



Evaluation, assessment, and validation of research in architecture, construction, and urbanism: justifying perceptions

Evaluación, valoración y validación de la investigación en arquitectura, construcción y urbanismo: justificando percepciones

editorial

In the increasingly demanding realm of scientific publications, it is vital to generate and contextualise processes related to the assessment of methods, the validation of methodologies and systems, and ultimately any evaluative process that allows for the replication of studies. In this regard, research connected to architectural processes, whether theoretical studies or practical and educational applications, including those referencing construction and/or urban processes, cannot ignore these requirements. Exploratory studies and research need processes to ensure they are not only innovative but also functional, sustainable, and adapted to the needs of users, the environment, and scientific demands.

In recent years, advancements in new technologies have revolutionised these processes, allowing for more precise review and rigorous validation of proposals in any field, including architectural and urban studies. These technologies range from digital simulation and virtual reality to spatial data analysis and the use of biomaterials, each contributing to the improvement of the quality and efficiency of designs.

The implementation of new technologies in architectural and urban evaluation facilitates a deeper understanding of projects, allowing potential problems to be identified and resolved before construction. These technological tools not only enhance the precision and efficacy of evaluations but also promote innovation and creativity by providing new ways to visualise and analyse designs. However, researchers must be aware of the importance of validating evaluative processes to obtain systematic, replicable, and scalable processes as a basis for scientific communication.

In this context, the current journal of *Estoa* focuses on the importance of evaluating and validating architectural and urban proposals through new technologies and systemic approaches that allow for the

replication and scalability of accepted proposals. The articles selected for this edition are grouped into several key themes, exploring different aspects of how these technologies are transforming each field of action.

For this issue, the editorial board of *Estoa* has selected 16 diverse works that address and enrich aspects related to architecture, construction, and urbanism, from both qualitative and quantitative approaches, delving into theoretical and practical approaches. The first contextual block comprises articles 1, 9, and 11, which highlight the importance of specific concepts and creative approaches in architecture. From a formal standpoint, these proposals confirm how rigorous evaluation can improve the understanding and quality of projects, whether exploring common spaces, through educational approaches, or addressing the origin of authorship linked to creativity.

Articles 2, 5, and 7 focus on simulation processes and the application of various technologies for studies ranging from the assessment of sound distribution and reverberation, to the use of virtual reality for simulations of medical buildings, and the study and processes of repairing problems caused by microorganisms in buildings. In summary, these studies explore how simulation and spatial analysis technologies, as well as the integration of biomaterials, are changing the way architectural spaces are designed and evaluated.

The next block of selected articles, 4, 13, 14, and 15, presents proposals related to innovation in urbanism and public policies. The authors have applied different technologies and approaches to assess aspects of urban development, focusing on raising awareness among readers and citizens about the need to combine existing social realities in towns and cities to promote sustainability and equitable policies between development and the preservation of culture and heritage.

Continuing with aspects related to sustainability and the environment, articles 6 and 8, highlight the importance of sustainability and bioclimatic efficiency in architectural design, exploring how materials and technologies can contribute to a more sustainable built environment. Similarly, and since we have previously mentioned heritage, we find articles 12 and 16. These two proposals examine the intersection between heritage preservation, education, and the role of public spaces in contemporary society.

Lastly, we find articles 3 and 10. In these, the authors focus their work on reflections on the history and theory of architecture, analysing how media and historical influences have shaped contemporary architectural practice.

To conclude this editorial, we invite readers to reflect on how to improve the processes of evaluation, assessment, and validation of both the data collected in studies and the methodological processes applied to contextualise any scientific proposal, whether theoretical or practical. We must be conscious and responsible in educating new generations to make appropriate use of new technologies that represent a paradigm shift in how we conceive and execute design projects.

In a society where precision, sustainability, and adaptability are increasingly crucial, these technological tools offer a way to significantly improve the quality and impact of our constructions, and therefore our environment, whether rural or urban. *Estoa* is proud to present this issue dedicated to exploring these advancements, fostering a critical and constructive dialogue about their future and impact on architecture and urbanism.

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