ARCHITECTURAL EDUCATION- PERSPECTIVES FROM THE URBAN DESIGN STUDIOS

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ABSTRACT

Architectural education has always been critical since it has a direct implication on architectural practise. The ever changing demands of practise have significant criticism on the way architecture curriculum is handled across institutions. In recent years, the relevance of conducting Urban Design studios at the architecture under-graduate level has drawn wide attention. This paper discusses the importance of the Urban Design studios in the context of architectural education in India and how it builds up resource for architectural education. The author stresses the importance of Urban design studios in architectural education and also has documented various methods of conducting the urban design studio with respect to the overarching issue concerning each studio project. For this, six urban Design studios conducted at the Under-Graduate level were considered for further evaluation. The paper also brings in various aspects of the studio, its limitations, relevance, learnings and challenges that can be drawn to conduct similar studios to improve overall architectural education in the Indian context.

KEYWORDS: Architectural education, Urban design, learnings, challenges
1. INTRODUCTION

Architectural education got institutionalised in the 18th century, also during which the performance of Architects declined. All this not only led to the closing of the Academie De Architecture that was found in 1671, but also contributed to the beginning of Ecole De Beaux Arts and Ecole Polytechnic, which then became the two most influential educational institutions (Tzonis, 2014). In the 20th century, Bauhaus ideology was introduced by Walter Gropius which advocated rational process of design (Politeknik et al., 2008). Since then, there have been rare efforts for radical changes in architectural education. One could also blame the University managements or committees influence in the University education without realising the importance of architectural professional practice and the built environment (Tzonis, 2014). Hence, the essential gap between architectural education and practise can diminish when the students work on real life design commissions.

Architectural education has changed its course in the last 50 years. Design studio curriculums have seen the use of digital technologies in the 21st century. Use of online tools, web-based learning, mobile applications and 3D modelling in architectural education is at the forefront. Among the top International architectural schools, 68% of the computer application course were integrated with the architectural design studios (Soliman et al., 2019). The changing architectural profession, its needs, role and demands have influenced the course of architectural education. There are wide range of multi-disciplinary subjects that are taught, and the students are expected to learn and demonstrate the learnings as part of their design. This includes theory subjects, studio subjects, practical subjects and internship course which has its own importance (Ghonim & Eweda, 2019).

The pedagogical approaches in the field of architecture and allied fields can be categorized into four kinds- Academic, Craft, Technological and sociological (Salama, 2007). The concept of living lab has been advocated in which students acquire essential skills, to come up with successful designs while also learning communication and effective management (Illes & Kristianova, 2022). Another dimension of the Architectural education is the inclusion of interdisciplinary research (Joklova & Kristianova, 2019). Students working in pairs often discuss and solve the professional problems as a team that involves analysis, territoriality, on site analysis and land use planning (Joklova & Kristianova, 2019).

2. ARCHITECTURE EDUCATION THROUGH URBAN DESIGN STUDIOS

In recent years, conducting Architectural Design Studios focused on Urban contexts and Urban Design had drawn wide attention across many architecture schools in India. This has become a trend that the schools offer the studio in the penultimate semester and demonstrate the skills obtained or publicise the work produced by their
students. The design studios offer a setting where students learn and test ideas as well as skills that are fundamental to design (Albright et al., 2022).

The design process in which social, environmental and aesthetic habitats are created is Urban Design (Joklova & Kristianova, 2018). There has been a wide attention to Urban Design studios at the Undergraduate education level. This interests many students as they come out of the mundane approach of working on a defined site with a common design problem addressed to the entire class. But also, the challenge they face is to comprehend the scale, not working on a single plot, understanding stakeholders, multiple issues pertaining to multiple owners, comprehension of the urban problems and so on. Urban Design education itself is too vast in its scope since it encompasses architecture, urban planning, landscape, conservation, environmental planning and so on. It creates new opportunities to learn new theories and approaches as well as brings in complex problems of the environment and related social implications (Illes & Joklova, 2022). Urban Design Studio inculcates the imagination of students. The profession mediates between architecture and planning. Hence it becomes doubly challenging for the faculty to teach and guide the students in the studios at the Undergraduate level dealing with urban design.

