India Workshop: Partnering for a socially active design approach

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ABSTRACT In December 2014, a group of 9 students from India (IISc), 8 students from China (UNNC) and 8 students from Germany (UC) met in Bangalore-India for an international design workshop, for approximately 2 weeks. Product Designers, Architects and Environmental Engineers formed an interdisciplinary team of 25 students and 5 staff who were hosted by the Indian Institute of Science (IISc) Bangalore. The workshop aimed at exploring how to effectively respond to established trends of building construction processes for housing in Karnataka (Southern India). Considerations on how to improve sanitation, waste management, thermal performance, and how to challenge these in light of community resources and needs, as much as design constraints were part of the brief. Rural and urban livelihoods were examined, where waste and traditional materials were to be understood as integral and alternative parts of India’s contemporary building practices in urban and rural environments. Housing design refurbishment proposals were developed based on discussions and exchange amongst students and community members. Students led and transformed the brief, process and outcomes based on their experiences and understanding of what they experienced. This paper focuses on the ways in which such learning processes were tested, argued, challenged and developed within such intense few weeks, and how students have become contributors and socially active in the design process and outcomes.

KEYWORDS Spatial design education, design processes, cultural diversity in education, transformative learners, active designers
links that form and surround our natural and built environment. The focus of the studio was to displace students from their familiar environments, be it within their countries of origin (India, China and Germany), or their regular place of living (Urban-Rural), or even their specific field of studies (Product Design, Architecture, Landscape Architecture, Environmental Engineering). Within such context, the utilitarian and environmental brief, became a filter in which students were able to see clients and users as active members within the decision-making process as much as themselves. The studio was an attempt to develop and extend the concept of community-based design learning where the cultural diversity and interdisciplinary nature of the students have provided a much collaborative and deeper understanding of themselves, their own role on shaping their education, and in particular on the power and role of users in the process and outcomes.

The studio had three central themes as for its engagement process:

*Participatory Approach to Design:* Some of the researchers (and design tutors) have been involved on research work with the specific community of Suggenhali (near Bangalore) for a number of years via ASTRA/IISc. The rural development programme established by Astra in Suggenhali village dates back to the mid 1970’s. It was therefore easier for the group of students/staff to connect with the users as there was an established relationship despite the short amount of time spent for this workshop for this particular group of students. ASTRA (Application of Science and Technology for Rural Areas) was established as a Centre in 1974. It is IISc’s inter-disciplinary research and technology development centre for providing sustainable solutions to host of global concerns, primarily dealing with energy, buildings and environment. The Centre’s focus is on promoting Sustainable Technologies tailored to suit local conditions of resource availability and habitation.

*Interdisciplinary Design Approach:* The workshop invited students to collaborate in exercises that challenged their current practices, promoted lateral thinking, and allowed them to learn and apply skills within and beyond their own fields of knowledge.

*Cultural and social awareness:* Bringing students from three different cultural and educational backgrounds to work together have allowed students to be displaced and yet interact with confidence with a number of unknown aspects, united by their common design and motivation for problem solving goals.

The core purpose for the workshop was to experience (immerse) and study modern transitions in vernacular (rural) dwellings from an architectural design appreciation study, and take this theme as a studio exercise for group-discussion and arriving at possible solutions the study involved the following three steps:

**Immersion study**

The immersion study took place in rural Suggenhalli where the students in groups (one each from China, Germany and India) were facilitated to interact with community, understand their aspirational/lifestyle changes, context of local building-materials, built form, occupation.

The theme of transitions in vernacular dwellings was presented by one of the experts in this area, with actual examples of dwellings illustrated and discussed. The reasons for the transitions were also discussed, particularly the influence of the urban centre (Bangalore), shifting occupation and jobs amongst family members, increased aspiration to a better (urban) life, and the increasing inability to maintain vernacular dwellings. One member of each student group knew Kannada (the local language) and hence communicating the local people in their local language was easy.

As part of their field work, the students were encouraged to move about the locality, interact with the locals, make sketches of architectural details, building form, etc., and also clarify doubts if any with faculty members.

