

GLOCALIZING UNIVERSAL DESIGN EDUCATION FOR CULTURAL INTERFACE IN INDIA

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Abstract

Globally universal design has become a worldwide movement and universal design courses are found in universities all over the world. However, in India universal design education finds little space in the curriculum of design schools. This is because there is lesser awareness, poor understanding of its application in the local context and weak government policies to back universal design. School of Planning and Architecture (SPA), Bhopal, conducted a one year long design studio under Berkeley Prize Teaching Fellowship-2013-14 on 'UNIVERSAL DESIGN FOR CULTURAL INTERFACE IN THE SACRED SITE OF UJJAIN'. The studio focused on equal access to achieve universal design for a culturally rich site in India. This paper shares the journey of universal design education, from global to local, in an architectural design studio within the culturally diverse context of India, as revealed by a year-long project set in the riverside town of Ujjain. The result of this project is a set of tools that are applicable for teaching universal design as part of the everyday curriculum of architecture schools both in India and around the world. The Teaching Fellowship was led by Dr. Ajay Khare, full time Professor in the Department of Architecture, and Chairperson of Center for Human Centric Research and Director of SPA-Bhopal.

Keywords:

Universal Design Education, Human Centered Approach, Social Sustenance, Equity, Cultural Diversity

Background

Ujjain is one of the seven sacred cities for Hindus and presents diversity in true Indian context. Apart from the rich tapestry of myths and legends, the city has witnessed a long and distinguished history with rich traditions. The city was called Ujjayini in ancient times (6th Century BC) and is referred to as Ozene by Ptolemy (2nd Century AD). The city was a center of Buddhism and later Hinduism. It is also known for traditional astronomical sciences because of its unique geographical location at tropic of cancer. The city is a famous pilgrimage and visited by several people to pray for good health and well being, and a large number of them are vulnerable and deprived. This is also a site of mass Hindu pilgrimage or bathing festival called Kumbh or Simhastha which is celebrated in a cycle of twelve year at a certain celestial composition with Hindu calendar. It is the world's largest religious gathering and conglomeration of diverse population. Taking the opportunity of upcoming Kumbh in 2016 in this design studio, the students researched on the needs of diverse users, investigated heritage issues, explored site considerations and developed universal design solutions that offer equal opportunity to everyone at Ujjain.

Our institute, School of Planning and Architecture (SPA), Bhopal, is an autonomous institution of Ministry of Human Resource Development, Government of India. The institute is committed to produce socially responsible architects and planners and thus has embraced Universal Design as one of its priority research areas. Supporting its Charter to be a socially responsible institution, a multidisciplinary Center for Human Centric Research (CHCR) is housed at SPA-Bhopal. In accordance with its objectives, the CHCR conducted this design

studio for Berkeley Prize Teaching Fellowship. The studio focused on equal access to achieve Universal design for a culturally rich site.

As per the norms of Council of Architecture (a regulatory body of architecture education and practice by an Act of Indian Parliament), the accessibility was made compulsory in architecture curriculum in 2005, and since then most of the schools teach it as a set of codes and guidelines developed by the Government of India. These guidelines are adopted from the western model and do not have any research base in the Indian context. There is an acceptance by the regulatory bodies that it should exist in the existing architecture curriculum but the effort loses relevance without contextual understanding and application.

The Universal design is not part of the regular curriculum in most architecture schools in India including our own institute. The subject like environment psychology, barrier free environment, man-environment studies, sociology are taught separately as theory courses and are remotely connected with architecture design studio. As academician and researcher in the area of universal design, we always struggled with the existing system and have attempted short term courses and students competitions to spread awareness and understanding about the concept. These short Universal Design courses were parallel optional courses, offered without interfering with the existing regular curriculum, and hence were acceptable to everyone including faculty, students and education administrators. This one year long Berkeley Prize Studio provided us an opportunity to explore ourselves as universal design educators, and find a place in the existing pedagogy.

