



DIGITISATION OF CULTURAL HERITAGE AS A DIDACTIC METHODOLOGY The Case of the Students' Residence

RAFAEL CONDE MELGUIZO ¹, JESSICA BLANCO MARCOS ¹

¹ UDIT – Universidad de Diseño, Innovación y Tecnología, España

KEYWORDS

Digital heritage
Digital culture
Educational innovation
Artificial intelligence
Cloud services
Interactive technologies

ABSTRACT

The New Urban Agenda by UN-Habitat sets the goal of protecting and safeguarding the world's cultural and natural heritage, especially local and regional heritage at risk of being marginalised in the face of global acculturation trends. Aware of the increasing heritage consultations on digital platforms and the conservation opportunity that this format implies, UNESCO drafted in 2015 the UN Recommendation on the Preservation of and Access to Documentary Heritage included in digital form. This article proposes leveraging this process for the educational use of digitised heritage. The design of educational activities included in the editorial heritage digitised by the Residencia de Estudiantes by the PLATA project of UDIT university is proposed as a standard, incorporating artificial intelligence tools and cloud services that allow for a deeper understanding of its educational use by exploiting the possibilities that digitalization allows.

Received: 12 / 11 / 2024

Accepted: 15 / 01 / 2025

1. Introduction

According to data published by UN-Habitat, there are almost 2,000 metropolitan areas worldwide in which one third of the world's population currently resides. The data further predicts that by 2035, the majority of the world's population will be concentrated within metropolitan areas (UN-Habitat, 2020). In light of these figures, UN-Habitat perceives urbanisation as a conduit for advancing the sustainable development agenda. However, the institution cautions that inadequate planning can intensify numerous challenges it seeks to address. In order to assist state, regional and local governments in the management of increasing urbanisation, UN-Habitat developed the New Urban Agenda in Quito, Ecuador, on 20 October 2016. The United Nations General Assembly endorsed the Agenda at its sixty-eighth plenary meeting of the seventy-first session on 23 December 2016 (UN, 2016). The document establishes a clear continuity with the Habitat Agenda, which was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat II) in 1996. It also provides a definition of the New Urban Agenda, Habitat III (UN, 2017).

1.1. *The New Urban Agenda and Education*

The United Nations New Urban Agenda (hereafter referred to as the UN) is a published resource for accelerating change in cities, based on science and evidence (UN, 2017). Specifically, the New Urban Agenda is regarded as an accelerator of the Sustainable Development Goals, particularly SDG11: Make cities and human settlements inclusive, safe, resilient and sustainable (UN, 2024). The New Urban Agenda is designed for universal application, acknowledging that while cities face similar challenges, these vary according to geographical location. In order to coordinate its claim to universality and the diverse regional realities, the New Urban Agenda presents a long-term vision, sets priorities, proposes actions and provides tools that can be applied at regional, national, sub-national and local levels. The catalogue is divided into three main axes:

- I. The core dimensions. The following cross-cutting objectives are necessary to achieve sustainable urban development:
 - a. Social sustainability.
 - b. Economic sustainability.
 - c. Environmental sustainability.
 - d. Spatial sustainability.
- II. Means of implementation. These are further subdivided into intervention mechanisms, which are methods for cities to operationalise strategies to achieve objectives; and functional planning areas, which include concrete measures to guide actions. The latter are further subdivided into the following categories:
 - a. Hard measures for infrastructure and services.
 - b. Soft measures for culture, education, health and urban safety.
 - c. Measures in the field of technology and innovation.
- III. Mechanisms for the follow-up and review of the New Urban Agenda. These mechanisms encompass guidelines for national reporting, delineating the structure to be followed and the designated individuals responsible for their preparation. They also facilitate accountability to the UN for the implementation of the agenda (UN, 2020).

1.2. *Soft Measures for Culture and Education*

The soft measures delineated in the New Urban Agenda are predicated on the principle of understanding culture as a direct input that contributes to the asset base of any city (UN, 2020). From this perspective, cities are understood as a cultural construction, where structures and spaces relate to social fabrics (World Bank, 2019). Based on this approach, UNESCO has defined three approaches to culture-based urban development:

- People-centred cities are culture-centred cities.
- Place-based urban planning incorporates local history and culture.
- Integrated policies use culture as a tool for sustainability. (UNESCO, 2016)

The New Urban Agenda proposes a series of cultural soft measures that focus on identifying cultural resources in the urban community, raising public awareness of these—including heritage—and integrating values-based conservation projects. In terms of education, the soft measures adopt the

standpoint that education is a universal right that should be regarded as a public good, as access to education is a matter of equity and is associated with the learning environment (UN, 2020).

The educational proposal outlined in this text is intrinsically linked to the soft measures delineated within the framework of implementation. This proposal is part of a broader project entitled Proyecto de Digitalización de Archivos con Tecnología interactiva (Archive Digitisation Project with Interactive Technology. PLATA), which aims to digitise archives using interactive technology. The PLATA project is the brainchild of the research group of Tecnología e Innovación desde y para la Cultura, Educación y Sociedad (Technology and Innovation from and for Culture, Education and Society. ECSIT) at the University of the Basque Country (UDIT). The project is funded by the Residencia de Estudiantes (Students' Residence), an organisation affiliated with the Consejo Superior de Investigaciones Científicas de España (Spanish National Research Council). The proposal aligns with soft cultural measures by identifying a regional heritage, preserving it through digitisation, and making it accessible to the public through a design incorporating interactive technologies, archival consultation, and artificial intelligence. Furthermore, it is notable that the project has been integrated with educational measures, incorporating didactic activities within the digitised objects, thereby facilitating their unrestricted utilisation within educational frameworks.

