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Dr Elena Douvlou is a registered architect both in UK and Greece and currently the Associate Dean of School of Architecture, Art and Design at Metropolitan College in Greece. She has been previously the Head of School, Programme Leader of the MArch Architecture & Urbanism and Programme Leader of the MArch Architecture & Urban Design, both RIBA PART II validated courses. She has led successfully the School through nine RIBA I & II exploratory visits and validations. She is an Adjunct Professor at the Boston Architectural College USA, Sustainable Design Programme since 2009. She started her academic career as a Senior Lecturer at Portsmouth School of Architecture UK, 2003-2008. Her expertise are in Thermal Comfort, Bioclimatic Design, LSA, LEED assessment, sustainable urban design and regeneration. She has been involved over the past 6 years in various projects and courses related to Global Intercultural Competence Learning as the co-coordinator of

GLE (Global Learning Education) projects with DePaul University in Chicago, USA and Metropolitan College (2019-2025), and she is the co-editor and author of a book published by Springer Nature in the SDG series, "Intercultural Competence Through Virtual Exchange: Achieving the UN Sustainable Development Goals" (https://link.springer.com/book/9783031764172). She has over 25 years of experience in architectural academia leading the design studio of 4th and 5th year and supervisor of Final Thesis with topics in Architectural Design, Sustainable Design and Urban Regeneration. She has lectured in various institutions in Europe, the Middle East and the USA. She is a published author of articles and research and have supervised over 30 MSc and PhD Theses. She is a Fellow of the British Royal Higher Education Academy since 2006. She authored the Sustainability Action Plan for Alphabet Education/Metropolitan College- in April 2023.

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Integrating Sustainable Design Philosophy and Pedagogy: A Reflection on Academic and Professional Trajectories in Architecture

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Abstract

Architecture shapes not only the built environment but also the social fabric of communities. Despite historical barriers, women in architecture and academia have emerged as transformative forces, advocating for designs that are equitable and sustainable. By addressing issues of social empowerment, environmental responsibility, and gender inclusivity, female architects and educators are reshaping the field to better reflect contemporary values and challenges.

A career as an academic, researcher, and practitioner in architecture highlights my commitment to sustainable design philosophy. With over 20 years of experience spanning in academia, architectural practice, and research, my goal has been to reflect a holistic approach to sustainable architecture. This paper explores my design philosophy, career path, academic teaching, and sustainable design research, illustrating how each aspect of work contributes to the broader discourse on architecture and sustainability.

Keywords: ***Architectural pedagogy, Sustainable Design***

Introduction

Sustainability in architecture is no longer a peripheral concern; it has become central to addressing global environmental challenges. That was not the case 30 years ago, when as a 4th-year architecture student, I opted for an elective module in Bioclimatic Architecture. I remember vividly the bright yellow colour of the main textbook with a red sun, authored by our professor. I was curious to learn about something new and exciting. This new body of knowledge led me to spend my whole summer holidays working on a European student competition on Passive Solar Design – my team's approach evidently was not groundbreaking and we did not win a prize or a commendation. But I did gain enough understanding of the field to know that this is the path I would like to explore more in my future studies. This led me to register for an MAArch at the University of Sheffield with a pathway in Architecture and Environmental Design. Even in UK, at this point, there was a very clear division between architecture professors teaching studio-based modules and professors from other disciplines teaching the more "scientific" modules.

When I decided to register for a PhD in the same field, accepting a fee-waiver and a scholarship, I joined a group of fellow researchers spending most of our time in research labs, analysing data and performing parametric simulations. At the same time there was a great need for architecture studio tutors with specialised knowledge on environmental design, prompted by a wave of popular books and star-architects. I jumped on the opportunity to enter academia while doing research, a world of retrospective feedback that I have enjoyed ever since. In the process (a few years later) I realised that knowledge on the subject was already part of our formal and informal education, embedded in every vernacular building around the world.

Design Philosophy: A Holistic Approach to Sustainability

I started photographing and reading about vernacular architecture, finding wisdom and beauty in every detail, forming my design philosophy that revolves around creating architecture that harmonises with its environment, promoting energy efficiency, and enhancing occupant comfort. Concluding my Ph.D. in "Climatic Responsive Design and Thermal Comfort" from the University of Sheffield, my research underscores the importance of bioclimatic design — an approach that relates architectural solutions to local climatic conditions. This philosophy emphasises reducing a building's environmental footprint while maximising thermal comfort, natural ventilation, and passive solar design.

One of my first appointments as a Senior Lecturer at Portsmouth School of Architecture was to lead a Diploma, urban design studio; my involvement in sustainable urban regeneration further reveals my commitment to environmental and social sustainability. Projects such as the "Urban Noesis" initiative, which focused on resilient communities in dense urban settings, illustrate my belief in architecture's potential to foster social cohesion while addressing environmental challenges (published in the 17th Venice Biennale Italian Pavillion Catalogue: "Resilient Cities"). Through these efforts, I endeavoured to advocate for a holistic design approach that integrates environmental, social, and economic considerations into architectural practice.

Bridging Academia and Practice

For a large part, my career path reflects a dynamic interplay between academia and practice. My experience as a registered architect in both the UK and Greece has enriched my teaching with practical insights, allowing me to bridge the gap between theory

and real-world application. One of my first senior roles was at the University of Portsmouth, where I led the MSc in Sustainable Architecture. This program combined theoretical knowledge with hands-on project-based learning, encouraging students to develop sustainable design solutions for contemporary urban challenges. As Associate Dean at the School of Architecture at the Metropolitan College in Greece and an Adjunct Professor at Boston Architectural College, I have had the opportunity to lead academic programs that emphasise sustainable architecture and urban design.

