


## **Opening the Conversation: Rethinking How We Teach Antiquity in the Age of AI**

**Carlos Heredia Chimeno**

*Editor-in-Chief*  
*Universitat Autònoma de Barcelona*  
[carlos.heredia@uab.cat](mailto:carlos.heredia@uab.cat)  
 [0000-0003-2866-5883](https://orcid.org/0000-0003-2866-5883)

### **1. A CLASSROOM IN TRANSFORMATION**

Artificial Intelligence (AI) is here to stay. In recent years, we have witnessed not only widespread scepticism, but also a sort of cat-and-mouse game surrounding the use of artificial intelligence in education. Our courses, framed within the Bologna model and therefore centred on continuous assessment rather than final in-class exams, have been abruptly overtaken by this new reality. Many students now hand in assignments that are well-written, clearly structured, and, in truth, produced with AI tools like ChatGPT.

It is a striking irony: not so long ago, many of us lamented that students could not write properly. Today, everything arrives grammatically correct, coherent, and suspiciously polished, with a cadence that inevitably arouses doubt. That doubt often slips into outright paranoia, with teachers spending hours playing “detective”. The problem, of course, is that when the content is technically correct, suspicion alone is not proof.

This is the shadow that AI has cast over our classrooms in History, Archaeology, and Philology, particularly in Antiquity studies. Yet there are more lights than shadows. Still, the prevailing image remains that of AI as a disruptive, negative force, one that encourages academic dishonesty and complicates the task of determining whether students are truly achieving learning outcomes.

But in reality, AI has only exposed a system already in crisis. Exams built on memorisation and uninspired assignments (products of academic models from ten or twenty years ago) were already inadequate to prepare students for professional life in a capitalist world increasingly defined by utility and adaptability.

We must move beyond this. Studying history cannot be limited to the enjoyment of the humanities, reading for pleasure, or memorising facts. These are worthwhile experiences, yes, but secondary. The primary aim must be to develop concrete skills,

historical research or archaeological analysis, that prepare students for the reality they will face. Education must be formative, not merely informative.

It is in this context that we argue for using AI to our advantage. Some educators have compared the current shift to the arrival of the calculator: the answer is not to ban it, but to raise the bar. If AI can produce a basic essay with ease, then we must design more demanding, creative tasks, ones that require students to think, reflect, and develop their critical and logical reasoning. This approach resonates with findings from flipped learning research, which shows that moving preparatory work outside the classroom can enhance engagement and autonomy (Noguera Fructuoso, Robalino, & Ahmedi, 2023). The old method, with two end-of-term essays and a desperate attempt to detect if they “sound artificial”, is no longer viable. This does not mean abandoning continuous assessment. While in-class exams and on-the-spot assignments are useful for gauging learning, Ancient Studies requires sustained work: long hours, deep reading, thoughtful writing. The kind of slow-burn intellectual effort that no single exam can capture. This is why continuous assessment must remain central to our pedagogical model.

## **2. THE ORIGINS OF *AI & ANTIQUITY***

From these challenges (and from the wider debates about AI in education) *AI & Antiquity* was born. Not merely as a journal exploring the use of AI in the study of the ancient world, but as a space to rethink the very purpose of teaching. It is also closely connected to the *Center for Innovation in Ancient Worlds* (CIAW), an interdisciplinary hub that brings together educators, researchers, and digital practitioners to promote critical and inclusive approaches to technology in Ancient Studies. Traditionally, the teaching of Ancient History has revolved around grand political, military, and cultural narratives, often told from elitist, patriarchal, and Eurocentric perspectives. This has shaped not only the content but also the lens through which the past is presented, marginalising women, enslaved peoples, children, and other social minorities. Although the inclusion of gender and social history since the 1990s has broadened the field, teaching methods have remained largely rooted in transmission-based models, dominated by lectures and poorly adapted to the diversity and complexity of today’s students.

In response to this situation, the journal positions itself as a platform arising from a real need identified by educators. Student feedback, rising absenteeism, visible disengagement, and direct classroom observation all point to a growing disconnect between outdated methods and the new educational landscape. Added to this is the rapid spread of emerging technologies and the often unguided use of AI tools by students, revealing a troubling lack of digital literacy among learners and educators alike.

