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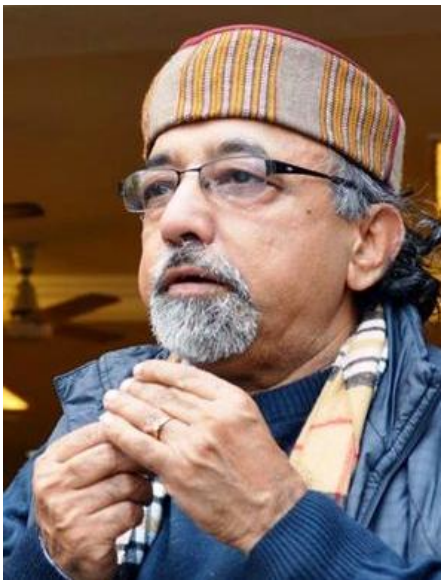

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Compliance to Compassion: A pedagogy using emotional engagement and other techniques for teaching accessible design to architecture students.

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Abstract

Universal Accessible Design in some form is included in the curriculum of all Architecture colleges. This subject is of importance not only from the point of view of compliance, but also for actually providing for the interaction of the Persons with Disabilities with the built environment. A special elective course was framed for architecture students on this subject called 'Universally Accessible Design' in an architecture college. The focus of the elective was to create a shift in the minds of the students by emotionally charged pedagogical exercises.

The basis of these exercises was the premise that students will make a conscious effort to include Universal Accessibility interventions into the design if they meet and are sensitised towards the experiences of the Persons with disabilities. Along with this, students were made to undergo simulation exercises by themselves using wheelchairs and walking sticks. This was accompanied by case studies and lectures by a disability practitioner. At the end, students were asked to provide a feedback in the form of an anonymous and optional survey. All

students agreed to the importance of such special electives for learning Universally Accessible Design. 87.5% stated that the elective has sensitised them towardsthe people with Disabilities.

Keywords:

Architectural Pedagogy, Universal Accessibility, Teaching-Learning Method, Hands-on Exercises, Design for Persons with Disability.

Introduction:

This paper aims to present, describe and validate a pedagogy which has been developed for teaching accessible design to students of architecture. In the curriculum, and the design studios, inclusion of accessibility features is a common practice. This current practice is based on the instruction methods where there is discussion centered on two major issues: Firstly, the measurements of spaces and other inclusions in the sphere of accessibility and Secondly, an approach at intervention at the level of material and technology enhancement. This paradigm has not only detached the emotional value of the subject, but has also reduced it to just other criteria which have to be met in the design of buildings.

A balanced approach between the above mentioned materialistic (or realistic, as some may argue) and the emotional development was attempted in this elective course. It was based on a premise that once charged with an emotional provocation, sensitization will be the natural step to follow. Once sensitised, students will experience a shift in the perspective towards universally accessible design.

The idea of Compliance to Compassion stems from the idea that there will be a change in perspective of the students. Earlier, where Universal Accessibility, might just occur to be a Compliance requirement for the students will now become a Compassion driven. This self-driven learning will be inculcated by the architecture and they will implement it in their designs.

A methodology around this premise was developed and the students were made to go through a semester of this elective. Many studies done by various practitioners were analysed and their important learnings were incorporated in developing this methodology. (Ergenoglu, 2013)("Creating Accessible Learning Environments | Center for Teaching | Vanderbilt University,") At the end, students were made to provide a survey based experiential feedback which has been shared in this paper.

Methodology:

This paper illustrates the important methodology of teaching Accessible Design to architecture students. The paper looks at the following main points:

1. ***Sensitisation by meeting Persons with Disabilities.***
2. ***Simulation Exercise for a Hands on experience.***
   - ***i) The Walking Stick Exercise***
   - ***ii) The Wheelchair Exercise***
3. ***Visit to Tactile Gallery.***
4. ***Lecture by Disability Law Advocate.***
5. ***Case study of a model Accessible Building.***
6. ***Studio: Integrating Interventions into Design.***

Figure 14: The scheme of the methodology used in the Elective for Architecture Students.

Sensitisation by meeting Persons with Disabilities.

To teach about visual impairment, with a set of specifications about braille signage, technology enhancements and barrier free movement, an attempt was made to subject the students to the experience of a person with visual impairment. A person with visual impairment was made to lead the class on one particular day where he shared his experience of navigating the built environment. This enabled the creation of frame of reference where students were provided with a memory of a person who has shared his experience of navigating and interacting with the built environment. This also brought in a great deal of normalising

of this situation, which otherwise lead to a certain stigma, ignorance or a simple lack of exposure. These students, who may have briefly seen a person with visual impairment, had spent a greater amount of time with the sole intention of only addressing them. In a question asked by a student in this class regarding the creation of interactive spaces to include the visually impaired, it was noticed that the answer provided was architecturally non satisfying as there was no interaction possible for the person in the realm of visual or spatial appeal. The only area left to create a pleasurable experience for the blind in such an interactive space was the use of sound as a tool for navigation, ambience enhancement and entertainment. The concept of shoreline, which is a training methodology of people with visual impairment, was made clear to the students very quickly by a short demo by the person explaining his experience.

In another case, a person on a wheelchair shared anecdotes from his life about how he had to request the building agency to refurbish his living apartment which he was allotted as part of his military service. He had to make arrangements for his wheelchair to enter through doors. The shelves of the kitchen to be lower, and the toilet to have sufficient grab bars for easy access. In another anecdote, in his subtle way he explained his desire to attend a conference which was not very keen on having a person on a wheelchair. He explained in a jovial way the manner in which he managed to navigate his way through the conference and feel at par with the world in the matters of entertainment and a social life. Without drawing a single line, he sensitised the students about design for the disabled with a conversation which most students will not forget in their life.