Course Outline - Students, Faculty and Curriculum

The undergraduate degree program of architecture at SPA-Bhopal has ten semesters of six months each. One full semester design studio consists of three academic credits out of the ten academic credits allocated for a semester. In this one year long Berkeley Prize studio, four design projects (two every semester, one major and one minor) were conducted for Bachelor of Architecture degree students from July 2013-May 2014.

In the first semester, the first project was to design an 'Interpretation Centre' at Ujjain and was of twelve week long duration. It had 75 participating students of B. Arch. V semester. The second project was an intense interclass interdisciplinary studio of two weeks, in which students designed 'Temporary Shelters for Diverse Visitors' during Kumbh festival at Ujjain. The second project had 225 students of all Years of B. Arch. We also invited about 90 students from undergraduate programme of planning to participate with the students of architecture. The first one was an Individual project and the other one was a group project.

In the second semester, the first project was for 75 students of IV semester with a brief to design a 'Dharmshala (a traditional place of stay for pilgrims)' at Ujjain and was of twelve week long duration. The second project in this semester 'Redevelopment of Shipra River Front (Ghats) for Universal Usability' was a two week studio was for the same students, but was extended as student design competition at national level. This was also extended to other faiths and other cities of India with a theme of 'Inclusive Design for Pilgrimage Sites'. We floated a national design competition and asked students of other colleges to attempt universal design for any one pilgrimage site in the country. We shared universal design resources with all of them and created virtual interaction forums for discussions and dissemination. We received registrations from about 200 student teams of about 600 students. The student competition culminated in March 2014, in which our 75 students of 2nd year also participated together with the students of other colleges on the same theme.

We initially thought that we would conduct the Berkeley Prize studio with third year design student for both the semesters of the year-long teaching fellowship, but later changed the idea and worked with different set of students in two semesters. This was because with our

current syllabus/curriculum requirements, the design studios have different focus in different semesters, and it was difficult to have common theme for two semesters with same set of students. However, we thought that since it is a teaching fellowship, it is more important to have common teaching faculty team throughout the year rather than the common students. Finally, as mentioned above, in the first semester we worked with third year (V semester) undergraduate architecture students of the fellowship, for whom existing syllabus stated that they would work on large span structures. In second semester we worked with second year (IV semester) students, and they were supposed to work on climate responsive buildings made up of repetitive units according to their syllabus. To comply with the syllabus requirements, we made our universal design problems accordingly. These students designed small buildings in their previous semesters and were aware of the design process with skills in ideation, experimentation, and evaluation. But in the previous semesters their exercise were mainly related with form development & functionality in spaces. Since the chosen students were in mid level of the five year undergraduate programme, we thought they would be best to experiment with their basic skills and yet-fresh minds.

We invited interested faculty members to make an in-house team. We made a core team with multi-disciplinary experts; we also had a user expert as part of the core team. Other than them we had several multidisciplinary experts and user experts who visited us during the studio from time to time.

The senior administration permitted us in the name of Berkeley teaching fellowship; but nobody was sure about the consequences. They provided us with all kind of support during the entire year including funding for all four studio projects. We gratefully acknowledge the support of all other faculty members and administrative staff, which showed their faith in us.

Inquiries and Objectives

In India, our preferences in higher education are so 'science' and technology' focused, that it is difficult to motivate students to work with/for the community. The students look up to the academic projects which are technical, complex and physical, and they look-down the projects that focus on intangible human relationships. When we started we had several apprehensions and larger questions in mind: Can universal design be taken up in an Undergraduate B. Arch. programme as a full semester course? If yes, then how it would blend with the existing curriculum and teaching practices? Where it would fall in our overall architectural design pedagogy which revolves around form, function & technology? How it would be taken up in a country where accessibility is just another theory subject and is not practiced by students as well as design practitioners? How it would be taken by the students and co-faculty members, education managers? How the studio would appear when seen in the national map of the architectural education?

We were also not sure how universal design would look like India, would it be similar to our 'borrowed from west' accessibility guidelines or would be different in a totally different context? While universal design's 'independence for all' focus is well grounded in western lifestyle of people living independently, what role does universal design play in India's inter-dependent society where most people live with others? There are good examples of universal design in new construction; how can universal design be implemented in a culturally rich heritage site?

