

INTERDISCIPLINARY URBAN DESIGN APPROACH FOR SUSTAINING THE DEVELOPMENT

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Abstract:

Contemporary cities are not merely physical and quantitative presences but multiplicities of socio-cultural, political and economic predictions manifesting into built environment. Hence, understanding the built environment and addressing the emerging complex urban issues is strongly influenced by the ability to communicate as well as exchange of dialects with diverse but inter-related professions concerned with built environment. In this sense, urban design profession needs to be collaborative in nature to render it as a common ground among all the professions to sustain the rapid development. Against this backdrop, the paper intends to analyze the challenges faced by the urban design profession in the education and practice domains.

Keywords: Interdisciplinary, Multidisciplinary, Urban design, Urban development, Space creation

1. Introduction

Contemporary cities are not merely physical and quantitative presences but multiplicities of socio-cultural, political and economic predictions. Exponential advancements in most of the professions and the changing conceptions about time have been profoundly impacting the everyday life of an urban dweller. Every urban dweller participates in the complex and multi-layered process of space creation either directly or indirectly that is shaped by socio-political policies, economies, various mechanisms, identities, agendas, responsibilities and professions.

Recognizing the dominant structural changes that urban areas are going through, is the first step in understanding the significance of urban design domain. Today's urban areas are strongly shaped by the forces of the time and the economic dynamics. Currently, service sector is re-configuring the structure of urban areas. Innovative methods of conducting businesses, exchange of ideas services via an abstract platform supported by technical advancements. An urban area is

adjusted to these structural changes through the tools offered by urban design while creating an improved spatial organization.

Hence, understanding the built environment and addressing the emerging complex urban issues is strongly influenced by the ability to communicate as well as exchange of dialects with diverse but inter-related disciplines. In this sense, urban design profession needs to be collaborative in nature to render it as a common ground between architecture, landscape architecture, environmental planning and urban planning to sustain the rapid development.

2. Interdisciplinary versus multidisciplinary approach

Multidisciplinary approach typically involves addressing the issue through the lens of several disciplines operating in parallel. However, interdisciplinary approach pursues analytical and organizational integration while broadening the learning horizon. In this sense, interdisciplinary approach in comparison with multidisciplinary is the most appropriate method.

Different professionals belonging to the domain of built environment widely regard and envisage their professional products as urban design if they are located within urban areas. Urban design as a professional discipline needs to have a well-developed professional structure as architecture profession perceives urban design as an extension of architecture while urban planners herald it as a subsidiary branch of urban planning profession meanwhile the impact of landscape architecture remains discreet. If urban design is a collaborative work of architects, landscape architects, environment planners and urban planners, it should be of primary importance and concern to integrate the comprehensive knowledge of these professions into a holistic outlook to address the emerging urban trends and issues. As this process of integration to produce urban spaces involves diverse urban space production patterns demanding different urban design services, it is more appropriate to deliberate the heterogeneity and diverseness of roles as against the single urban design practice. Hence, multi-dimensional dynamic viewpoints are required which not only integrate physical, socio-cultural and economic aspects but the time dimension into the process of spatial changes and urban development.

3. Urban design – Process and Product

The primary structure which is intimately interconnected with the character of an urban area (patterns of streets, squares, plots, building blocks, etc.) indicates the possible type of processes and the. In this context, urban designer is primarily an interpreter and the designer of these structures rather than of the elements themselves. An urban designer recognizes the significance of the underlying essence of the structure of the urban areas and attempts to develop a framework to enhance and renew it or if required alter it. This process of developing the framework should be coherent and robust to be able to advance the development as well as the design of the physical fabric over a longer period. These coherent frameworks are majorly concerned with the creation of sequences and inter-relations of existing and proposed networks, places, elements, etc.