In this context, students are calling for more participatory approaches, for competency-based assessments that reflect a nonlinear world, and for teaching that

resonates with the tools, values, and concerns of the present. Among these demands, the need to recognise and respect the diversity of cognitive profiles and learning rhythms is especially urgent. The growing number of students with ASD, ADHD, dyslexia, giftedness, and other forms of neurodivergence calls for a pedagogical shift grounded in empathy, flexibility, and inclusion. Such strategies are supported by evidence that mediated and self-regulated learning scenarios can significantly enhance the performance and engagement of students with diverse cognitive needs (Jung, Park, Kim, & Park, 2022; Jafarian *et al.*, 2021).

The arrival of AI in education only amplifies this need for change. Rather than demonising it, the editorial team believes AI must be embraced as an opportunity to foster critical thinking, to enhance digital literacy, and to construct new historical narratives. Analysing AI outputs (often riddled with bias) offers a powerful teaching tool, connecting historical thinking with digital competence and ethical responsibility. Furthermore, helping students master tools that already permeate academic and professional environments directly improves their future employability.

Indeed, *AI & Antiquity* seeks to contribute to a profound transformation in the way Ancient History is taught and understood in the 21st century. In contrast to lecture-centred models, the journal advocates for an inclusive, critical, and creative pedagogy, one that welcomes marginalised voices, promotes active learning, and integrates emerging technologies. This commitment to innovation operates on thematic, methodological, technological, and pedagogical fronts.

Thematically, the journal aims to expand and reframe the historical narrative, highlighting the stories of those historically silenced, basically women, children, enslaved individuals, and gender and sexual minorities. This shift demands not only adding new content, but asking different questions, using new sources, and rethinking interpretative frameworks.

Methodologically, it promotes active learning practices: from role-play and AI-driven simulations to rewriting historical texts from marginalised perspectives, to examining algorithmic bias in machine-generated discourse. These strategies stimulate critical reflection, increase participation, and support fairer and more inclusive forms of assessment.

Technologically, the journal advocates for the ethical and pedagogical use of artificial intelligence. The goal is not to replace the educator, but to use AI as a tool for creativity, for revealing bias, and for opening new avenues of inquiry. Whether creating historical chatbots, generating visual reconstructions, or exploring ancient texts through conversational models, AI's potential becomes transformative when applied with critical awareness.

Finally, the journal is committed to accessibility, inclusion, and scalability. *AI & Antiquity* does not limit itself to academic articles, but also offers methodological frameworks, replicable experiences, and practical materials for diverse educational settings. The aim is for these innovations to be transferable, from university classrooms to secondary education and public history projects.

In short, *AI & Antiquity* is far more than a meeting point between Antiquity and technology. It is a call to reimagine what we teach, how we teach, and for whom we teach, especially at a time when the very foundations of knowledge, learning, and communication are being reshaped. We champion an Ancient History that speaks to the present, embraces diversity in all its forms, and dares to innovate boldly, without ever relinquishing the standards of scholarly rigour that give the discipline its strength. We also hold the hope that this journal (and the conferences that emerge from it) will help break through the prevailing resistance within academia to the use of AI, and challenge the tendency to relegate teaching to a secondary role, too often overshadowed by research.

### **3. HIGHLIGHTS OF THIS INAUGURAL ISSUE**

Taking into account all of the above, in this inaugural issue of *AI & Antiquity* we explore the emergence of Artificial Intelligence in the classroom from a range of critical and constructive perspectives. Rather than framing AI as a threat, this volume highlights its potential as a transformative tool in teaching and learning, particularly within the fields of Ancient History and Archaeology. The contributions gathered here stem from the *First International Conference on Innovation and Technology in Ancient History Education*, held online on 7 and 8 May 2025 (at a time when ChatGPT 4o still held absolute dominance) organised by the Area of Ancient History at the Department of Antiquity and the Middle Ages of the Universitat Autònoma de Barcelona (UAB). This event provided a forum for exploring the challenges and opportunities of a rapidly evolving educational landscape, and its debates have already inspired a forthcoming teaching innovation project to be implemented at the UAB during the 2025–26 academic year: “Forgotten Voices in Antiquity: Inclusive Teaching and Critical Thinking in Times of Artificial Intelligence”.