In this paper, Architectural education and learnings have been analysed through the six Urban Design studios that were undertaken at our School (School of Planning and Architecture Vijayawada- SPAV) since 2013 for the Undergraduate students of Architecture. The studio consists of about 75-80 students in each batch and about 3 to 4 faculty for each studio. Each studio is aligned towards a genre of urban problem and specific urban design issues.

In most of the architecture schools in India, this particular studio is dealt at the final year level just before the Thesis semester, so was ours. The broader urban perspectives of the studio helped the students to expand their learning platform and also in experimentation. This also is a kind of additional toolkit for them before entering into the Thesis semester.

The author discusses the studio problems of the six Urban studios below and explains how each studio had built up a resource for architectural education.

3. STUDIO 1 -MUSI RIVERFRONT DEVELOPMENT, 2013

3.1. Description of the Project and Location

Historically cities emerged on the riverbanks due to heavy dependency on water for various purposes. This relationship between water and the city and in turn with the river gradually increased. Rivers have contributed to great civilizations and settlements. Riverfronts were the places that glued the cities and contributed to vibrant urban public spaces and great buildings of architectural marvel.
Rivers were a source of water for daily domestic needs, environmental benefits, construction of settlements and other diverse opportunities. But in the current phase of urbanization, most significant riverfronts have lost their identity and become derelict, have become backyards to cities or landfills, in some cases there are unhabitable informal settlements contributing to environmental issues.

The very first studio deals with interface of river and the city in the Indian context. It was proposed to select Musi riverfront of Hyderabad city, since the city developed through several layers of history along the river with diverse culture and religions. Studio aimed at understanding the interface between the river and the city since it evolved as a complex urban fabric but in the current state has become a backyard in the context.

The city currently has about 8 million population. Several environmental campaigns are run across the city to restore the natural entities. As part of the studio and under the Save Musi campaign, riverfront in the Old city area was selected. Under the campaign, the riverfront of the city was divided into three major precincts- Ecological precinct, heritage Precinct and the Metropolitan precinct as shown in Fig. 1. The Old city riverfront was under the Heritage precinct.

![Fig. 1. Musi Riverfront, divided into three zones under the Save Musi campaign in 2006, Source: SPAV Urban Design Studio-2013](image)

The studio is focussed to address various issues along this heritage precinct and its overall transformation through new developments, transportation, local identity, conservation, insufficient housing, land use, morphological transformations etc. The southern part of the river is an old city area, and the northern part is relatively new development.

### 3.2. Studio Objectives and Interventions

Though many issues are generic with respect to other cities along the river, the idea was to make the students discover the historical growth patterns, study the transformation, present development trends and development challenges in these areas
for a more convivial future. The objective of the studio was to study the ecological edge (both old and new) and find out relevant sites for intervention which would create great impact on the surrounding built fabric. Excerpts of the student’s work are shown in Figures 2, 3 and 4. In depth Urban design analysis was carried out in various layers of Morphology, building use, Building age, Movement network and open space structure. The design demonstration was at different scales- Overall structure plan level, area level and also at site level.

![Fig. 2. Morphological study, Excerpts of students work, SPAV Studio 2013.](image)

Students worked out the Vision for the entire Heritage precinct and formulated set of Urban design objectives. Later, they developed the structure plan to comprehend the
Vision and objectives. Under the larger vision, individual groups had demonstrated area specific and site-specific designs.

4. STUDIO 2 -ADMINISTRATIVE SYMBOL FOR THE CAPITAL OF ANDHRA PRADESH, 2014

4.1. Description of the Project and Location

Capital cities are considered to be the symbolic image of any state or country. They also hold the position of being the administrative centers holding the government authority and power and in some cases being a symbol of democracy.