Across the world, in majority of urban areas urban design is increasingly becoming synonymous with 'big architecture' steering the urban design profession to be more 'product based' in turn being assessed by the characters of building design. This particular phenomenon is completely overpowering the 'processes' taking place in urban areas that are crucial to the way in which urban areas develop over a period. Urban design as a 'process' and 'product' is constantly challenged by the socio-economic and political forces. It is this particular aspect which is narrowing down the urban dweller's association with urban space to an instrumental and economic one of sheer production and consumption. In this perspective, it is important to ponder upon the extent to which the pedagogy and practice of the urban design can be reviewed to be interdisciplinary in nature to harness the expertise of various domains meanwhile reflecting on the paradigm shifts in the conception of comprehensive agendas for the built environment.

A. Urban Design Pedagogy- Interdisciplinary Studio Design Approach

Changing conceptions with regard to urban experiences where the most vital spatial and socio-cultural landmarks are being shattered for the capitalization of space, have intensified and are gaining diverse complex as well as ambiguous layers. In such scenarios, the main challenge confronted by the teaching-learning of urban design profession is to evaluate to what extent the curricula can be modified to be more interdisciplinary and to be able to respond to the paradigm shifts with regard to the built environment interventions. This particular aspect leads to the relevance of urban design pedagogy that can confront and address the situations which are byproducts of such urban conditions.

The siloed nature of the urban design education system needs to be reviewed and interdisciplinary approach should be promoted. There are several challenges and scope for improvements to develop the learning-outcome-based education and the research design oriented urban design pedagogy. To develop urban design as an interdisciplinary domain, it is primarily important to promote interactive and iterative collaboration with the related professions which have their independent deep rooted histories, methodologies and scope. This can be significantly achieved through the adoption of the basic principles with regard to urban design pedagogy (Refer Table 1).

Table 1. Basic Principles of Urban Design Pedagogy

Sl. No.	Principle	Remarks
1	Perceiving the complex urban landscape as an interdisciplinary multi-layered entity	The complex urban landscape encompasses a diverse range of inter-related layers and scales situated in space and time. Hence, it needs to be addressed through research based

		interdisciplinary approach.
2	Coping with ambiguity and unpredictability	Based on the theoretical grounding, students should learn to develop various methodologies as well as adaptive design strategies to address the non-linear correlations of different layers and scales of the urban issues which are highly unpredictable.
3	Exploration of correlation between research and design	Urban design process and proposals need to be rooted in and supported by research as well as scientific analysis of the urban landscape dynamics. Research should be part of the design process at various levels to explore design possibilities, improve the quality of the solutions and increase the credibility as a knowledge base for future design proposals.
4	Communication, analysis and design through visual thinking	Urban design deals with spatial research and design. The complex spatial processes are difficult to capture in textual format. Hence, visual thinking (mapping, drawing, sketching, etc.) is the means to express the correlation among various layers as well as scales to facilitate the formulation of research frameworks and design strategies. Visual thinking augments personalised process of interpretation of the context which in turn results in creative insights for the design process while creating a knowledge base.

There are different realms under which urban design programmes educate and prepare future urban design professionals. These different realms (programme, curriculum, research based design, interdisciplinary approach, etc.) attempts to explore the opportunities and address the challenges in imparting urban design education. The articulations mentioned attempt to address the major concerns pertaining to admission criteria/professional background for students, curriculum, courses and design studios to help students to face challenges confronted in the real world upon graduation (Refer Table 2).

Table 2. Urban Design Programmes – Realms and Articulations

Sl. No.	Realm	Articulation
1	Internationally oriented urban designers	Pedagogy should aim at having students from across the world who are exposed to diverse conditions to harness their experiences in urban design research and design studio projects and courses.
2	Interdisciplinary approach	Instead of admitting only architecture graduates, urban design programmes should facilitate the enrolment of students from the directly related professions such as planning, landscape architecture, conservation, environmental planners as well as the related fields such as civil engineering, geology, sociology, economics, historic preservation, conservation, urban psychology and real estate development.
3	Effective exchange of dialects and communication	Effective exchange of dialects and communication among the individuals from different national and professional backgrounds. Effective exchange of dialects and communication is important to foster not only teaching-learning process but is essential for communication between urban designers and the diverse stakeholders encountered in the real world.
4	Collective undertaking	In both design studios and related courses, team work should be promoted to ensure the student's exposure to different perceptions and to be able to address the complexity of the projects.
5	Refining diverse skill sets	To hone the different analytical and research skills reinforced by socio-cultural as well as political awareness, design studios and the related theoretical courses should be integrated to elude intellectual and professional silos.
6	Encouragement to develop personalised approaches	In the real world as the urban design practices and projects are rooted in different approaches and methods, students should be encouraged to develop their personalised approaches which are well informed by research, professional expertise, shared knowledge, etc.