Opening the volume is the article “Epigrafía digital e inteligencia artificial. Preguntas y respuestas de una experiencia docente”, authored by Cristina de la Escosura (UAH) and Elena Duce (UCM). This paper presents a pioneering pedagogical experience that integrates Artificial Intelligence into the teaching of Ancient History and Digital Epigraphy in Spanish universities. In a context where Epigraphy has been increasingly marginalized in undergraduate *curricula* (despite its importance for understanding ancient societies), the authors develop a set of strategies to foster digital literacy and epigraphic competence among students with little or no knowledge of ancient languages. Drawing from their teaching

experiences across several institutions, they explore how open-access databases and AI tools (such as ChatGPT) can democratize access to Greek and Latin inscriptions and support meaningful learning when used critically and intentionally.

Beyond technological implementation, they reflect on the gaps in digital training for both students and instructors, the risks of misusing generative AI, and the urgent need to empower students as active, critical learners. Building on this notion of AI as a *co-pilot* rather than a *pilot*, recent research has reinforced the importance of maintaining a balanced relationship with these tools. A June 2025 study by the Massachusetts Institute of Technology found that participants who relied heavily on large language models like ChatGPT to complete writing tasks showed reduced brain connectivity and poorer memory recall compared to those working unaided. This concern has even entered popular discourse, with programming educator and influencer @mouredev warning bluntly that “using AI for everything makes you stupid”. Such findings and warnings underline a key principle: AI should complement (not replace) human reasoning. New features, such as the “Study Mode” introduced in ChatGPT in late July 2025, reflect this shift, offering structured guidance that promotes active engagement over passive consumption. By framing AI as a partner in analysis, synthesis, and reflection, educators can ensure it enhances rather than erodes the cognitive processes at the heart of meaningful learning.

The second article, by Edward A. S. Ross and Jackie Baines from the University of Reading, is titled “Navigating the Fog: The Effectiveness of Personalized Conversational GenAI Models for Supporting Ancient Language Learning”. This paper examines both the potential and the limitations of personalizing large language models (LLMs), such as ChatGPT and Gemini, to support the learning of ancient languages, specifically introductory Latin. Through a controlled pedagogical experiment, the authors developed personalised “Latin Tutor” models using OpenAI’s GPTs and Google’s Gems, integrating structured instructional *prompts* and carefully curated open-access datasets. Their aim was to assess whether such personalisation could address well-known challenges in GenAI-based language learning, including vocabulary hallucination, lack of lexical control, and ethical concerns surrounding censorship, copyright, and environmental impact.

One of the most interesting aspects is the authors’ ability to design bots with encapsulated knowledge, allowing students to work with personalised AIs without having to rely on their own (and often superficial) sources, such as *Wikipedia*, which are not always rigorous. These custom AIs could even be “fed” directly with course notes, enabling students to consult the tutor-AI for reliable, course-specific information or to prepare for exams using the same materials covered in class. While the customised models demonstrated certain advantages, such as reducing the number of *prompts* needed, the improvements were modest overall and did not fully justify the time-intensive process of dataset creation. Both general and tailored

models continued to generate unauthorized vocabulary and, at times, biased or stereotypical sentence structures. The authors conclude that, rather than adapting generalized LLMs, the field would benefit more from smaller, purpose-built models created specifically for ancient language instruction. The article closes with practical recommendations and a call for greater AI literacy among both educators and students, encouraging critical engagement with these tools rather than uncritical dependence.

Thirdly, Marco Almansa, from the Universidad Complutense de Madrid (UCM), presents “Cicerón en el aula digital: IA y la oratoria clásica como herramienta didáctica”, the product of his extensive teaching experience and his leading role in public-facing projects such as *@mos\_religosvs*. The article explores the intersection of classical rhetoric, historical reenactment, and artificial intelligence, offering a rich and adaptable pedagogical framework that reimagines the teaching of Roman oratory through digital and immersive tools. Set within a broader discussion of digital citizenship, neurodiversity, and inclusive education, the author argues that Cicero’s speeches and rhetorical strategies remain not only historically significant but pedagogically potent when combined with generative AI. One particularly valuable dimension is the use of reenactment elements, which can serve as a strong incentive for younger generations accustomed to constant stimulation through screens and social media.