With our questions, we formulated our overall teaching objectives other than objectives of the individual studio problems, they are:-

- To explore teaching universal design within a regular studio course in undergraduate programme of architecture.

- To develop tool and techniques of teaching universal design in India.
- To develop human centered, innovative and contextual research tools to investigate UD in India.
- To produce culturally relevant examples of universal design in India
- To share and disseminate UD in architectural education amongst co-faculty members, education managers and other schools in the country.

Studio Outline

With the activities of our Center for Human Centric Research (CHCR), 'Universal Design' concept is not new to the SPA Bhopal students. But every time 'designing for disabilities' remained central to what we did and connected to able bodied users after then. The Berkeley Teaching Prize Fellowship provided us an opportunity to explore the possibility to teach universal design for complex diverse Indian context. The two main highlights of the studio were the engagement of multidisciplinary experts in the studio, and user centered approach for investigation and design. We engaged experts of history, theology, management, police officials, government officers, artists to interact with the students from time to time. These experts unfolded the mystery of the land and helped to understand the users. The participating students were trained to conduct human subject research and also to analyze qualitative data from user study. They were also guided to connect the data to the design outcome. The studio also engaged people with disabilities to help understand the diversity of ability in their design.

1st Semester

In first semester, we introduced the concept of universal design as designing for 'others' who are different and are not known to us. We talked about diversity in Indian context and the unknown diversity that would have been present in the rich cultural context of Ujjain. We also invited person with disabilities and elderly to interact with the students in these weeks. This helped them to understand the major component of the 'diversity' in universal design. They talked, worked, laughed and spent time together, to better understand 'the other'. Many of the students had never interacted with persons with disabilities before, and realized that other than the functional limitations they have, they are very much like them. The next week focused on the human centered approach to design. We taught them tools of ethnographic research for behavioral mapping and helped them to develop research tools for data collection. We also did a few lectures on Ujjain and its historic, religious and cultural context. For this we invited multi disciplinary experts from the field of history, philosophy, theology and city experts.

After initial weeks of knowing the city, we all went together to Ujjain, the city in which we were supposed to design our studio project. They moved together in groups to understand the city fabric and to identify the social opportunities present in the fabric. They identified the diverse users visiting the city including the most vulnerable ones. They discovered that people visit for different purposes and there are several deep rooted beliefs which bring a lot of people with limitations to come and pray for good health and wellbeing. These people come irrespective of the hardships that they have to face when they visit. They interviewed the diverse users including persons with disabilities, elderly, women, children, poor, non educated & rural populations, to understand these strong rooted beliefs, which bring them to the city (Picture 1 & 2). They tried to understand the associated rituals and different activities during the year. It was very overwhelming, when they realized that once in 12 years, approximately 100 times the size of population of city, visit for a holy dip in the Kumbh festival. The city fabric changes several times in a year for different activities and it transforms completely during Kumbh festival.



Figure 1: User interviews.



Figure 2: Sacred landscape of Ujjain.

The students were initially disappointed and disheartened to see the condition of the city and its people. They wondered why people come here when there are so many wonderful tourist spots in the country. The plight of weak and vulnerable was all the more disheartening. Most of the students come from big cities and belong to an elite profession, and they always designed for 'life style'. The traditional Indian way of life was mystic and far too cluttered for them. With more time spent with people in the city, they gradually discovered the 'power of faith' embedded in their culture. They saw an amazing order in the city & its people, which appeared chaotic from a distance. They discovered the 'spiritual connect' which made people 'happy' in the city, which was unknown to the 'material world' that they come from. They also experienced the interdependent nature of Indian families, who brought their elders for a pilgrimage to the site. They experienced the culture of helping people with limitation in such sites, and faith associated with 'punya' (blessings) that they earn while doing so. They also experienced beliefs associated with birth and death in the city of ruling deity 'Mahakaal' or 'Shiva'. It is believed that one gets 'salvation' from all sufferings in Ujjain; this brings a lot of people in distress to the city. This makes it all the more important to make it inclusive for all. People also come from different regions of India, they speak different languages, wear different clothes, but are connected with a common thread of traditions/beliefs of the religion. The city also gets 'sadhus' (saints), who belong to different sects and come to Ujjain to visit different temples or to take holy dip in the river Kshipra. During the exploration all of us realized that city has much more than what meets the eye. It existed for several centuries before, and have traces of the people and their beliefs living in the city since then. The city is a Hindu pilgrimage and we thought that it would be annoying for the city inhabitants to have so many visitors during the year. The city also houses non-Hindus and the question that bothered all of us was - how they feel about the city as a pilgrimage site of another religion. When we spoke with people, we realized that they have so much respect for each other's beliefs; they appeared to be so much compassionate and adjusting for each other. The traditional Indian community may not be so rich, literate and sophisticated but more inclusive, happy and content.