Historical capitals such as Fatehpur Sikri, Shahjahanabad, Paris and Washington D.C are considered as of urban design and often used as case studies for the new capitals.

The 21st century capital cities such as New Delhi (designed by Sir Edwin Lutyens and Sir Herbert Baker), Canberra (designed by Walter Burley Griffin), Chandigarh (designed by Le Corbusier) and Brasilia (designed by Oscar Niemeyer) have positioned themselves as iconic complexes housing government functionaries and yet carrying the symbol of their respective states and countries.

After the independence of India, several new capital cities were designed, such as: Bhubaneswar, Chandigarh, Gandhinagar, Naya Raipur. Apart from these, several important buildings associated with the functioning of the capital had come up, such as: Charles Correa’s design of the Vidhan Soudha of Bhopal, Parliament Library by Raj Rewal and the Secretariat building of Chennai. Studio encouraged to look at certain important capital related projects outside India, such as: the National Assembly of Bangladesh by
Louis Kahn; Sri Lankan Parliament House by Geoffrey Bawa; Capital Complex of Bhutan in Thimpu by Christopher Benninger and the renovation of Bundestag building of Berlin by Norman Foster.

The need of the capital raised from the newly bifurcated state of Andhra Pradesh in 2014 and the Government had just started scouting for sites for the new capital. Three primary sites were chosen for siting the Capital complex with an approximate area of 250 acres. The first site is next to a large lake, the second one is a university campus, and the third one is landlocked between hillocks where there are significant temples around as shown in Fig. 5.

![Fig. 5. Context of 3 sites for Capital Complex design, SPAV Urban Design Studio-2014, Source: Google Earth](image)

4.2 Studio Objectives

In this studio, the students shall explore what it means to be a capital city in the twenty-first century. Students were expected to design the administrative centre for the newly bifurcated state of Andhra Pradesh. By designing this large scale multi-functional urban intervention, students are expected to address a range of complex issues, such as the relationship of the new city with its immediate natural environs, transportation and infrastructure networks, and functional relationship between diverse building types. It was also expected that the students would explore the complexities in the relationship between public and private spaces; between built and un-built environment; local vernacular ethos and global aspirations; historic imagery and futuristic visions. The studio was focussed on addressing strong issues like new development, transportation, scale and proportion, local relevance and global identity, conservation, land use, morphological transformations etc.

Students produced commendable work both at the level of site planning and also at the building design level. Inspirations were drawn from the historical sites and local values. A site plan of one of the schemes is shown in Figures 6 and 7.
Fig. 6. Site landlocked between hillocks, Excerpts of selected Student work, Capital Complex design, 2014, Source: SPAV Urban Design Studio-2014.

Fig. 7. Site landlocked between hillocks, Excerpts of selected Student work, Capital Complex design, 2014, Source: SPAV Urban Design Studio-2014

5. STUDIO 3 - URBAN INFILL STUDIO WITH FOCUS ON URBAN HOUSING, 2017

5.1 Description of the Project and Location
Cities are growing in an uncontrollable manner, though there are planning mechanisms and byelaws in place. The growth patterns within the city are often differential and fragmented. Some areas are high dense and some are low dense. This is often seen due to differential land ownerships and political interventions and administrative reasons. What is alarming in Indian cities, is the shortage of formal housing in many cities. Sometimes the development does not correspond to the infrastructure developed in the cities. In past years, many cities underwent infrastructure upgradation under the Jawahar Lal Nehru Urban Renewal Mission (JNNURM). And Vijayawada was also one of them which had developed Bus Rapid Transit System (BRTS) road infrastructure under the mission. But unfortunately, it was all done in a hurry to utilise the funds. The development along the corridor was low dense and didn’t respond to a corridor like BRTS.