This article puts forward the educational work undertaken by the PLATA project as a paradigm for the utilisation of the Residencia de Estudiantes in Madrid's heritage in educational settings. It advocates the incorporation of interactive technologies, cloud-based archival consultations, and artificial intelligence as educational instruments in the digitisation process. This approach is proposed as a means to advance measures 2.3.1 and 2.3.2 of the New Urban Agenda of UN-Habitat.

1.3. The Students' Residence

The Students' Residence, which was inaugurated on 1 October 1910 under the direction of Alberto Jiménez Fraud, was part of the Board for the Advancement of Studies and Scientific Research (Junta para Ampliación de Estudios e Investigaciones Científicas. J.A.E.), a public body founded in 1907, presided over by Santiago Ramón y Cajal and guided by José Castillejo. As stated on the Residence's website (n.d.), its objective was to establish a stream of scientific communication with the most advanced countries, by sending professionals to train abroad and promoting the establishment of new scientific and educational institutions in Spain. Consequently, both initiatives were the product of Francisco Giner de los Ríos and collaborators of the Free Teaching Institution (Institución Libre de Enseñanza), a private organisation that pursued the modernisation of Spanish society through education, science and culture.

The Students' Residence, modelled after British colleges, had the following goal:

To complement university education by creating an intellectual environment conducive to student interaction and learning. Distinctive features of the Students' Residence included fostering an ongoing dialogue between the sciences and the arts and serving as a hub for the reception of international avant-garde movements. This made the Students' Residence a focal point for the dissemination of modernity in Spain, and many of the most prominent figures in 20th-century Spanish culture emerged from among its residents. (*Residencia de Estudiantes*, n.d., n.p.)

It is from this institution that notable figures such as Federico García Lorca, Salvador Dalí, Luis Buñuel and Severo Ochoa emerged, and it also served as a meeting point for visitors or residents including Miguel de Unamuno, Manuel de Falla, Alfonso Reyes, Juan Ramón Jiménez, José Ortega y Gasset, Pedro Salinas, Blas Cabrera, Rafael Alberti and Eugenio d'Ors, among others. According to García de Valdeavellano (1976), one of the main characteristics of the Students' Residence was that some of the most eminent figures in science, literature and the arts of the time passed through, resided in and gave lectures at the institution. Consequently, the Residence functioned as a forum for debate and dissemination of European intellectual life, particularly during the inter-war period, with renowned figures such as Albert Einstein, Paul Valéry, Marie Curie, Igor Stravinsky, John M. Keynes and Le Corbusier delivering guest lectures.

The establishment of this environment, as Ribagorda (2008) observes, has been shown to have a profoundly stimulating effect. It has been demonstrated that this environment not only provides an

exceptional space for intellectual sociability in Madrid but also exerts a considerable influence on the intellectuals of the Silver Age and their role in the transformation of Spanish society. Thus, from a modest library offering intimate talks to residents, one moves on to small conferences, literary readings and, later, larger-scale events involving a programme of cultural activities that make the Residencia a window onto Europe as the main cultural centre of the Silver Age. Olaya Villar (1991) emphasises how, thanks to the Residence's lectures, cultural exchanges took place with Portugal and Italy, and later the Society of Courses and Conferences was set up in order not to limit cultural exchanges to England. Concurrently, the Residence undertook scientific institutionalisation endeavours through the establishment of research institutes and laboratories, with the dual objectives of promoting practical university teaching and initiation to research and fostering the experimental mentality and enhancing the training of students in the initial years of medicine, as exemplified by the histology laboratory (Barona, 2007). Furthermore, in 1913, the institution established its own publishing house, whose production served as a symbol of scientific spirit and cultural and teaching work, and whose objectives were to publicise the work of the residents: As stated by Ribagorda (2007, p. 60), "The publications of the Students' Residence arose with the aim of broadening the channels of dissemination and the area of influence of its pedagogical and cultural project".

Following the exile of the Spanish dictator Franco, the Students' Residence did not resume its activities until 1986. However, it has since become a prominent institution on the Spanish cultural scene, offering a diverse programme of public events featuring prominent figures from the arts and sciences of recent decades. The residence also hosts researchers, artists and professionals, and conducts various research projects. These research projects fall into two main categories: the study and dissemination of the historical legacy and the analysis of current trends in thought; the recovery of its publishing house; the integral architectural rehabilitation of the Residence and the Documentation Centre (Residencia de Estudiantes, n. d. a). Specifically, the Documentation Centre is home to one of the most valuable bibliographic and documentary collections of contemporary intellectual history and science, particularly with regard to the first third of the 20th century in Spain and Europe.