My engagement with the Athens Chamber of Commerce and Industry as an environmental consultant further solidified my expertise in managing the environmental impact of various scales construction businesses. My personal portfolio of architectural projects is deeply informed by this commitment to sustainability and over the years I have been involved in numerous projects that prioritise bioclimatic principles.

Another notable project is my work on post-industrial heritage sites, such as the Eleusina case study. This project illustrates an approach to adaptive reuse and sustainable urban regeneration, using participative design and Virtual Reality as tools. By transforming neglected industrial sites into vibrant public spaces, it demonstrates how architecture can preserve cultural heritage while addressing contemporary environmental, social and economic concerns.

Fostering Sustainable Design Leaders and Engaging with Global Discourse

In my recent publications, my aim is to demonstrate an interdisciplinary approach to sustainability; by linking architectural

design with global learning and intercultural competence, I have highlighted the importance of a collaborative, cross-disciplinary approach to solving environmental challenges. My participation in international conferences, such as the 12th World Environmental Education Congress in Abu Dhabi, reflects my commitment to sharing knowledge and fostering global collaboration in sustainable design.

As an educator, I have aimed to shape the next generation of architects through innovative teaching methods. At the Metropolitan College and Boston Architectural College, I have integrated problem-based learning (PBL) into the courses I designed and taught, encouraging students to tackle real-world challenges using sustainable design principles. My courses "Sustainable Design as a Way of Thinking" and "Global Perspectives in Sustainable Design" emphasise the global relevance of sustainability in architecture.

My teaching has always been informed by my belief that sustainability is not just a technical requirement but an ethical imperative. I have always enthused students to view architecture as a tool for addressing global challenges such as climate change, social inequality, and resource depletion. At the same time, I have advocated that the principles and methodologies of sustainable design are embedded early in the architectural education curriculum as students often perceive it as deviating from the norm of the process of design synthesis that could hinder and perplex their creativity.

My involvement in Global Learning Education (GLE) projects and intercultural competency workshops has further enriched my teaching. By collaborating with institutions such as DePaul

University, I have co-coordinated projects that foster cross-cultural understanding and promote sustainable development through virtual exchange programs. The collaboration expanded to include institutions and academics from various parts of the world, resulting in the authoring and co-editing of the book "Intercultural Competence Through Virtual Exchange: Achieving the UN Sustainable Development Goals" by Springer Nature in the SDG series (to be published, February 2025). The book offers fresh perspectives and innovative, practical approaches to preparing learners for implementing the United Nations Sustainable Development Goals (SDGs), addresses the role of academia in fostering societal change beyond teaching material, aiming to enable students to become agents of change and calls on educators to recognise and embrace their rapidly shifting roles and extended responsibilities. In the book, I present my research on the advantages and challenges of the use of Virtual Reality in providing engaging immersive and interactive learning experiences and the examination of the virtual exchange's wider pedagogical implications and advantages in developing intercultural competence, raising awareness of sustainability, and encouraging collaborative learning.

Active participation in international workshops and conferences underscores my role as a thought leader in sustainable architecture. One of my most impactful research projects was the ECOSOEN project, which analysed the intersection of economic, social, and environmental objectives in various societal models. This research highlights my belief in the interconnectedness of sustainability and the need for architects to consider multiple dimensions when designing for the future. By exploring the socio-economic factors that influence architectural design, the project aimed to push the boundaries of traditional architectural practice,

advocating for a more inclusive and holistic approach to sustainability.

As a member of architectural design award juries, including the European Architectural Awards "40 UNDER 40", I am inspired by projects that exemplify a forward-thinking respect for the environment, proving that sustainability and innovation are not mutually exclusive but mutually reinforcing, thus contributing to shaping the global discourse on urban regeneration and sustainability.

Through the delivery of several design workshops on virtual exchange and project-based learning, I have explored innovative methods for integrating sustainability into architectural education. By leveraging digital tools and international collaboration, the aim is to create platforms for students and professionals to exchange ideas and develop solutions that address global environmental challenges.

Conclusion

Architecture, at its core, is a discipline rooted in innovation. It is about solving problems, challenging conventions, and imagining better ways for humans to coexist with their environments. My design philosophy, as shaped through my architectural education, personal experiences and aspirations, rooted in bioclimatic principles and thermal comfort, aims to provide practical solutions to contemporary environmental challenges. Through my academic leadership, I sought to foster a new generation of architects who are equipped to tackle the complexities of sustainability in the built environment. My research and involvement in international projects further demonstrate my desire to contribute on the global architectural community and to the field of sustainable architecture

discourse. Both through my published work or as a tutor in the architecture studio; it illustrates the importance of an interdisciplinary approach that considers the social, economic, and environmental dimensions of sustainability. As the world continues to grapple with climate change and urbanisation, I hope that my contributions will remain relevant in emphasising the importance of collaboration, intercultural competence, and ethical design, offering a blueprint for empowering communities and advancing sustainability.

Like many other women in architecture practice and academia, it is important to assume a pivotal role in promoting sustainability and empowerment, by integrating environmental stewardship, social equity, and diversity, challenge traditional paradigms and inspire meaningful change.

In closing, I want to leave you with this thought: architecture is a reflection of who we are as a society; it tells the story of our values, our ambitions, and our dreams, and we can use any line or colour we choose to.

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