits of the study sector and the more general problems of its development, growth and urban renewal. They had already worked in the formal concept of the geometry of the Triana sector and its position next to the river Guadalquivir, with its main streets parallel to the course of the river.

Students had conducted a first phase of work before the health emergency. It was a question of graphically defining, with the support of brief texts, an urban evolution of a diachronic nature, which allowed to know the process of configuration of the sector until reaching the present time and in which the urban limits, the crossing of the river and the structuring axes were its main protagonists.

But, due to the character of that work, at the time of lockdown they were unaware of the internal characteristics of the urban fabric: architectures, voids and urban spaces.

A second visit was missing, which now had to be done remotely. There was an awareness that the virtual visit should highlight aspects not usually detectable in digital materials, so that the teachers' guide would be effective in making such materials and reading available.

The methodology of the preparatory work was based on:

Understanding of the complex heritage reality that had to be transmitted, selecting the main aspects to visitor virtually of this area of Seville. Advanced management of the patrimonial fact, according to the administrative exigencies of the cultural administration, the legal framework and the tools of management.

To generate an attitudinal development on the part of students that is sensitive to the diverse social interests raised by the patrimonial reality of the field of study, that is, Triana.

To articulate the dispersion of materials suitable for making them, considering the availability of different sources, which forces, with the available technical means, to define a process of knowledge and patrimonial valuation parallel to an audiovisual discourse. It was about interacting and making it possible in real time for students and teachers to confront themselves with discourse and instruments. Thus, the visit itself should remain like a for the practice work to be developed.

With a simple technology, depending on the patrimonial characteristics, a virtual visit has been produced, without additional economic costs, nor digitalizations with specialized equipment. Using digital elements combined, we work for more than an immersive virtual tour of a monument [6]: a shared four-hour online urban visit was made by teachers and students. Use was made of documentary and graphic resources and the work of teachers: historical cartography, with the Guadalquivir river as the backbone, approaches to its urban spaces and associated intangible heritage (historical and recent photographs, local videos and foreign production, case of France 3, and its television program "Des racines et des ailes" devoted to "Séville, fille du Guadalquivir").

The experience in developing teaching innovation materials with virtual and augmented reality, including monuments, vernacular architecture, spaces and urban routes, facilitated the task.

New resources have been added to the traditional system of providing students with reading and consultation materials in digital formats on the University's virtual learning platform. In addition to catalogues and urban plans, publications on buildings, urban history, historical cartography, accessible before confinement, added a plus that was reached with the visit of immersion in the heritage reality. The planned visit to Triana, a qualified sector of the historic complex of Seville, was scheduled at the beginning of May, in the third week of lockdown.

The scheduling of a visit identifying buildings, spaces and urban perceptions is a necessary element for students to develop ways of seeing and recognizing the complexity of heritage events, where the

social, cultural, artistic, archaeological dimension, landscape is relevant. He prepares practices of conservation or rehabilitation acquires a special sense of knowledge and responsibility in the application of techniques, in which to train future architects.

Teachers have experience in developing teaching innovation materials based on virtual and augmented reality (Video 360, Panoramic Photography, 3D), for students of Architecture, History of Art or Geography, from a new vision of architectural and urban heritage, including monuments, vernacular architecture and urban spaces and routes. The interaction between junior professors and a senior profesor, in our case, was important in order to plan the virtual visit. As some studies state [7] for early career teachers and more specifically for Architecture studies [8], and avoiding the lack of coordination among teaching staff towards the virtual development of teaching [9].

During lockdown, the university's technical tools were not available to define a digital product that would develop a virtual visit, which would replace the face-to-face visit. Our Architecture library has strengthened in the last years the support for online teaching, according with a more general situation [10].

Instead of Teams or Zoom and other applications to celebrate videoconferences among several attendees, sharing digital material, the official platform of the University of Seville, Blackboard Learn, was chosen. Within it, the teachers worked with the application called Collaborate Ultra, projecting and sharing digital elements of simple production, but combined to produce the effect of a joint visit developed by teachers and students, made virtually for four hours, including a virtual coffee break.