![Fig. 8. Site for Infill development, Source: Google Earth.](image)

In this Studio, one such case identified is the railway land along BRTS (Bus Rapid Transit System) corridor, adjacent to Satyanarayananapuram in Vijayawada and since the new capital Amaravati was coming up, there will be lot of in-migration and upgradation of infrastructure, which will further increase the housing and other recreational demands. Currently, these can be observed in the city through recent initiatives. We took this as an opportunity and as a means to achieve a development that can respond to a BRTS corridor, introduced high density Infill development with Urban housing as the main agenda. Site was chosen along the BRTS corridor as shown in figure 8 above.

### 5.2 Studio Objectives

The studio objective was to study the existing typologies of housing and commercial also considering the issues related to Morphology, Open spaces, Movement network, building uses/ activities and design an environment imageable and liveable along a transit corridor. Possessing an ample amount of land under Railways, thus has a high demand for urban infill and can be developed under public-private partnership.
Students were instructed to propose a Structure plan for the entire contiguous Railway Land and come up with detailed design interventions in the proposed 7.5 acres site.

Intense studies were undertaken to understand the prevalent building typologies in the city as shown in Fig. 9. Later, design proposals demonstrated new housing typologies with high density and mixed uses as shown in Fig. 10.

**Fig. 9.** Building Typology Study, Excerpts of selected Student work, Urban Infill, 2017, Source: SPAV Urban Design Studio-2017

**Fig. 10.** High-density Mixed-use housing, Excerpts of selected Student work, Urban Infill, 2017, Source: SPAV Urban Design Studio-2017.
6. STUDIO 4 - REGENERATION OF URBAN CORE, 2019

6.1 Description of the Project and Location

Understanding core city areas has always been the interests of Architects and Urban Designers since they are the very first imprints of image of the city. Core city areas are dense, diverse and mixed in uses offering wide variety to the residents. But in the current era, core city areas have been facing challenges of growth, cultural transformation, degradation of infrastructure, unhealthy conditions and rising population. These pressures have made them special areas in the city development process as well. Urban regeneration is this case is one tool of urban development which can revive the economy of the old core areas and bring back vibrancy back in place.

In this case, one town area (Old town area) of Vijayawada city was identified as the Urban core for regeneration exercise as shown in Fig. 11.

![Fig. 11. Old City Study Area for Regeneration, Source: Google Earth.](image)

6.2 Studio Objectives

Extensive documentation of the core area was one of the key objectives so as to understand the complex layers of morphology, culture, diversity, density and functional activities. The aim was to create a comprehensive vision for the One town area of Vijayawada in order to address current demands and issues, as well as future uses. The studio also demanded reconnaissance survey, discussions on site and regular visits to the core area for understanding the real time issues and what people would desire in the core city. During the Studio, each participant was expected to engage in conversations with the locals and instructors in order to demonstrate project development. Excerpts of the studio documentation are shown in Figures 12 and 13. Urban Design interventions were proposed in the respective zones in groups.
Core area issues were quite challenging in terms of new interventions proposed. Students were advised about various consequences of imposing sudden or alien urban interventions in sensitive urban areas like these.

7. STUDIO 5 - REINVIGORATING PUBLIC SPACES, 2020

7.1 Description of the Project and Location

Urban Design was always and will be focussed towards improving the public realm. Urban design is also defined as an interface between Architecture, Landscape architecture and Town planning. However, one has to understand that Urban design is an interdisciplinary, collaborative, integrated approach of design concerning skills and expertise of wide range of professionals.

With the new pandemic havoc created around the world, people have a new social norm to be followed. Those were the good old days when we could appreciate our public
spaces and life between buildings. And now our public realm is infected and causing concerns for our society and well-being. Dense urban districts became a choice of life for many citizens but today they are considered as hot spots of spreading the infection. Our old cities like Shahjahanbad, Old Hyderabad, Walled city of Jaipur was vibrant and convivial. It’s time now to rethink our public spaces concerning some larger city level issues. But the pandemic has not only created pressure on our daily lives but has shown that something like this can affect external and internal space usage as well. Perhaps the dilemma is whether some of the theories once advocated in the field of Urban Planning and Design are still valid? With the increasing emphasis on social distancing norms worldwide, the question is whether we would advocate the same principles of design, or we would move into the future with unknown possibilities.

