



## Using the Urban Living Lab (ULL) has Helped Students Learn how to Create Inclusive, Sustainable, and Climate-Resilient Cities

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### Abstract

Urban design education research is increasingly recognising the critical need for partnerships and collaborations with pertinent stakeholders to support the planning, governance, design, and decision-making processes of urban environments in the most comprehensive way. But, every city will define an inclusive and sustainable urban environment differently, making its design more difficult. Cities' complex sensory spatial characteristics are influenced by a wide range of social, economic, political, cultural, and environmental elements. In order to build inclusive, sustainable, and climate-resilient urban landscapes in a graduate design studio course, this study investigates the function of the urban living lab (ULL) technique.

**Keywords:** Architecture; Cities; Landscape architecture

### Introduction

Threats to current planning practises and educational processes affect all levels of public service, land use, transportation, and greenery. These threats include the urbanisation trend, an increase in the population of older adults and people with disabilities, energy demands, climate change, and industrial processes in and around cities. The United Nations' 2030 Agenda emphasised the critical importance of sustainability and inclusivity as the major drivers (UN Agenda, 2030, 2015). It is well acknowledged that developing innovative solutions and implementing technical standards in land use via the lenses of urban management and land use planning cannot result in inclusive and sustainable urban environments [1, 2].

### An analysis of instructional strategies for teaching diversity, tolerance, and robustness

The three primary pillars of urban design education are design, theory, and methodologies. The pedagogical strategies are dominated by the design pillar. Urban design education was once thought of as a process of placing unbuilt geometric areas to produce urban forms. Moudon outlined the conventional and modern methods of graduate urban design education. Using techniques from the humanities and social sciences, the student is placed in a laboratory setting to examine the research subject qualitatively or quantitatively in the traditional approach, which is student-centric. The new approach calls for interdisciplinary expertise in geospatial data and human behaviour, which broadens the definition of urban design and encourages cooperative innovation among educators [3, 4].

With the development of a user-centered approach more recently, students may now spend time on-site observing people going about their daily lives and researching social and economic activities. In accordance with the following guiding principles: interdisciplinarity, cross-cultural collaboration, project-based learning, and human-centered design, Li et al. assessed the pedagogical methodologies for urban sustainability. In order to create sustainable and livable surroundings, Von Richthofen et al. presented parametric design thinking as a pedagogical paradigm. According to Acuto et al., informal urbanism might be used as a pedagogic catalyst to rewrite the city's temporality and examine its living geometry. Current urban design education, which views the design of urban practise as a geometric arrangement of physical factors without regard to social parameters, has been questioned by Keswani [5, 6].

Urban design pedagogy was examined in an unofficial market in Ahmedabad, India, where daily practise patterns and developing economies were integrated. In order to interact with future human-centered design scenarios, Sunguro lu Hensel et al. connected multiscale system thinking to sustainable urban design thinking. The importance of memory as an action-based pedagogical model for comprehending the cultural and ecological qualities of cities was questioned by Güler and Güler in 2022. A joint studio is a new pedagogical technique that provides an adaptive and collaborative structure to teach interdisciplinary points of view about a city, according to Cattaneo et al [7, 8].

### Conclusion

In a graduate design studio course, this project investigated how the ULL technique may be used to develop inclusive, environmentally friendly, and climate-resilient urban spaces. It has been demonstrated that this methodology is a practical and responsive solution to the educational objectives of learning urban design. A basic design problem that is as difficult to overcome as ULL's distinction between an innovative method and a shared goal [9, 10].

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### Conflict of Interest

None.

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