Elements were used in various digital formats such as pptx, pdf, mp4, different online accesses to websites or YouTube, and in particular the use of tools like Arc-GIS. These materials were jointed in synchronous articulation to applications of this type (in addition to the information of platforms such as the Municipal Management of Urbanism of Seville, the databases of real estate of the Andalusian Institute of Historical Heritage, etc.) with the expository discourse that was developed through the platform, which the use of chat and conversations ensured the necessary interaction between students and teachers. This ensured the use of the visit in its own tour.

This made it necessary to verify the ability to communicate graphic and video content from the shared platform with students, providing adequate visualization, for visual and conceptual immersion in the heritage characteristics of the study sector. This is a question that we needed to be perceived by students, in order to become able to systematize the materials.

In this way, the cataloguing of a monumental building or of architecture historically and formally referenceable, that of another representative of vernacular architecture and of a public space, were the operational results of the students.

3 RESULTS

3.1 Developing virtual visits as a teaching tool to experience the built environment from a heritage perspective

Although the research lab to which the teachers of this subject belong has a vast experience in developing virtual materials for the dissemination of heritage works, these tools had always been developed under specifically funded research projects. Among these virtual materials, different approaches had been conducted to cloistered convents, urban itineraries, the Alcazar, the old gates of the city walls, etc., but always with the objective of making heritage more accessible to the general community [11]. Studies on the virtual visit of a 3D model for the perception of ambiances [12] [13], with the help of WebGIS system [14] or with BIM System Server in a VR environment in order to study the state of conservation [15] and modelling specially intended to improve the valorisation of cultural heritage [16] were not disposable for the Triana visit. Our experience was in other areas of Seville, quite different in terms of historic development, experiencing with Augmented and Virtual Reality for learning purposes, exclusively, despite the touristic promotion represents a complementary alternative [17].

The necessity to produce in a short-term consistent materials for a virtual visit to Triana in order to provide the necessary base for students to develop their works, resulted in a quite positive experience. The experience in developing teaching innovation materials with virtual and augmented reality, including monuments, vernacular architecture, spaces and urban routes, facilitated the task. With a simple technology, depending on the patrimonial characteristics, a virtual visit has been made, without

additional economic costs, nor digitalisations with specialized equipment. Using digital elements combined, a shared four-hour online visit was made by teachers and students.

Therefore, documentary and graphic resources available on the Internet and works by the teachers themselves were used. To the development of historical cartography, with the river as the backbone of the sector of Triana that was studied, was added an approach to the reading of its urban spaces and the intangible heritage. The objective was to achieve a social involvement of students on the problem of the heritage of Triana.

Thanks to the possibilities that digital materials offer, historical pictures of the area became relevant sources for the knowledge of the evolution of the urban fabric, its material conditions, as well as the perception of this part of the city and its inhabitants. In a physical visit, contrasting different historic moments of selected urban scenarios is a quite complicated goal that was fully achieved within the virtual tour.

One of the most important features of Triana was really potentiated with the virtual visit, that is, its intangible heritage. Its richness and various characteristics, very rarely associated to an urban district, compose the major identity of the sector. Music, religious processions and other celebrations that temporally, each year, transform Triana, became main actors of the representation of Triana's character, by means of digital materials. Therefore, the visual sources were historical and recent photographs, local videos and foreign production were part of the resources included in the virtual tour. It was particularly revealing the contribution of the materials produced by France 3, and its television program "Des racines et des ailes" ("Roots and wings") dedicated to "Séville, fille du Guadalquivir" ("Seville, daughter of the Guadalquivir").

3.2 Students' learning outcomes after recognizing the historic city through virtual visits

The result was an active interaction of the students during the four hours virtual tour. The work of cataloguing singular buildings and urban spaces, with proposals for their rehabilitation and improvement of their value, including the material settings, data of social association of the inhabitants of Triana (traditional crafts, customs and celebrations) and the impact of tourism was satisfactory. The experience is considered especially positive, due to the level of understanding and involvement of the proposals made, being relevant to help redefine new learning resources on urban heritage with digital technology.

4 CONCLUSIONS

The virtual visit to Triana has supposed a very positive and enriching experience for both teachers and students. The practical works conducted reflect a deep comprehension of the main heritage features of the Seville sector, achieving quite good results by the students. Their proposals highlight the necessary implication of future architects to improve the urban environment studied and the enhancement of its heritage values.

The virtual visit has been especially relevant to help redefine new formats of learning resources on urban heritage, in future situations of normality, with all the means of available technology.

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