7.2. Studio Objectives

The studio objective was to conduct an urban design analysis of the public spaces across eight metropolitan cities namely- New Delhi, Lucknow, Kolkata, Chennai, Bengaluru, Hyderabad, Kochi and Visakhapatnam through documentation. These cities were chosen considering the proximity of students’ hometowns since this was carried out during the pandemic time. Students were then asked to prepare the vision for the public space. Since this was done during the pandemic, students had the advantage of choosing metropolitan cities near their hometowns and then working in groups online. The studio discussions and reviews were held online. Though there were certain advantages, there were immense challenges too since entire documentation and design was handled online during the global crisis. Students came up with design interventions in the public spaces from the selected eight cities as presented at Fig. 14.

Fig. 14. Excerpts of selected Student work, Reinvigorating Public Spaces, 2020, Source: SPAV Urban Design Studio-2020
8. STUDIO 6 – RETROFITTING FOR SMART CITIES, 2021

8.1 Description of the Project and Location

In India, the Smart Cities Mission was launched in the year 2015 by the Government of India to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment through the application of smart solutions (Government of India, n.d.).

Today, about 31% of India’s population lives in cities with a contribution of 63% of country’s GDP as per the 2011 census. By 2030, this percentage is soon going to reach 40% and would demand physical, social, institutional and economic infrastructure for the city (Ministry of Urban Development Government of India Smart Cities Mission Statement & Guidelines Government of India Ministry of Urban Development, 2015).

Cities are contesting for better liveability, resources and infrastructure to achieve overall sustainability. Smart cities’ focus on this regard is to create a model for other cities also to aspire and achieve. In this regard, the Government of India has shortlisted 100 cities under the mission and provided pilot fund to retrofit the cities.

The studio aims to achieve the Governments mission to develop these cities. Nine smart cities were chosen to undertake the study and design intervention namely- Tirupati, Agra, Agartala, Indore, Madurai, Jaipur, Trivandrum, Varanasi and Warangal that were already listed under the Smart Cities Mission and have got initial funding from the Central Government for retrofitting.

8.2 Studio Objectives

The key objective of the studio was to expose the students to the Government initiative under the smart cities mission and what policy interventions were presently undertaken by the cities. Students were engaged in constant updates on these cities and students were expected to bring out various important aspects of urban developments and challenges in the context of retrofitting. As in the case of other studios, layers of morphology, history, city growth, socio-cultural background, open spaces systems were studied.

Students were also exposed to understand and analyse basic principles of Urban Design and its relationship with Architecture in context with the city being studied. The studio identified and focussed on issues which addressed the SMART city objectives and also established the importance of community participation and their involvement in the design process.

Specific sites for intervention in these cities were identified and design demonstrations were undertaken. The significant objective of the studio was to
demonstrate architectural and urban design abilities to achieve the Smart City objectives. Design interventions in line with the SMART city objectives were presented by each of the groups. Selected student work is shown in Fig. 15.

![Fig. 15. Excerpts of selected Student work, Retrofitting for Smart Cities, 2021, Source: SPAV Urban Design Studio-2021.](image)

9. RESULTS

Through these Urban Design studios, not only did students got exposed to the generic as well as specific urban issues of the respective cities but students realized how important it is to comprehend the issues of the city to formulate a cohesive and collective vision. Table 1 is a summary of the studio project relevance, challenges and learnings across the six Urban Design studios conducted at the school.
Table 1. A summary of the studio project relevance, challenges and learnings across the six Urban Design studios conducted at the school.