The importance of the recovery, digitisation, dissemination and dissemination of this cultural legacy is therefore paramount and is in line with the Residencia's leadership in the project for the digitisation of the Network of centres and virtual archive of the Silver Age of contemporary Spanish culture (1868-1936). This archival recovery work is consistent with the European Union recommendation 2021/1970 of the Commission of 10 November 2021 on a common European data space for cultural heritage, which establishes that cultural heritage is a fundamental component in the construction of a European identity based on shared values and for the economic development of the region (Conde Melguizo and Blanco Marcos, 2024).

2. Objectives and Methodology

In its public information, UNESCO considers digital education to be one of the fundamental tools for ensuring education as a basic human right (UNESCO, 2024). The organisation provides support to its Member States in the design, integration and implementation of effective national education policies and plans for digital learning, with a focus on ensuring that activities at the national level respond to the needs of each country and community, with particular attention to disadvantaged populations. To this end, it has developed the UNESCO Strategy on Technological Innovation in Education, which includes the objectives of the PLATA project to digitise the editorial collection of the Students' Residence in collaboration with the UDIT university.

UNESCO is also developing an international effort for the preservation of cultural heritage in digital format. Recognising the increasing use of digital platforms for the consultation of cultural heritage and the opportunities for its preservation that this format presents, the United Nations Recommendation on the Preservation of and Access to Documentary Heritage in Digital Form was drafted in 2015. This recommendation establishes the framework for this work and builds upon the 2009 UNESCO Charter on the Preservation of Digital Heritage.

In this context, the ECSiT research group at UDIT University has initiated the DEED research line, focusing on the design of virtual spaces for educational and dissemination purposes (Conde Melguizo et al., 2024). This research line now has the opportunity to expand its objectives and apply this knowledge in collaboration with the Students' Residence through the PLATA project.

2.1. Objective of the SILVER Project

The PLATA project has been developed to digitise the editorial collection of the Students' Residence with the objective of producing educational prototypes for use as teaching material in secondary, baccalaureate and university level education, both in the classroom and for independent research projects at all levels, including final degree projects and doctoral theses. The project offers the opportunity to digitise the editorial collection in a modern and enduring interactive format in accordance with the current uses of the new generations and facilitating the work of consultation and reading through the use of interactive technologies, relational databases by meta tags, extended interfaces, inclusion of multimedia materials (video, audio, etc.) and inclusion of geolocation, among other possibilities. These prototypes will empower teachers, students and researchers to access the collection from any global location in a significantly more comprehensive manner than accessing a PDF (although this will remain an option).

It is important to acknowledge that the impending legislative developments in the Spanish education sector, as outlined in Organic Law 3/2020 of 29 December, which amends Organic Law 2/2006 of 3 May on Education (LOMLOE), will necessitate institutions to adopt this approach. The Organic Law 3/2020 of 29 December, which amends the Organic Law 2/2006 of 3 May on Education, approved in 2021 (LOMLOE), and which regulates the Spanish education system, retains Digital Competence as one of the seven key competences that all students must attain in the compulsory stages and which must be worked on in all subjects in a cross-cutting manner. The initial compulsory descriptor for all students who have completed compulsory education in Spain is centred on this competence: "Performs Internet searches in accordance with criteria of validity, quality, timeliness and reliability, selecting the results critically and filing them, in order to retrieve, reference and reuse them, respecting intellectual property" (BOE, 2020). In the context of higher education, Royal Decree 822/2021 of 28 September, which establishes the organisation of university education and the procedure for quality assurance, establishes the guiding principles of university curricula and highlights in its preamble the need for reform of the university system due to social changes that "have been driven by the technological revolution that has brought innovation in information and communication systems through digitalisation" (BOE, 2021).

2.2. Teaching Methodology

The PLATA project, which aims to digitise the editorial collection of the Students' Residence, is driven by three converging trends: UNESCO's international endeavour to establish digital teaching and the digitisation of cultural heritage; the interest of the ECSiT group of the UDIT university to take the lead in research and development on cultural digitisation; and the Spanish legislative framework that encourages the establishment of virtual educational spaces that facilitate the realisation of objectives established in secondary and higher education, including research work. The didactics team combines these three fronts in the creation of specific activities associated with the contents proposed in the different chapters of the digitised books as part of the PLATA project prototype. Consequently, practical exercises are proposed whose objectives are achieved by working on the three types of intelligence identified in R. J. Sternberg's model (1997): analytical, creative and practical. The activities are designed to consolidate the biographical knowledge of the selected authors, and to facilitate the learning of their relevant works and academic-scientific production. The activities have been adapted for both Compulsory Secondary Education (Educación Secundaria Obligatoria. E.S.O.) and Baccalaureate, as well as for university. To this end, they are accompanied by a pedagogical note in which each proposal is framed with the corresponding current regulations, thus facilitating teaching work by linking the blocks, specific competences, assessment criteria, competence descriptors of the exit profile and basic knowledge; and also allowing their adaptation from Secondary and Baccalaureate classes to university classes, also linking minimum requirements, contents and general competences.