**Reflection study**

This was facilitated through group discussions amongst the student groups with the faculty being accessible for any technical doubts and clarifications on the community. The study was to get the students to reflect on the field visit and to understand the vernacular form in the context of local materials, lifestyle, occupation, comfort, sense of belonging and dignity. Further the students were also asked to reflect on their field-experience and observation on the nature of modern dwellings and transitions, in terms of newer building materials being adopted, the form, change in
lifestyle, aspirations and income. The students were instructed to document the same as a studio presentation at the end of the second day at IISc.

**Design solution/proposal**

The third and final step was a proposal for modern dwellings adopting local building materials, form and vernacular design influence. The students were expected to generate ideals and architectural solutions for modern dwellings in response to their aspirations of the local community (based on their reflective assessment on the field visit and direct community interaction). The students had to also reflect on their individual urban upbringing and lifestyle, in providing for the dwelling design requirements of the rural community. The faculty were available for any technical advice sought by the student, but the faculty refrained from providing any design ideas to any student group.

The students were asked to present their appreciation of vernacular and modern-transitions as they have observed, any unique ideas/details noted by them, and the proposed solution for the rural inhabitants.

The studio allowed students and participants-clients (community members) to define their problems and their needs, search for solutions, based on an active exploration of personal experiences and abstract concepts, with emphasis on observation, discussion and experimentation. An emphasis on collaboration, dialogue and social integration permeated the ethos of the workshop, an attempt to stimulate an educational environment that is active, transformative, as Paulo Freire explained in his letter 6 to his niece Cristina:

“I want to learn how to read and write to stop being somebody else’s shadow” said a rural worker in Pernambuco… “The learning of reading and writing would show her, later that in and of itself knowledge does not suffice to stop us from being somebody else’s shadow: it would show her much more is needed. It is by acting in the world that we make ourselves. Therefore, it is by inserting ourselves into the world, not by adapting to it, that we become historical, and ethical beings, capable of opting, of deciding, of breaking away….Reading and writing the word can only make us stop being someone else’s shadow, when, in a dialectical relationship with the ‘reading of the world’ it is applied to what I call ‘rewriting’ the world, in other words, with transformation.

Freire concludes: “Education will be all the more effective to the extent that, while enabling learners to gain access to knowledge of the field they are dealing in, it challenges them to build a critical understanding of their presence in the world.”

The India Workshop tried to emulate an environment that challenged stereotypes and positions of power, by critically engaging students on decision-making that fosters their sense of purpose and ethics. Ultimately, the studio invited their presence for promoting transformation into their own educational processes.

**Studio Brief and Assessment of processes & outcomes:**

As described earlier, this studio was part of an elective design paper led by the University of Nottingham Ningbo China in collaboration with the University of Coburg (Germany) and the Indian Institute of Science (IISc) Bangalore. The Chinese and Indian students passed a selection process to participate on this course, and were fully sponsored by their respective institutions. The German students were offered a partial sponsorship and did not participate on a selection process. All students (from Product Design, Environmental Engineering, Landscape Architecture and Architecture were selected based on their portfolios, interviews and letters of intent. They were all 2nd and 3rd year students and at their arrival in Bangalore, were grouped (3’s) based on their nationalities and fields of experience. Each group would be commonly formed by one Indian, one German and one
Chinese student from as many different professional backgrounds as possible. The focus of the experiences provided for the students and by their engagement in the studio brief students included:

- Opportunity to collaborate and create their own learning practices
- Engage with the outside world with a framework and time for analysis and thinking that do not necessarily happen in professional experiences;
- Obtain actual experience from cultures and social environments not familiar to them;
- Explore the opportunity to be creative within constrained budgets, briefs, and tight deadlines;
- Understand and translate knowledge from many stakeholders, and merge and transform into innovative solutions in a collaborative way.²

The Studio brief offered a site, a broad theme (housing design redevelopment) the logistics of organization and work for the students, a community to work with; a series of detailed tasks and methods for analysis, but it did not propose one specific final outcome (at the end of the 2 weeks). Key aspect in which the students needed to pay attention in order to respond to the brief was: students needed to find out what were the issues that their specific fields of knowledge could be of use in the contexts they were exposed to, and to what extent such level of expertise could be a match (as a group) for the particular needs and resources of the community.