Gradually the 'power of people' started driving the interest of students in the studio. They started appreciating the city, its people and saw scope for universal design interventions. They realized that though the city has existed in its current form for years, there is a need for making life better for all through design. The traditional communities and their precious values would be lost in the years to come, which they thought could also be addressed through design. The students could see 'Inclusive design' as a mode to achieve 'social sustenance' in the Indian context. From the design for 'life style', they inspired to design for the 'way of life'. As stated above they designed an interpretation center and temporary shelter for pilgrims, as two projects in this semester. During pre-design research, the students interviewed about 40 people representing gender, age, abilities and socio-economic conditions. And later they made individual design solutions. The students produced

innovative and empathetic solutions in both the design exercises. The solutions were people centric, contextual, inclusive and cultural, at the same time modern, futuristic and environmental friendly. We also realized that inputs from ethnography research resulted in enriched design thinking in the studio.

An example of the user interview (Figure 3) and a glimpse of the design (Figure 4) are enclosed below.



Figure 3: Example of user Interviews.



Figure 4: Glimpse of a design solution for interpretation center.

One of the biggest challenges for us was the number of students we targeted to reach during the Berkeley Prize studio. We reached to about 225 students in this semester with the theme. For this we trained 75 students in the first exercise of this semester, and then trained 225 students through them. We did the second exercise of the semester in groups, in which we distributed earlier trained seventy five students. This worked very well as the trained students interpreted and internalized the concept with the responsibility to explain it to their fellow students. They became our ambassador to reach a larger group of students. They were not very sure that how to achieve the universal design solution for a complex context in Ujjain, but were moved with the power of social opportunity. After they interacted with the user experts and the diverse visitors in Ujjain, they were very convinced for the cause and convinced their co-team members. We invited multidisciplinary experts, universal design experts and user experts from time to time and mentored them during the studio. We tried to look for answers together and helped translate their expressions to design solutions.

IInd Semester

For this semester we had 2nd year students, who were even younger than the ones in earlier semester. It was further more challenging to teach the concept to them. We simplified and connected with them in much more informal way than the previous semester. There were several unanswered questions from the previous semester that we explored together in this semester. With their curriculum requirement, they were suppose to work on climate responsive buildings, so there was another level of challenge this time with climate responsive buildings; this was another value addition. This also helped them connect inclusive design to the larger body of 'design ethics' which is a shared responsibility of all designers to craft a socially and environmentally sustainable planet.

We started again like a regular design studio and planned it in a way that it connects with what is already known and practiced in a typical IV semester design studio. We had the same diverse core faculty team. We realized that with so young students the formal and intense training of ethnographic research methods may not work so well as with the senior

students in the earlier semester. We planned that we would conduct an open ended design studio with a structure / support to keep them on track. To start with we identified important key words for our studio after intense discussions with the co-faculty members with consensus. The key words were identified under larger umbrella of 'architecture is a social art' and are – 'design ethics', 'environmental and social sustenance' 'inclusive/universal design', 'design for diversity', 'human centered approach' & 'cultural context'. As planned we conducted parallel lectures, training, multi-disciplinary experts inputs and user experts inputs in relation with the key words, and then students developed their own design proposals (individual and groups) backed by pre design research.