Concurrently, this pedagogical annotation offers directives for the execution of the proposed activities, in addition to recommendations concerning the didactic content to be addressed in advance, potential groupings, ICT instruments, AI knowledge, and pertinent active methodologies to facilitate

instruction. Consequently, the PLATA project is concerned not only with the digitisation and dissemination of these materials of the country's cultural heritage, but also with the provision of three different roles of access to it: students, teachers and researchers/readers. Thus, the level of information available is linked to the particular needs of each individual. To illustrate this, one may consider the case of researchers/readers, who can only consult the digitised book and other documents linked to it through cross-consultation of the archive. By contrast, students are able to view both the contents of each book and the activities available. Teachers, for their part, in addition to the above, have access to the pedagogical note to help with the implementation of the materials.

3. Results

3.1. Activities Creation Table

The following table provides a summary of one of the didactic proposals for working with the character of Juan Ramón Jiménez. The table exemplifies Sternberg's three types of intelligence, what each of them consists of and the activities proposed in this regard. It demonstrates work at different levels, from the specific book and access to the Residence's digitised archive, to the use of an artificial intelligence trained exclusively with the materials available at the Residence. This artificial intelligence also produces the relevant references in APA 7th edition, in order to ascertain the source of the corresponding information. In order to ascertain the provenance of the relevant information.

Table 1. Summary of didactic proposal

Intelligence according to Sternberg	Target	Example of proposed activities	Materials
Analytical intelligence	Interact with the textbook and the online archive to obtain the necessary information.	In groups of 4-5 students read chapter 7 El regreso a Moguer from the Álbum Juan Ramón Jiménez. Draw up an outline with biographical data and stylistic features of this period. Expand with information available in the Residencia's archives.	Book Álbum Juan Ramón Jiménez and the Residencia's archive
Creative intelligence	Ask students to draw up proposals for solving a problem.	With the above information and previous knowledge of the analysis and commentary of poetic texts, analyse "La carbonerilla quemada" from the poetry collection Historias. After reading, interpreting and analysing the poem, share the conclusions of each group with the rest of the class.	Book Álbum Juan Ramón Jiménez, poem, 2nd Bacca. textbook and Residence archive.
Practical intelligence	Use what has been learned in the previous points for the creation of a deliverable supported by the use of AI.	In the same groups, consult the AI to create a glossary with the most used/frequent words in the language of Juanramon, take a sample to create a replica of the poem while maintaining the structure and theme. Recite the resulting compositions and discuss with the class group the characteristics and differences of the resulting poem.	AI trained with digitised materials from the Residence's archive

Sources: own authorship, Blanco Marcos, J. and Conde Melguizo, R. 2024.

3.2. Example of an activity Included in the SILVER Prototype

A significant strength of the PLATA project is its potential for implementation in educational settings. The proposals created for the prototype serve as teaching support in secondary and high school, as well as at university. This support is twofold: it deepens the curriculum and broadens transversality and the

canon itself. The absence of inclusivity, both in regulations and in curricula, textbooks and classrooms, is abundantly evident. A salient criticism of this state of affairs pertains to the conspicuous absence of women from the curriculum and, by extension, from teaching materials and classrooms. The digitisation of the Residence archives and the didactic proposals derived from them offer a potential solution to address these deficiencies. This can be achieved by incorporating the subjects of Spanish Language and Literature and History, thereby including the Residence for Young Ladies and the Sinsombrero, the female Generation of '27, as well as in a transversal manner, encompassing contents of Physics and Chemistry or Economics, for instance, when exploring the figure of Marie Curie.

Accordingly, the book *Scientific Creators: Physics in the Students' Residence [1910-1936] (Creadores Científicos: la física en la residencia de estudiantes [1910-1936])* (2013), which deals with a series of lectures given at the Residence, as well as various scientific articles, a battery of activities is proposed around the figure of Marie Curie. These activities include the composition of newspaper articles to publicise her life and work, the production of infographics and posters on entrepreneurship in science on the occasion of the International Day of Women and Girls in Science, and so forth. The proposal includes finding correlations between the biography of the chemist and the novel *The Ridiculous Idea of Never Seeing You Again (La ridícula idea de no volver a verte)* (2013) by Rosa Montero and completing it with her own fictionalised autobiography, or searching the Digital Newspaper Library of the National Library of Spain for the repercussions that the visit of Marie Curie to Spain and her stay at the Residencia de señoritas had in the press. This approach is designed to promote the expansion of the curriculum and the canon, utilising digital tools and active methodologies that encourage student motivation, employing cross-information searches and promoting the appropriate use of AI in the classroom. The overarching objective of these initiatives is to recover heritage and facilitate a more comprehensive, interdisciplinary and inclusive education for students.

Upon opening the prototype of the *Scientific Creators* book, it is possible to navigate directly to the Marie Curie chapter through an interactive pop-up index.

Image 1. Prototype interface.