Each task was discussed at length on its purpose, and on what type of information students would need to acquire and process to complete that particular task. Tight deadlines were set and all groups were to complete by such deadlines as well as communicate their ideas collaboratively. With such structure in mind, the studio brief had 3 clear phases based in different locations: Table 1 (overleaf) describes the methodological approach developed during the studio. The first 4 days in India, students all met in Bangalore and spent their initial time visiting sites, attending hands-on courses about alternative construction techniques, talking with professionals, students and staff that were engaged on housing projects and experimental work.

They also met with local students and designers and went on a tour of a particular site: Hampi (Unesco World Heritage Site).

“The austere and grandiose site of Hampi comprise mainly the remnants of the Capital City of Vijayanagara Empire (14th-16th Cent CE), the last great Hindu Kingdom. The property encompasses an area of 4187, 24 hectares, located in the Tungabhadra basin in Central Karnataka, Bellary District.”³ By moving from urban to rural settlements, from traditional to alternative construction sites, from vernacular to modern buildings, students were exposed to the different realities surrounding the many realities of India. They were able to connect with one another and to develop a sense of place and teamwork.

The group arrived in Sugganahali (village) by the end of their 4th day in India, and that’s when their set tasks were delivered by tutors. The studio was finalized back in Bangalore, where the infrastructure and logistics was easily provided (e.g. internet access, workspaces, etc). The field tasks conducted in the village had the aim at scaffolding a framework for a strong ‘participatory action research’ considering the tight deadlines available for the students. Information gathering, analysis, design thinking, self-analysis of capabilities and responses to user’s needs would need to happen simultaneously. Observation, Documentation, Discussion, Experimentation, Simulation, Representation, Exploration and Communication were tools used throughout the tasks. Assessment of tasks when completed were made in groups, as would happen in traditional reviews back at their institutions of origin. Students would present their analysis, their hypotheses, their tests and their validations.

Within the traditional approach of studio teaching in many architecture schools, research tends to come first. A follow up on action comes after. The tasks offered to the students during this studio elective challenged such course of action, and the feedback received from the majority of the students was positive. A negative aspect which was agreed by staff and students involved, was the uncertainty in regards to continuation of the workshop (upcoming years) and the possibilities to further develop the work in depth, and with practical results. The lack of funding and staff to support the programme in India with the community members has proved challenging to further develop it as originally planned. A number of surveys were conducted with the students.
**Activity (by)**

- Briefing and Background reading
  
  *(By IISc rural experts & design faculty)*

- Field Visit
  
  *(Students, faculty and local IISc experts)*

- Group discussion on the field visit
  
  *(Students)*

- Briefing on the design studio in terms of designing a modern dwelling adopting local building materials and responding to aspirations of the rural community
  
  *(Instructor & design faculty)*

**Objective**

Introduction with live examples of modern transitions in vernacular dwellings

- En-route to village
- Presentation with images of vernacular and modern/transition dwellings
- Discussion on embodied energy, use of local building materials and skill, climatic response, role of thermal mass, building orientation
- Reference paper on transitions and impact on global resource and energy demands

Field study: Each group (one student each from India, China, Germany) visits the vernacular dwellings and makes open-minded observations on:

- Use of traditional (local) materials
- Architectural texture/form
- Indoor comfort
- Interaction with the inhabitants with regards
- Preference of dwellings
- Reasons for change
- Maintenance
- Comfort
- Occupation & source of income

Reflection and discussion: Each group was expected to discuss and reflect on their experiences, observations and notes for:

- Architectural form (vernacular and those modern)
- Use of building material/technology
- Texture of wall surfaces
- Occupation of the inhabitants
- Any noteworthy points

Presentation compiled by each student on their observations and reflection on the field visit

Studio preparation and presentation.

- Each group was allocated 4 hours to come up with design alternatives for modern dwellings keeping in mind the use of local building materials, influence of vernacular form, aspirations of the rural community. Faculty were accessible for any technical doubts, but not for any design ideals/details.
- Final presentation at the end of the day with 20 minutes allocated for each group, with faculty being the jury

**Feedback and follow up by students**

- Doubts clarification
- The drivers behind these transitions
- Why are they important
- Challenges – resource and energy

Each group subsequently were introduced to modern dwellings and those in transition in the same village, with the need to understand:

- Use of modern (industrial) materials
- Architectural form
- Lifestyle and aspirational change
- Occupation

Students were all from urban lifestyles with the rural exposure being a big surprise and shock for many

- Students were able to relate to the modern lifestyle changes, and
- Were empathetic towards possible hardships in rural dwellings

- Observed rural dwellings to be more comfortable than modern dwellings

Students found the cross-cultural interaction to be very enriching.