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<th>Studio</th>
<th>Relevance</th>
<th>Challenges</th>
<th>Learnings</th>
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| STUDIO-1 Musi Riverfront Development-2013 | Rivers in today’s context have become backyards and before they die, we must protect them. The studio supported the Save Musi campaign to protect the river. | Since the study area was almost 3km stretch, time and data collection were the biggest constraint. The challenge was to comprehend the scale and collate data and design ideas as one comprehensive proposal both at the city level and site level. | - Master planning for a large site  
- Addressing heritage issues  
- Learning in groups through discussions and debates  
- Sense of competition since there were multiples zones  
- Inculcated confidence in students through interim workshop |
| STUDIO-2 Administrative Symbol for the Capital-2014 | This was the time when the State bifurcation happened and the capital for the newly formed state was announced. This gave the opportunity to align the studio with the live proposal. | The design of a Capital Complex was once in a lifetime opportunity for any state. And this was a great challenge for the students as well to work on it. Challenge was to handle the Architectural design with attention to culture and context. | - Site planning for large sites  
- Designing movement network for virgin sites aligned with the city network  
- Addressing local culture in design process and development |
| STUDIO-3 Urban Infill Studio-2017 | Most of the urban center in India were and are facing acute housing shortage. Many large portions are underdeveloped. Studio focussed on creating high dense Infill development to address the issue of underutilization of land. | Site was not very large as compared to the previous sites offered for Urban intervention, but what was challenging was to read the existing housing and commercial typologies in the city and come up with typologies that are consonant with the existing context. | - Issues in designing high rise and high-density living environments  
- Mixing of typologies and uses in a compact site  
- Designing Large scale Urban mixed-use housing considering all local conditions and byelaws |
| STUDIO-4 Regeneration of Urban Core-2019 | Core areas in the Indian context are facing immense pressure of urbanisation and also grave issues of management. | The selected study area is the core area of the city with the highest density and developmental challenges in the city. Any small intervention in the area is highly sensitive and challenging. | - Reading the Urban fabric of the core area  
- Understanding the complexities of functions of core  
- Issues of heritage, redevelopment, renewal etc. |
| STUDIO-5 Reinvigorating Public Spaces -2020 | Public spaces are vital for our cities to function. It is pertinent for us to develop good public spaces which are universally accessible. | The studio was held during the COVID-19 crisis and that was the greatest challenge since many families, faculty and students were affected with covid. Online sessions somehow helped us to achieve what we wanted to. | - Reading public realm  
- Perception of people towards public environments  
- Learning from popular public spaces across the world  
- Since students were from multiple cities, working online was beneficial during COVID-19 |
| STUDIO-6 Retrofitting for Smart Cities -2021 | Retrofitting was one of the three models under Smart city development. National Smart Mission initiative was started by the Government of India launched in 2015. 10 Smart cities were chosen for the studio. | As the previous studio, this studio was also held online. The challenge was to get the data online and cautiously conduct studio sessions. Many offices during this time were closed and data was inaccessible. Technological tools were explored during this phase by students. | - Real time sites identified by the cities under the Smart Cities Mission were chosen  
- City documentation and urban intervention techniques  
- City specific issues were interesting for students to deal with in groups  
- Cross learning through presentations across different cities  
- Since there were multiple cities and sites, this generated a healthy competition among students |
CONCLUSION

The vision formulation and setting out the urban design objectives gave ample opportunity for the students to hone their skills towards multi-dimensional thinking through wider lens of cities which they could not experiment while working for architectural projects. This made them realise how sensitive urban issues are and how design interventions should cater to the community and in the larger interest of the people and stakeholders and not just a creative exercise. Here the so-called client is not a single person or a group, it is everyone who inhabits the city and every taxpayer has the right to live and experience the space that is created. Extensive documentation of cities helped to create large data base and at the same time help them to understand the scope of Architects in dealing with urban contexts. Through studio discussions, crits and juries, students could foresee a larger role of architectural design in various different contexts.

Apart from the above, students developed technical skills of representation, scale, proportion, analysis, criticism and discussion as a team. Working on these sensitive Urban issues and contexts, made them understand architectural projects as subsets of urban environments and interventions.

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