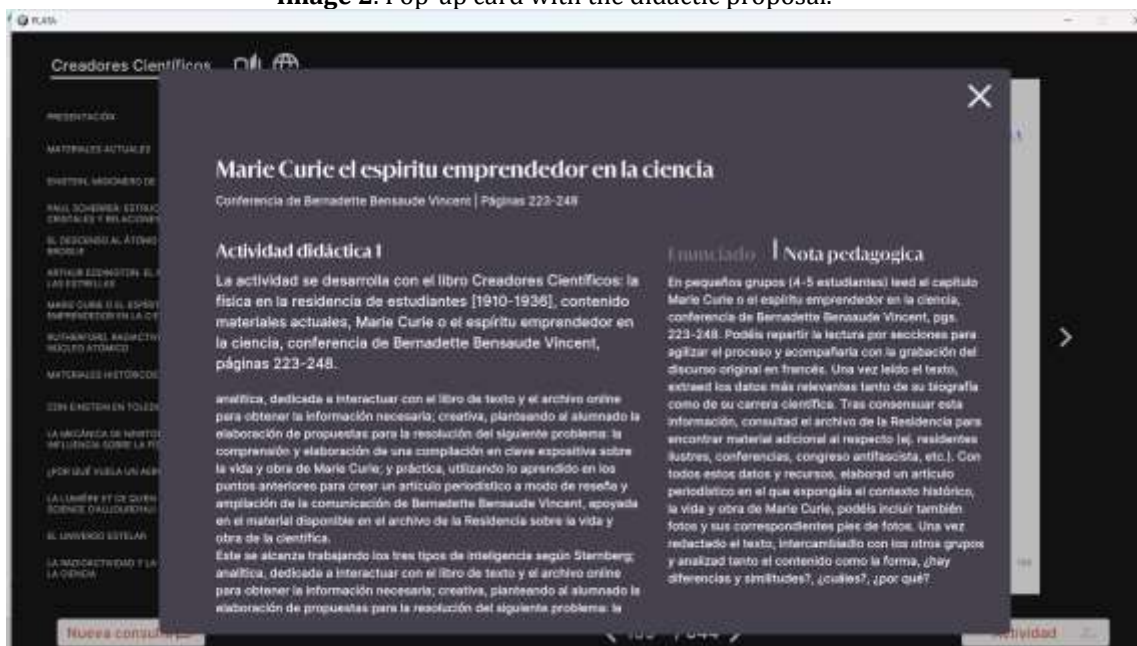


Source: PLATA prototype on *Creadores Científicos. La física en la Residencia de Estudiantes [1910-1936]* (2013), VV. AA.

Upon entering the designated chapter, the didactic activity recommended by the prototype is accessed. In this instance, the activity is displayed as it would appear to the teacher, as this is the method by which all the relevant information can be accessed. This includes the description of the

activity, the statement, and the pedagogical note. In the case of the students, they would obtain only the statement.

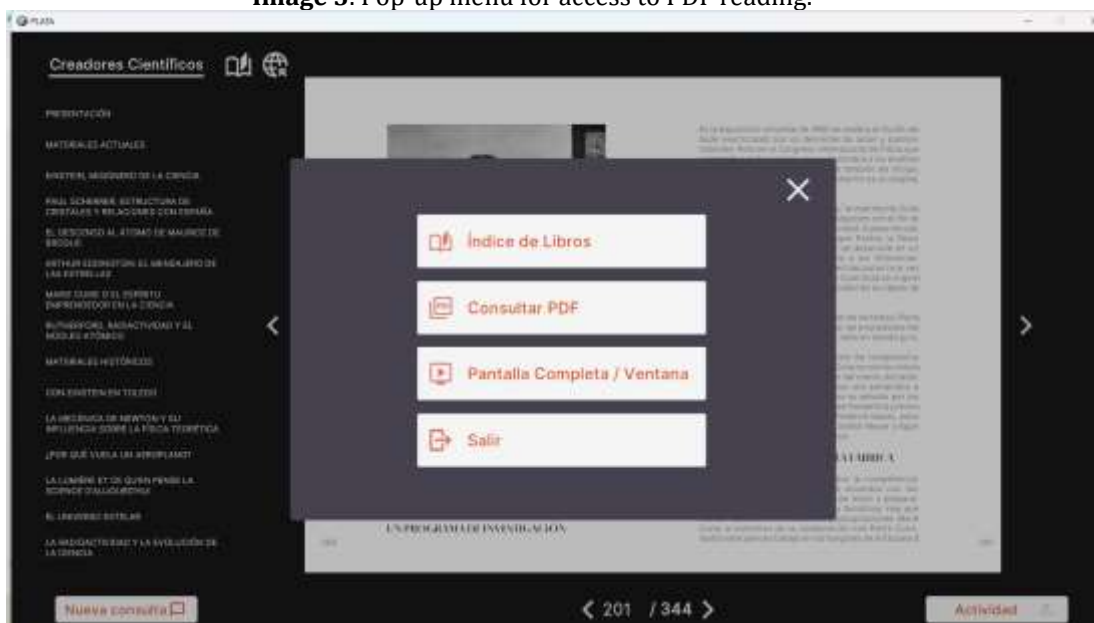
Image 2. Pop-up card with the didactic proposal.



Source: PLATA prototype on *Creadores Científicos. La física en la Residencia de Estudiantes [1910-1936]* (2013), VV. AA.

In the initial segment of the activity entitled 'Marie Curie: The Entrepreneurial Spirit of Science', students are required to peruse specific pages that have been designated for this purpose. These pages can be read in the interactive environment of the prototype or, if necessary to facilitate reading, in the PDF, which should always be accessed from the menu to avoid accessibility problems, facilitating the universal design criteria set out in the LOMLOE (BOE, 2020).