From the critical analysis of AI-generated texts to classroom simulations of Senate debates, this contribution shows how students can engage with ancient discourse as active interpreters, able to identify manipulation, dismantle fallacies, and draw connections between past and present forms of public communication. By integrating AI not as an end in itself but as a didactic ally, the article frames artificial intelligence as a “critical assistant” for developing key transversal skills: critical thinking, ethical reasoning, expressive clarity, and historical empathy. Activities such as “My Speech in the Senate” or “Cicero in the Digital Age” illustrate how Roman rhetoric can be revitalized in both secondary and university contexts, while addressing urgent contemporary issues such as disinformation, digital polarization, and algorithmic bias. With a strong emphasis on inclusivity and accessibility, the article demonstrates how AI-based tools can support a variety of cognitive, linguistic, and neurodivergent profiles. In doing so, it not only bridges classical and contemporary rhetorical practice, but also contributes to a more participatory, critical, and reflective model of historical education.

Fourthly, Caitlan Smith traces the trajectory of Artificial Intelligence from its theoretical foundations in Turing’s concept of machine computation and the Turing Test, to the present-day applications of generative AI in higher education. As deep learning models increasingly demonstrate the capacity to generate original content, students are turning to tools like ChatGPT not only to grasp complex topics more

efficiently, but also to personalize their learning experience, reflecting a growing demand for educational institutions to embed these technologies into *curricula*.

A central focus of the article is *AI & Us*, an interdisciplinary course at Arkansas State University co-taught by faculty from Art History, Philosophy, and Graphic Design. Rather than concentrating on the technical aspects of AI use, the course engaged students in its ethical, philosophical, and creative dimensions. This collaborative approach fostered an open, critical dialogue about AI's role in society and scholarship, allowing undergraduates to witness and participate in roundtable-style exchanges across disciplines, an experience rarely offered in undergraduate education.

Building on this foundation, Smith proposes a series of innovative AI-based assignments for university-level ancient art history courses. These range from visual analysis of AI-generated imagery, to *prompt* engineering exercises aimed at recreating classical artworks, to reverse-analysis activities designed to reveal AI biases and limitations, particularly in its reluctance to depict nudity within classical art contexts. Such activities are presented not only as opportunities to enhance critical thinking and engagement, but also as gateways for examining the ethical questions inherent in AI-assisted creativity.

The article closes with a nuanced reflection on AI's dual nature as both a transformative learning tool and a possible channel for academic misconduct. Smith argues for shifting the focus away from punitive measures toward fostering AI literacy, ethical responsibility, and creative engagement. By integrating AI critically into ancient studies classrooms, educators can help students become more thoughtful, informed participants in the digital humanities. The dynamic pacing of Smith's presentation, coupled with her constant engagement and active participation throughout the sessions, made her contribution one of the most vibrant and compelling of the conference.

The volume concludes with three contributions firmly rooted in the Spanish educational context, each offering innovative and socially engaged approaches to teaching the ancient world. "Tecnologías emergentes aplicadas a la enseñanza de la Historia Antigua: una propuesta metodológica basada en IA generativa y modelos 3D" presents a clear and practice-oriented methodology, placing 3D modelling and generative AI at the heart of technological innovation in the classroom. This is followed by "Grècia viral: Xarxes Socials i divulgació en l'ensenyament de la història de Grècia", a fresh and engaging piece written in Catalan that examines how social media can serve as powerful tools for teaching Greek history and fostering youth engagement. Finally, the volume concludes with "Inteligencia Artificial y representaciones del pasado: estrategias docentes para visibilizar la diversidad de género y sexual en las culturas antiguas", a thought-provoking article proposing teaching strategies to make gender and sexual diversity in ancient cultures more

visible, advocating for the ethical use of AI in constructing inclusive and critically informed narratives of the past.

In their contribution, Gerard Cabezas and Anna Rovira present a concrete, well-structured case study that integrates generative AI and 3D modelling within a clear pedagogical framework. The article opens with a compelling diagnosis: traditional lecture-based approaches often struggle to emotionally engage students with Ancient History, especially when compared to more recent historical episodes supported by abundant audiovisual resources. In an age of infinite digital content and shifting attention patterns, the authors argue, classical methodologies must give way to active, experiential, and critical approaches. To address this, the article adopts an object-based learning methodology applied to a singular archaeological artefact: a bronze *rostrum* from a Roman warship. Through a five-phase didactic sequence, students interact with the object via digital 3D models, generative AI, and collaborative research, producing historical interpretations grounded in material evidence. A particularly innovative dimension is the use of 3D printers in the classroom (allowing students to literally “touch” history), transforming abstract content into tangible learning experiences. The article highlights the effectiveness of this model in fostering critical thinking, participation, and interdisciplinary skills, showing how the integration of AI does not replace the teacher but rather expands their ability to design meaningful learning environments. From the editorial perspective, it is important to note the challenges of financing such initiatives, especially in institutions with limited budgets, as well as the resistance from some senior faculty members. These colleagues often react with surprise, or even skepticism, when confronted with what they might dismiss as mere “children’s games”, such as 3D-printed replicas of swords or *rostra* from ancient ships, without recognising their pedagogical value. This contribution offers a scalable, replicable methodology that reimagines how Ancient History can be taught in the 21st century.