- All students were exposed to urban lifestyles, with rural experience being a first nearly for all the Chinese and German students, and for more than half of the Indian students.
- Communication tools were mixed with a mix of sketches, animation and CAD models
- Sharing of ideas and group coherence was found to be high.

**Table 1: methodological approach applied during studio.**
Figure 2: Site Visit to the World Heritage Site at Hampi, Karnataka (Raine Rainer Hirth)

Figure 3: Students at modern adobe housing site visit near Bangalore, Karnataka, phase 1. (Rainer Hirth)

Figure 4: Students grouped in teams, starting tasks at IISc Bangalore – Phase 1 (Rainer Hirth)

Figure 5: Students assessing housing conditions and user’s expectations during Task 1 (Rainer Hirth)

Figure 6: Students documenting village practices during Task-Phase 2 (Rainer Hirth)
Below extracts from one of the student surveys, upon their return to their home countries:

**What made you decide to get involved on this project?**

“The project seemed to be a good opportunity to learn more about rural India, its architecture and certain architectural and constructional techniques. It also seemed to be a great platform where we could share the knowledge of each others countries and learn more from it.’ (German student)

**How do you think the skills you’ve gained as a part of this project will help you in the future?**

It was a bridge between the known and unknown. It taught me the importance of the use of local materials and to take ownership of my own learning. For most of us this was the first time we Indians have entered a rural village, and to go further, to provide solutions that could have an impact on solving people’s daily struggles (roof ventilation systems, toilets relocation, provision of better spaces for cattle, daylighting solutions, better roof insulation and ventilation, was great. (Indian Student)

**How did you feel were the biggest achievements in this learning process?**

We were able as students to provide propositions in groups, and learn (very quickly) from one another how to read one another. If we had more time, it would have been exceptional to realize our ideas with the villagers. They could have taught us a lot on how to realize things, and we probably could have taught them one thing or another. I think this interaction brought to us a very real understanding of how important our role as designers can be pending on our willingness to
engages with users and most of all learn from their needs, their knowledge and their context. What their real problems are, and how such issues can be solved. In this process, the tutors were there to support us and push us forward. (Chinese Student)

The opportunity to engage directly with the villagers was amazing and unique, and also it was clearly based on research done by the professors involved, as we saw in their published papers. So we had an easy access to the location and were treated in a very welcoming way. The contact even if fast (we could not spend much time), was deep. The villagers had a strong sense of community and understood what sustainability meant. They did not live beyond their means and they were able to produce and enrich their environment on a daily basis. This is sustainable living in my view. (Indian Student)

Conclusions

The workshop was set up to allow students (from different cultural backgrounds and disciplines) but all involved with design issues, to understand the dynamic relationships between users that create our built environment and the extended links that form and surround our natural and built environment. The workshop aimed at exploring how to effectively respond to established trends of building construction processes based on waste, coupling it with basic principles of thermal performance, and how to challenge these in light of community needs and design constraints. Rural and urban livelihoods were examined, where traditional materials could be understood as integral and alternative part of our contemporary building practices in either rural or urban environments. Students were able to develop creative processes for design development based on their diverse backgrounds and fields of study. They were also able to provide innovative solutions for 9 groups of householders (design panels/propositions), based on a first-hand basis survey/interviews contact with the villagers in Sugganahali (90km NW of Bangalore). Key to such responses were the commitment and engagement demonstrated by the students to take ownership of their own learning. The limited timeframe available for the workshop was one of the factors impairing practical realization of student’s ideas in conjunction with villagers. However, the main purpose of the workshop, was focused on investigating the ‘other possible classrooms’ as Ralph Armbruster-Sandoval imagined and described: “we cannot create that other world, that world where many worlds fit, unless we first create another classroom, one in which all voices and lives count.”

Acknowledgements

We are grateful for the support received by Impact Cascade Award UNUK2014. The authors would like to also thank the community members of Sugganahali – Karnataka, the Indian Institute of Science, (Centre for Sustainable Technologies CST Bangalore – India and Sugganahali) and all staff and students involved on the organization and development of the workshop.
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