7	Adopting non-linear process for urban design studio projects	As the urban design projects involve complex processes and different stakeholders, adopting non-linear process for urban design studio projects enables students not only to explore the self-identified research areas but also deeply dwelled unique design innovations while enriching the pedagogical significance.
8	Promoting the inclusion of reality based urban design studio projects	Promoting design studio projects with real scenarios and stakeholders to the most possible extent, prepares students to represent and communicate the strategies/guidelines/design solutions beyond the academic ecosystem.

Funding grants and various other innovative financial instruments should be formulated to explore the nature of collaborative interdisciplinary practice in order to enhance the engagement of the urban design academics with professional practice. Urban design pedagogy needs to focus on student-centered teaching methods and context driven design issues to synthesize the knowledge from diverse professions to evolve coherent strategical frameworks and design interventions. Urban design programmes need to make a dedicated and focused efforts to practice these articulations. This will certainly support in preparing students to exchange effective dialects, explore design innovations as well as practice across different urban situations set in diverse global contexts while responding to the needs of the society to improve the quality of urban living.

B. Urban Design Practice- Collaborative, Creative and Participatory Approach

Urban design was endorsed as a profession involving superficial beautification highlighting the limited significance with respect to designing urban areas. However, urban design particularly since 1980s has been steadily moving from the boundaries of architecture and planning domains into the mainstream profession. Contemporary urban design practices in different cities indicate a shift towards private sector employment (with a very small percentage of professionals employed by the public sector), changes in the size of firms, growing numbers of interdisciplinary teams to augment their services and most importantly broadening their geographical scope.

Across the globe, urban designers practice in the spatial and highly sensitive socio-political atmosphere of the cities. In this context, diverse professionals tend to reinforce silos and hierarchies while arguing in defense of what their own professional perceived interests. Under such circumstances, there is an increased need for proactive interdisciplinary approach rather than reactive one to influence professional practice as well as public policies. It is critical to involve all the disciplines right from the beginning of the process to help them comprehend the

project direction and there by feed into the urban design process. It also helps in minimizing the conflicts of interests and better management of challenges. There are multiple interrelated domains which need to be tackled to strengthen the interdisciplinary working approach to logically address the physical, environmental and social challenges of urban areas (Refer Table 3).

Table 3. Urban Design Practice – Different domains

Sl. No.	Domains	Remarks
1	Fostering community trust through collaborative and participatory approach	Significant steps need to be taken to build and foster community trust for urban design projects to herald the transformational potential of urban design profession in promoting better quality of urban living. One of the crucial steps towards this could be through interdisciplinary teams investing their resources on pre-project, ongoing- project and post-project stages to leverage the societal benefits.
2	Specific requirements of user groups at urban scale	Interdisciplinary working environment amongst professionals reinforces a stronger focus on specific requirements of the user groups, increased prominence on design quality and most importantly fosters a long term working partnership. This aids in realising the vision for cities which is based on better urban design, environmental responsibility and social equity.
3	Integrated and cohesive approach across the professions	Fragmented profession is leading to poor quality in design, construction and inefficiency with regard to project management as well as coordination. Hence, integrated approach involving multiple stakeholders to promote better articulation of the methodologies at all the stages of the project.
4	Creation of effective collaborative working atmosphere	Characteristics of effective collaborative working atmosphere: <ul style="list-style-type: none"> • Collaborative workshops with all the involved stakeholders at various stages to help create shared visions for the urban design projects. • Fostering learning culture through in-house or web-based seminars/discussion sessions to learn and share knowledge on a topic or project.