In the studio, we introduced the concept of universal design as part of 'design ethics' which is equally important in the built environment with form, function & technology. We connected with green design, sustainable design to make an argument in favor of universal design and design ethics. We further elaborated universal design as 'design for diversity' and 'design for others'. Then we then introduced 'human centered approach' as a tool to explore diversity and add value to the design process they already know. We told them how to involve users during pre design research, design development and post design feedback in the design process.

After initial classes of preparation we took them to the city of Ujjain. In this semester they were suppose to design 'Dharmashalas-traditional community mansions for pilgrims' and attempt 'redevelopment of Shipra River Front (ghats)' for universal usability. Dharmashalas are typical traditional features of pilgrimage cities in India, they are owned by community to serve people. The buildings typically reflect the communities to which they belong and the people who stay in them. The dharmshala was a new concept for students, so we also took them to another pilgrimage city of Shirdi to understand it better. Some of the dharmashalas were historic buildings and belonged to the era when there was no electricity, hence were brilliantly climate responsive done with indigenous ways. The students also documented existing river front and structures around. In fact, we all stayed in dharmashalas in both the cities we visited. The students spoke with pilgrims, local people and facility managers to map the users' behavior (Picture 5) and understand diverse people's needs. They also made their own list of building requirements to address those needs. They addressed social, cultural and economic diversity together with diversity of abilities/disabilities while formulating requirements and developing design solutions. We also worked with full scale model (showing in Figure 6) this semester for design development and user testing.

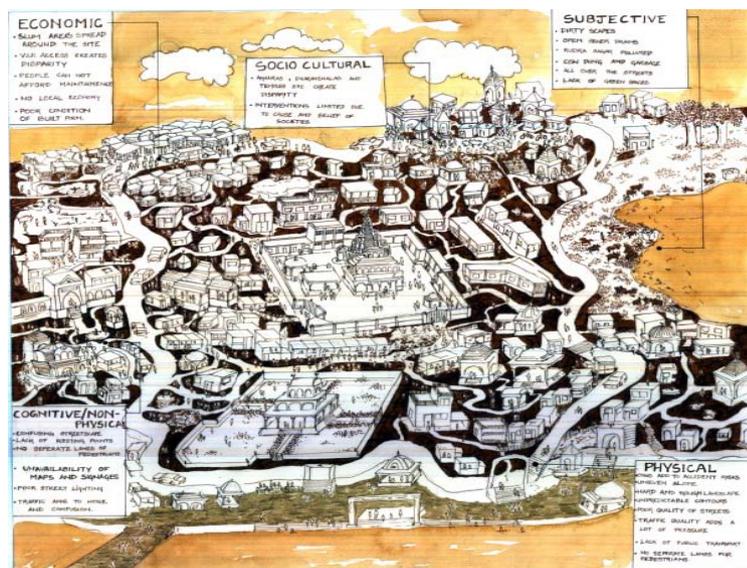


Figure 5: Context mapping.



Figure 6: Full Scale model for design development.

We extended one of the design problems during this semester as a National Student Design Competition. We extended our studio theme 'Inclusive Design for Cultural Interface' to other faiths and other cities of India as 'student competition' at national level. We floated a 'National Student Design Competition' and asked students of other colleges to attempt 'universal design' for any one pilgrimage site in the country. We shared universal design resources with all of them and created virtual interaction forums for discussions and dissemination. Our students participated together with the students of other colleges on the same theme in the competition.

With a challenge and opportunity for innovation, UD concept reached across the nation through this student competition, and accepted by design students even when it was not a part of their curriculum /academic credit. It also gave us an opportunity to share and compare our work with other architecture colleges of the country. Since the competition was open to all architecture students in the country, our IV semester B.Arch. students were competing with senior undergraduate and post graduate students. We realized that our students, who were given inputs from ethnography, sociology and who worked with people centric approach, produced much empathetic solutions grounded in people needs. They had unmatched confidence in front of others who were senior to them, and they defended their designs with much more conviction compared to others. Since everybody was worked on inclusive design at historic fabric in competition, we observed that our students graduated from 'minimal intervention' to 'whole design solutions' to benefit communities.