Likewise, Marc Mendoza, from the Universitat Autònoma de Barcelona, offers a critical and pedagogical reflection on the challenges and opportunities posed by generative AI in university-level teaching, particularly within the field of ancient history. Rejecting alarmist narratives that cast AI as an “educational apocalypse”, he advocates for a constructive engagement with the technology. Drawing from his teaching experience at the Universitat Autònoma de Barcelona, a context in which his dynamism has long been highly valued by students, the author proposes practical strategies to integrate AI into assessment while exposing its current limitations, such as its inability to cite ancient sources accurately or generate up-to-date bibliographies. Assignments inviting students to compare their own work with AI-generated outputs or to investigate AI’s factual weaknesses become opportunities for digital literacy and critical thinking rather than threats to academic integrity.



The second part of Mendoza's article centers on an innovative educational task in which students created digital outreach content about ancient Greece for social media platforms. Given complete freedom to choose both topic and format, students produced videos, podcasts, and creative audiovisual projects marked by strong engagement and originality. The analysis of the submissions reveals intriguing trends in format and topic preferences, such as the popularity of short-form *TikTok* videos among female students, and a pronounced interest in underrepresented topics and historical figures, particularly women. The results were overwhelmingly positive, and the project is set to be repeated in future courses with certain refinements. The author also warns of the less glamorous side of such initiatives: the need to manage assessment weightings carefully, as some students scored a perfect 10 on their *TikTok* videos yet failed the written exams, still passing the course thanks to the percentage distribution. The article concludes by calling for collaborative comparisons across institutions and advocating for shared spaces, such as this journal, to collectively reflect on the transformative potential of AI and digital tools in classical studies education.

And finally, to close this issue, all the members of the *Arsmaya Group*, from the Universitat de València and the Universidad Complutense de Madrid, present their pedagogical and research trajectory, centered on renewing the teaching of the ancient world through gender-sensitive and visually inclusive approaches. The authors highlight how traditional historical recreations (whether in textbooks, popular media, or even museum displays) have long perpetuated gendered and Eurocentric biases. In response, their innovative strategies combine scientific illustration, student-led audiovisual projects, and digital media to reimagine the presence and roles of women and marginalized groups in antiquity. These experiences underscore the power of images in shaping historical narratives and foster critical reflection on visual culture among students and educators alike.

With the rise of Generative Artificial Intelligence (GAI), the group identifies both new opportunities and new risks. AI image-generation tools are increasingly used by students to create historical content without the critical literacy necessary to detect the biases these technologies reproduce. The article explains how GAI systems, trained on stereotypical visual datasets, often reinforce rather than challenge dominant narratives. To counter this, the authors propose integrating GAI into the classroom, not by rejecting it, but by teaching students to analyze its limitations, reflect on its biases, and use it as a springboard for more accurate, diverse, and inclusive reconstructions of the past.

The article details a range of teaching initiatives, from video micro-projects to illustrated calendars depicting historically grounded portrayals of women from diverse ancient cultures, and a large-scale interdisciplinary exhibition on gender and sexuality in antiquity. These activities actively involve students in both creative and analytical processes, combining collaborative group work, historical research,

and digital tools to produce physical and virtual outputs. From academic competitions to immersive virtual exhibitions hosted on platforms like Spatial.io, students become active agents in reshaping how the ancient world is visualized and narrated in the 21st century.

The authors conclude by outlining a new educational proposal: a hands-on, critically oriented GAI-based assignment in which students generate and analyze images from a gender perspective. Through guided steps (including *prompt* creation, critical diaries, source comparison, and classroom presentations) students develop essential skills in digital literacy, historical accuracy, and ethical visual storytelling. The article calls for the early integration of GAI into humanities teaching, advocating for its use as a powerful tool when embedded in a rigorous, reflective, and ethically grounded pedagogical framework.