		<ul style="list-style-type: none"> • Acknowledging individual profession's skill sets to be able to engage in collective problem solving. • Creation of conducive working atmosphere to encourage effective communication and constructive feedback. • Focussing on collective practice for capacity building to address various set of present and future challenges.
5	Professional knowledge and skill sets	Primary skill sets required include ability to create a vision, creative approaches to realise that vision, deep knowledge of national and international sustainable development agendas (for making informed decisions with regard to finite resources), analysis of economic growth, understanding the organizational structure of various governing bodies at different levels, interdisciplinary dialects for effective communications, re-engineering the process and better financial administration as well as human resource management.
6	Interactive design workshops	Interactive design workshops in the early stage and throughout the project at periodic times play a vital role for effective collaborative working. This helps in addressing diverse concerns and to resolve them judiciously.
7	Development of a common dialectal exchange for effective communication	Overcoming the professional barriers through the establishment of a common dialectal exchange for effective communication while acknowledging the individual skill sets is a crucial step towards the progressive thinking which is beyond the territorial attitude.
8	Policy frameworks	Several policy reforms at various stages of the project should be enforced to promote better integration of the processes and the interdisciplinary teams involved in the production of the built environment.

Better quality urban design is the foremost benefit of interdisciplinary collaborative working in addition improving the organizational structure, streamlined process, team building,

and effective communication while in turn promoting healthier working-learning culture. This also helps in getting the right input at the right stage and time as the urban design project evolves through different phases. Another added advantage is that the methodologies and strategies developed for a project, feeds back into the process of another project to help improve the product with relevant modifications. Urban design solutions will have better chances of navigating different systems of implementation as all the key concerns would have been addressed by the interdisciplinary team.

4. Way forward

The urban design studios of the post graduate urban design program in universities are the most common methods of teaching and training students at all the crucial stages of designing of urban areas. They should aim to engage with exchange of professional dialects as well as diverse viewpoints with the inter-departmental tutors and batch mates. Urban design studios in specific should give students an understanding of highly complex urban issues and improve urban design skills including the ability to develop resilient policies, strategies and projects for the prevailing urban conditions.

Space production processes in most metropolises are being shaped by neo-liberal urban policies favoring global economy. Architects, landscape architects, environmental designers and urban planners play vital roles and thus create certain influential domains with the realm of space production and design. Multi-faceted professional knowledge is dependent on the iterative interdisciplinary approach and intense collaborative working not only in an urban context but different national contexts .Interdisciplinary collaboration helps in strongly positioning urban design students and professionals in diverse contexts that are driven and shaped by the growth as well as the transformation. Collaborative urban design studios (both academic and practice) can be important resource centers of innovative concepts and solutions in an age of depleting resources. In this regard, even a small scale urban design project has to be put in perspective of the city and the region beyond. Need of the hour is integration and collaboration which places less importance on singular intelligence and emphasizes more on collective acumen. Urban design profession has the potential to be emerging specialism at the interface among architecture, urban planning and other professions related to built environment. Although universal model for collaborative interdisciplinary working cannot be devised, a common language for effective communication among diverse professionals needs to be developed for fostering a passionate commitment to create better quality urban spaces. The collective vision of a city which is rooted in socio-economic equity, environment and innovative urban design solutions could be realized through collaborative and dynamic interdisciplinary approaches.

Diverse differing viewpoints do exist within the urban realm in the process of creation of vital, inclusive and pluralistic conceptions of urban spaces. Hence, urban designers with their proactive approach need to possess the aptitude to reconcile and negotiate complex urban schema while taking into consideration of the relevance of these viewpoints. It is vital to explore

the multiplicity of roles played by of architects, landscape architects, environmental planners, urban planners and urban designers in reaping the benefits of interdisciplinary collaborations concerning the spatial, ecological and political resiliency.

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