Image 3. Pop-up menu for access to PDF reading.



Source: PLATA prototype on *Creadores Científicos. La física en la Residencia de Estudiantes [1910-1936]* (2013), VV. AA.

Image 4. PDF obtained from the interactive application.



Source: PLATA prototype on *Creadores Científicos. La física en la Residencia de Estudiantes [1910-1936]* (2013), VV. AA.

The subsequent phase of the proposed activity necessitates access to the archives of the Students' Residence. Access to these archives is facilitated by a book, which is connected through an API to the digital archives located on the Residence's servers. In this particular instance, the objective is to access the video recording of the lecture entitled "Marie Curie ou l'esprit d'entreprise en science". The file that presents the conference contains the date, the speaker and the cycle to which it belongs. This facilitates the exploration of the archive for new material, thereby enabling researchers to extend their research beyond the immediate context of the activity.

Image 5. Pop-up file with video content in the Residencia de Estudiantes archive.



Source: PLATA prototype on *Creadores Científicos. La física en la Residencia de Estudiantes [1910-1936]* (2013), VV. AA.

Following the completion of the indicated reading and consultation of the relevant documentation, the activity involves the composition of a journalistic text, with the objective of facilitating a more in-

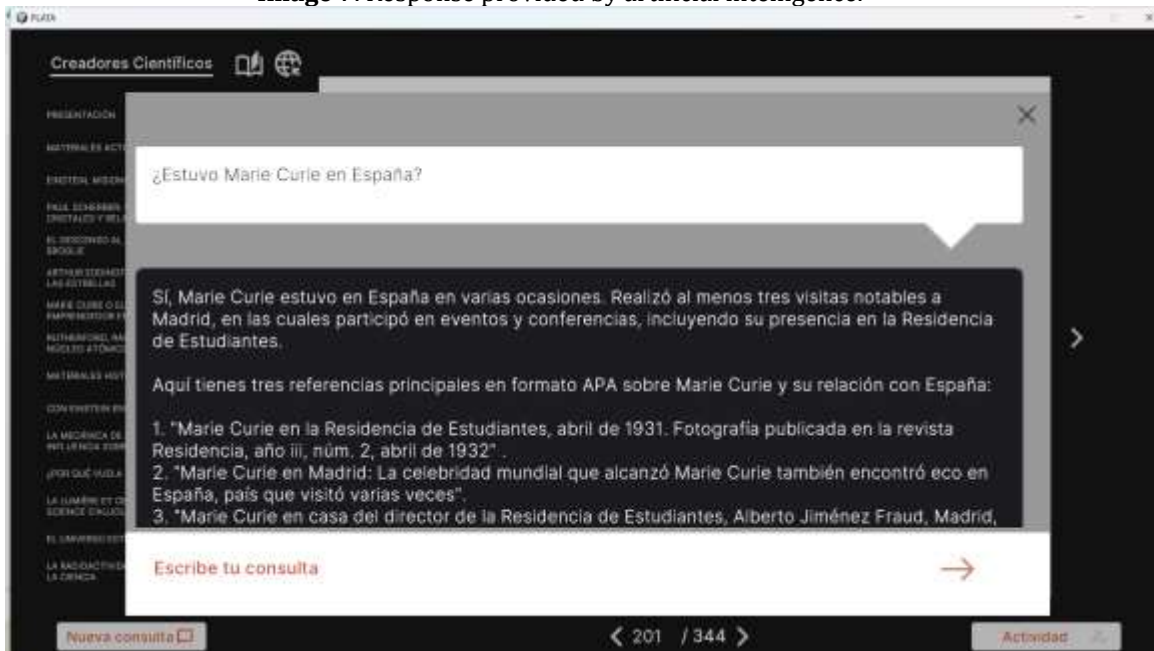
depth investigation by the students. In this step, the prototype offers the support of artificial intelligence (AI). By posing inquiries to the prototype's integrated question-asking functionality, students can solicit responses from an AI that undertakes its information gathering exclusively from the primary sources meticulously curated by the Students' Residence archive. This approach ensures the reliability of the AI's output, thereby mitigating the risk of disseminating hoaxes or misinformation. Furthermore, the AI systematically includes the sources from which it derives its answers, enabling users to verify or expand upon the information received.

Image 6. Artificial intelligence query form.



Source: PLATA prototype on *Creadores Científicos. La física en la Residencia de Estudiantes [19010-1936]* (2013), VV. AA.

Image 7. Response provided by artificial intelligence.



Source: PLATA prototype on *Creadores Científicos. La física en la Residencia de Estudiantes [19010-1936]* (2013), VV. AA.

In this particular usage scenario, it is evident that the proposed functionalities that extend beyond the scope of a mere digital twin are fulfilled. These functionalities include the use of interactive technology, the ability to consult files in the cloud without the need to leave the digitised object, and the capacity to utilise artificial intelligence.