#### **4. REFLECTIONS AND FUTURE DIRECTIONS**

Ultimately, what remains is an issue that encourages us to pause and reflect on our teaching practice. It reminds us that innovating in the classroom does not necessarily require radical overhauls, but can emerge from small, thoughtful shifts: identifying the invisibility of women in our sources, framing a critical commentary supported by AI, or simply considering how our students will engage with our activities when AI tools are readily available. This aligns with findings by Noguera Fructuoso, Robalino, and Ahmedi (2023), who emphasise the flexibility of flipped and mediated learning scenarios to foster active participation, self-regulation, and deeper engagement (elements essential when integrating AI into pedagogical design). Ignoring this process would mean stifling the creativity of our students, who might otherwise turn to AI in uncritical (or even dishonest) ways, missing valuable opportunities for meaningful learning. This is not about passing exams or completing assignments; it is about teaching real competencies, fostering skills, and adapting our practice to the challenges and possibilities of the 21st century.

We also wish to extend our sincere thanks to the anonymous peer reviewers whose careful assessments, constructive criticism, and additional reflections have substantially enriched the articles presented here, often taking them beyond the scope of the original conference discussions. Their contributions have been essential in ensuring the notable quality and depth of this volume.

And while AI is evolving at a staggering pace, with the August 2025 release of ChatGPT 5 sparking debates among users, the insights gathered in these pages transcend the technical ebbs and flows of successive updates. When Microsoft ranked historians as the second most easily replaceable profession due to AI, it overlooked something fundamental: a historian is not an encyclopedia, but above all a “detective”, piecing together the scarce fragments we have to draw reasoned conclusions, something AI is still unable to do without falling into bias or relying on unreliable sources. Current and foreseeable AI systems may produce plausible

answers, but they lack independent historical judgement and the capacity to apply critical reasoning at the level the discipline demands. More importantly, they are devoid of the ethical and methodological responsibility that defines the historian's work.

As discussed by Elena Duce and Cristina de la Escosura, AI should not be imagined as an *autopilot* taking over the controls, but as a *co-pilot* who assists while the human researcher remains in command. Such a shared approach shifts the focus away from mere automation or time-saving and towards the design of more finely tuned research itineraries, the construction of reasoning frameworks adapted to different cognitive profiles, and the ability to shape the work according to the specific needs of each project. This is where elements beyond speed or efficiency become decisive: the relevance and reliability of the sources AI proposes or processes; the flexibility to chart alternative routes and open up new perspectives; the stimulation of critical thinking that challenges rather than simply confirms what we already know; the inclusion and accessibility that ensure workflows accommodate neurocognitive diversity; and the transparency that makes it clear where human judgement is at work and where automation plays a role.

Confusing the delegation of certain tasks with the replacement of the historian risks sacrificing depth for immediacy and cost-saving, with the consequent erosion of research quality and integrity. These pages, by contrast, gather the collective expertise of those united by a shared aim: to rethink the teaching of Ancient History so that it remains as relevant, rigorous, and inclusive as the discipline itself deserves. This mission will also be advanced through the *Center for Innovation in Ancient Worlds* (CIAW), which provides an institutional framework for sustaining dialogue, coordinating international initiatives, and ensuring that pedagogical innovation in Ancient Studies has a lasting impact.

Bellaterra (Barcelona), September 2025

## BIBLIOGRAPHY

- Jafarian, A., Salah, R. M., Alsadoon, A., Patel, S., Alves, G. R. and Prasad, P. W. C. (2021) 'Modify flipped model of co-regulation and shared-regulation impact in higher education, and role of facilitator on student's achievement', in *2021 International Conference on Computational Science and Computational Intelligence (CSCI)*, pp. 925–932. IEEE. doi: 10.1109/CSCI54926.2021.00169.
- Jung, H., Park, S. W., Kim, H. S. and Park, J. (2022) 'The effects of the regulated learning-supported flipped classroom on student performance', *Journal of Computing in Higher Education*, 34(1), pp. 132–153. doi: 10.1007/s12528-021-09285-y.
- Noguera Fructuoso, I., Robalino, P. E. and Ahmedi, S. (2023) 'The flexibility of the flipped classroom for the design of mediated and self-regulated learning scenarios', *RIED. Revista Iberoamericana de Educación a Distancia*, 26(2), pp. 155–173. doi: 10.5944/ried.26.2.35007.