Conclusion: Learning's from the studio

We had several moments of joy and sorrow in this one year long studio. Universal design is an abstract concept which cannot be seen and can only be experienced. It was neither easy to connect with the regular practices in design studio nor sustain students' interest for such long time in this otherwise fashionable and elitist profession. After one year past two months, we would say that though it was difficult BUT not impossible.

The semester was full of vibrant discussions. It was learning for all those students and faculty members who were new to the universal design field. And it was 'introspection' and 'reinvention' for people like us who worked in the area of universal design for long. We have seen it as a concept which evolved internationally after years of work in the area of accessibility. We struggled with the questions like; How UD would be different in the cities in India, which do not have traces of accessibility / codes? How these traditional communities support people with disabilities and elderly in their cities? How universal design would be seen in the countries / cities where there are several other pressing challenges and marginalized populations? Is it more important to re-explore inclusive / universal design or to explore diversity and its spectrum in Indian context? Would we be able to address needs of all users in one design or it would be 'to maximum extent possible' as is stated in the

definition of universal design? How to do UD intervention in a Hindu religious site where it is believed that more difficulties in pilgrimage would bring more blessings? When teaching undergraduate students of architecture, how can we put across the message of universal design which is comprehensible for their young minds? How should we teach 'universal design' as a process or a product, which is not physical addition but a value addition to the soul of design?

Though nervous in the beginning, we did retrospection and introspection several times during the studio and learnt by our own mistakes and achievements. The best moments were when we connected it with the existing prevalent knowledge, and to our surprise it was then welcomed with open arms. Some overall learning experiences are shared below:-

- In initial phase we did not know where to start with- codes and guidelines, audits, UD case studies or user studies. Though codes do not have a place in universal design, but unfortunately everyone was getting attracted towards those well compiled codes which were easily available on internet. This was because of the fact that compliance to the existing accessibility regulations is almost non-existent in India and the students had not seen even a model example of accessibility.
- Working with user groups, who don't know anything about design was also very different & over whelming for students. The students were very excited when they first met the users, interviewed, observed and collected data, but had problems when they started the design process.
- Connecting pre-design user data with design solution was also challenging, and everyone was perplexed and started losing interest in the beginning. But with perseverance, patience and faith in the 'architecture is a social art', it started showing in design gradually. Had it been a short universal design studio, the results would have been very different.
- The engagement of users and experts gave a new insight to the studio investigation and design. There were so many things we came to know through them those were completely new and unheard of.
- The students employed several methods like environmental observation, trace study, user interviews that helped them to connect their design with the community for larger benefit. This helped them to just not applied problem-solving approach, but attempted a critical, open-minded and open-hearted solution.
- User expert s' feedback on the final designs was also underestimated by everyone; they did not know how non-architects would understand their designs, and realized the value only after involving them.
- During the National competition, we had a chance to compare the work of our students who worked with human centered approach with students of other colleges who were just given the design brief. Our students made 'out of the box' design solutions compared to others. Connecting with people brought innovation and compassion in the studio. Students showed empathy, maturity, and at the same time their designs were reflective of the community needs and way of life.

When we started our studio we were not very sure that how students would be able to attempt 'Universal design' for such overwhelming diversity in India. The diversity where people have limitations of several kinds, like affordability, illiteracy, ignorance, unawareness, age, religion and social conditions like abandoned elderly. We also struggled with the course requirements and co-faculty members with the final design outcomes. We were not sure that would it only be a spatial design or a set of details with features of accessibility. Over the series of discussions and stages of design development, we realized that we are not looking for a 'design' with 'accessibility features' pasted on it but a design that connects with the community and empowers all members of the community. The best design solutions in the

studio did not have just extra sheets with sizes, ramps, handrails, Braille signage or material specifications, but connected their designs with the whole community and issues of people in the community. They did not strait-jacket people to fit in their designs, but tailored their designs to fit the needs of the people. They respected users for what they are, and interpreted universal design as a human centered approach to improve lives of all. Initially our education administrators and co-faculty members thought that we are expert of 'something' which is foreign to them. But when they realized its compatibility with the existing curriculum and their way of teaching, they responded very positively. We started as 'experts with team' and now we have 'team of experts'.

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