4. Discussion

The potential for acculturation, as denounced by UNESCO, is a matter of concern. This is primarily due to the dominance exerted by a small group of companies over the primary digital tools. These companies are further distinguished by the fact that they share a common geographical and cultural origin. To counteract this, it is imperative to prioritise the digitisation of local and regional heritage. The editorial and archival heritage of the Students' Residence serves as a prime example of a regional cultural treasure of significant value, which can be rendered more accessible through the possibilities offered by digitisation. This process would allow it to be placed within the reach of new generations, alongside the prevailing cultural macro-trends of global digital platforms. A potential approach to leveraging this opportunity is the didactic utilisation of its editorial collection through a digitisation process that transcends the concept of the digital twin, incorporating the use of interactive technologies, cloud-based archiving, and artificial intelligence applied to primary and verified sources. The prototypes developed by the PLATA project have demonstrated the technical feasibility of this type of digitisation, including the design of didactic activities to facilitate the use of these digital objects in the classroom by teaching staff and to help improve and renew the content of the curriculum.

Consequently, one of the opportunities offered by the methodology used in the PLATA project as a conservation strategy is the range of possibilities it offers to make room for underrepresented figures in cultural heritage. This methodology has been employed to address the underrepresentation of women in various fields, including architecture, painting, music, literature, design, film, and theatre. This methodology aims to address this imbalance by ensuring that these illustrious women, those who have been overlooked due to gender-related issues, are given the recognition and space they deserve in both educational settings and historical discourse. Recent research has highlighted the need for this approach (see López-Navajas, 2016, 2021; Oñoro, 2022). The Guadarrama Group (n.d.), comprised of Ángeles Bengoechea, Guadalupe Jover, Rosa Linares and Flora Rueda, who are teachers of Spanish Language and Literature, openly share on their website didactic sequences aimed at promoting critical reading in Secondary Education and literary constellations to bring Universal Literature content to Baccalaureate students. These constellations include figures such as Virginia Woolf, Rosario Castellanos and Fatima Mernissi. Building upon the foundational work of these educators, Blanco Marcos (2021) has developed an investigative study that delves into the challenges confronting the Spanish literary canon. This study meticulously unpacks the systemic exclusion of women and puts forward innovative strategies for the recovery and preservation of their literary contributions. The study is accompanied by a concise analysis of a selection of secondary school textbooks and a novel proposal that employs the very same resource as the Guadarrama Group, the literary constellations, to work with authors such as Concha Méndez, Josefina de la Torre, Ernestina de Champourcín and to relate their work with the artistic production of Maruja Mallo, Margarita Manso or Marga Gil Roësset, as exponents of the Generation of '27 and the Sinsombrero. The efficacy of this research and its associated approaches is enhanced through their integration into the classroom environment, where they are met with a high level of acceptance by students, as evidenced by the active engagement and the production of student works. Furthermore, as previously mentioned, these projects can be employed in university classrooms in other contexts, such as the teaching of Spanish as a Foreign Language (Español como Lengua Extranjera. ELE). In this context, Blanco Marcos (2018) has asserted the significance of literature in ELE classrooms through an action-research project conducted with American university students. The utilisation of literary fragments from youth literature, such as Laura Gallego García's *Dos velas para el diablo* (2008), has been advocated to promote aspects such as reading comprehension, motivation, and in-depth knowledge of the language and culture. This approach has been shown to counteract the tendency to exclude literature in classes that tend to do so. The examples provided demonstrate the potential of this type of project, and the methodology developed in the case of PLATA, to redirect dissemination, access, teaching and heritage towards topics that are critically relevant but less represented, such as the issue of gender.

It is important to note that the PLATA project is intended to serve as a model for future projects that address the digitisation of heritage. The experience accumulated in PLATA cannot be regarded as a use case, but rather as knowledge that can be exported to new initiatives that wish to activate soft measures for culture, education, health and urban safety in order to advance the means of implementation of the New Urban Agenda. Specifically, the project aims to combat global acculturation processes by facilitating access to regional and local heritage through digitisation and the utilisation of tools such as interactive technologies, cloud-based archiving, and artificial intelligence.

5. Acknowledgements

This text was written within the framework of the PLATA Project (Proyecto de digitalización de Archivos con Tecnología interactiva/Archive Digitisation Project with Interactive Technology), developed jointly by the Residencia de Estudiantes de Madrid and the ECSiT research group on (Tecnología e Innovación desde y para la Cultura, Educación y Sociedad/Innovation and Technology from and for Education, Culture and Society) of UDiT (Universidad del Diseño, Innovación y Tecnología/University of Design, Innovation and Technology).

References

- Banco Mundial. (April, 17th 2019). *La transformación estructural puede convertir a las ciudades en motores de prosperidad*.
<https://www.worldbank.org/en/news/feature/2019/04/17/transformación-estructural-puede-convertir-ciudades-en-motores-de-prosperidad>
- Barona, J. L. (2007). Los laboratorios de la Junta para Ampliación de Estudios e Investigaciones Científicas (J.A.E.) y la Residencia de Estudiantes (1912-1939). *Asclepio. Revista de Historia de la Medicina y de la Ciencia*, LIX(2), 87-114. <https://doi.org/10.3989/asclepio.2007.v59.i2.233>
- Blanco Marcos, J. (2018). Un proyecto de investigación-acción con literatura juvenil española. In C. González Casares (Ed.), *Literatura en la clase de español* (pp. 56-75).
- Blanco Marcos, J. (2021). La feminización del canon en Secundaria: constelaciones literarias. In M.C. López Esteban (Ed.), *Innovación en la Formación de los Futuros Educadores de Educación Secundaria para el Desarrollo Sostenible y Ciudadanía Mundial* (pp. 365-375). Ediciones Universidad de Salamanca.
- BOE. (2020). Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación. *Boletín Oficial del Estado*(340), 122868 a 122953. <https://www.boe.es/buscar/doc.php?id=BOE-A-2020-17264>
- BOE. (2021). Real Decreto 822/2021, de 28 de septiembre, por el que se establece la organización de las enseñanzas universitarias y del procedimiento de aseguramiento de su calidad. *Boletín Oficial del Estado*(233). <https://www.boe.es/buscar/act.php?id=BOE-A-2021-15781>
- Conde Melguizo, R.; Blázquez Piñeiro, F.; Serrano Archila, J.A.; & Nogueira Iglesias, P. (2024). Proyecto DEED para el diseño de espacios virtuales para objetivos educativos y de divulgación científica y cultural. *III Foro de Investigación en Diseño, organizado por la Universidad de Palermo*. Palermo (Argentina).
- Conde Melguizo, R. & Blanco Marcos, J. (2024). *Recuperar el espíritu de la Residencia de Estudiantes a golpe de clic*. The Conversation. <https://theconversation.com/recuperar-el-espíritu-de-la-residencia-de-estudiantes-a-golpe-de-clic-232882>
- García de Valdeavellano, L. (1976). La “Residencia de Estudiantes” y su obra. *Revista de educación*, 243, 55-63.
- Grupo Guadarrama. (s.f.). *Constelaciones literarias*. <https://sites.google.com/view/constelaciones-literarias>
- López-Navajas, A. (2016). *Las mujeres que nos faltan. Análisis de la ausencia de las mujeres en los manuales escolares*. [Tesis doctoral] Universitat de València. RODERIC.
- López-Navajas, A. (2021). *Aprender con referentes femeninos. Un legado cultural para la igualdad*. SM
- Olaya Villar, M. D. (1991). Alberto Jiménez Fraud y la Residencia de Estudiantes. *Ensayos: Revista de la Facultad de Educación de Albacete*, 5, 101-110.
- ONU. (2016). *Resolución aprobada por la Asamblea General el 23 de diciembre de 2016*. (A. G. Unidas, Ed.) <https://documents.un.org/doc/undoc/gen/n16/466/60/pdf/n1646660.pdf>
- ONU. (2017). *Nueva Agenda Urbana* (Vol. A/RES/71/256). Secretaría Habitat III. Naciones Unidas. <https://onu-habitat.org/images/Publicaciones/Nueva-Agenda-Urbana-Ilustrada.pdf>
- ONU. (2020). *La Nueva Agenda Urbana* (Vols. 978-92-1-132869-1). ONU-Habitat.
- ONU. (2024). *Objetivos y metas de desarrollo sostenible*. <https://www.un.org/sustainabledevelopment/es/cities/>
- ONU-Habitat. (2020). *Catálogo de servicios de ONU-Habitat 2020*. UN-Habitat. <https://unhabitat.org/es/2020-catalogue-of-services>
- Oñoro, C. (2022). *Las que faltaban. Una historia del mundo diferente*. Taurus.
- Recomendación (UE) 2021/1970 de la Comisión de 10 de noviembre de 2021 relativa a un espacio común europeo de datos para el patrimonio cultural. (2021). *Diario Oficial*, L 401, 5-16.
- Residencia de Estudiantes. (s.f.a.). *La Residencia: Etapa histórica*. <http://www.residencia.csic.es/pres/historia.htm>
- Residencia de Estudiantes. (s.f.b). *La Residencia Hoy*. <http://www.residencia.csic.es/pres/hoy.htm>

- Ribagorda, Á. (2007). Las publicaciones de la Residencia de Estudiantes. *Iberoamericana VII*(25), 43-64. <https://doi.org/10.18441/ibam.7.2007.25.43-64>
- Ribagorda, Á. (2008). *La Residencia de Estudiantes. Pedagogía, cultura y proyecto social*. [Seminario de investigación del Departamento de Historia Contemporánea]. Universidad Complutense de Madrid. <https://hdl.handle.net/10016/32627>
- Sternberg, R. J. (1997). *Successful Intelligence*. Plume.
- UNESCO. (2016). *Cultura: futuro urbano. Informe global de cultura para el Desarrollo Urbano Sostenible*. París.: UNESCO.
- UNESCO. (2016). *Recomendación relativa a la preservación del patrimonio documental, comprendido el patrimonio digital, y el acceso al mismo*. Obtenido de <https://www.unesco.org/es/legal-affairs/recommendation-concerning-preservation-and-access-documentary-heritage-including-digital-form>
- UNESCO. (2021). *Estrategia de la UNESCO sobre la Innovación Tecnológica en la Educación (2022-2025)*. Consejo ejecutivo 212a reunión. Obtenido de https://unesdoc.unesco.org/ark:/48223/pf0000378847_spa
- UNESCO. (2024). *Aprendizaje digital y transformación de la educación*. <https://www.unesco.org/es/digital-education>