Simulation Exercises for Hands on Experience.

In the Simulation exercises, the intention was to actually create an experiential analysis for the students. They were for a short time exposed to the experience of a person with a disability. The simulation exercises were done in following two ways:

The Walking Stick Exercise:

In this a student volunteered to be blindfolded. A cloth was tied around the eyes. The student was then made to rotate at one place and then taken to an unknown place in the college campus. This was done to prevent any memory of the original space from providing a visual memory clue to the student. At this new location, the student was handed over a walking stick which is used by persons with visual impairment. The student was then asked to navigate the way out of the space into a known place of the campus (a landmark like the college main entrance or the canteen). Some students were around the volunteer to prevent the student from any peril. They were however, not allowed to assist the student to navigate by providing any verbal clues.

This was repeated for other students. On interviewing the students who had opted to volunteer, it was found that they had somewhat a hard time and could get a small fragment of the experience of a person with visual impairment who has to navigate his way every moment of time in his/her life.

The Wheelchair exercise:

A wheelchair is a very essential aid for the person who is unable to use his feet or legs for locomotion due to old age, temporary medical condition or permanent disability. It has a chair which has two wheels attached to it. The person using a wheelchair can use

the rim to move the wheels. This wheelchair requires a certain turning radius and movement width in the built environment.

Being wheel driven, it becomes a challenge on the staircase. Hence, there is a requirement of proper widths at entrances, pathways and docking spaces. There is also a need for ramps where a wheelchair user can use the wheelchair to climb. Lifts are also a very adequate way to climbing floors in a building. The lifts should have adequate interventions including appropriate movement space in the lift car for the wheelchair user.

Figure 15: Students performing the Wheelchair Simulation Exercise.

Students took turns to use a wheelchair on a variety of spaces including lifts, public footpaths, bus stops, building corridors and classrooms. A special exercise was done to make students push themselves up a ramp independently. The student who had used

the ramp on a wheelchair, along with his classmates was then made to calculate the ramp gradient ratio of the ramp just used. It was found that ramps with a prescribed ratio of 1:12 were also a challenge to climb by the students even after they could take the support of the handrails. On interviewing, the students spoke about their realisation of the appropriate provision of slope in a ramp.

Visit to Tactile Gallery

The National Museum at New Delhi is at the forefront of innovation in museum related improvements. It had recently introduced a new gallery called the 'Anubhav' Gallery. ("National Museum, New Delhi,")The purpose of this was to create exhibits for the persons with visual impairment. Contrary to the exhibits and specimens in the museum which visitors can't touch, the Anubhav gallery was different. It was a model where persons with visual impairment could actually touch the specimens and feel the size, scale, texture, the form and the features of the specimen. The specimens had a signage carrying information in Braille, apart from being placed on stands which were just about the average standing human height. The people were encouraged to touch and feel the specimens which ranged from warrior sword handles, Harrappan seal copies, sculptures and tactile paintings. Tactile paintings displayed were developed by Indian Institute of Technology, Delhi. These paintings were made for the visually impaired. The various impressions on the painting were in the form of embossed dots on a canvas like hard medium. These dots varied according to the colour and design and their combination, when felt together was able to communicate the figure that was drawn on the "painting"

Figure 16: A tactile painting displayed as an exhibit in the Anubhav Gallery of the National Museum.

Even the pathway leading to the gallery has a rough texture so that it could act like a navigational aid to the visually impaired. The overall arrangement of the gallery was such that the visually impaired could enjoy the experience of the art that was "displayed" This action of the provision of such a gallery specially for the visually impaired highlights the commitment of the museum to the United Nations Convention on the Rights of Persons with Disabilities(United Nations, 2006) which states that the persons with disabilities have a right to participate in the community activity and be able to enjoy art just like any other

person. This is also a great effort to promote the fundamental Right to Equality in the country.

Lecture by a Disability Law Advocate

In order to make the students aware of the bye laws, rules and the code requirements, a prominent judicial activist, advocate and disability rights practitioner("Centre for Accessibility in Built Environment (CABE) Foundation, India: About Us,") was invited to address the students on the way various rights of the persons with disabilities were fought for in the court of law. He shared the United Nations Convention on the Rights of Persons with disabilities, Human rights, their Indian Ratifications, the Disability Act and various other case judgements. It was an important session where again, by highlighting the difficulties faced by persons with disabilities were highlighted in the courts in India which led to the governmental actions in this area. Students were taught about the importance of the law and how it could affect their chances of intervention in the built environment, giving them the vocabulary needed to put forward their case to their jurors and future clients.

Case study of a model Accessible Building

In New Delhi, there are a few buildings which serve as a model design for Universal Accessibility. But as a case study example, the most common and useful example could be the latest large scale addition to Delhi's Infrastructure, i.e. the Delhi Metro Network.("DMRC: Facilities for differently abled passengers," n.d.) All the stations in the Delhi Metro network are Universally Accessible. The students after their emotional charged, motivating sessions had to be also shown good examples of Universally Accessible Design in the Built Environment. For this they were taken to the Delhi Metro Station at ITO, New Delhi where they

went with a wheelchair and observed the interventions. They took visual clues, did photographic documentation and did some measurements of key spaces and features.

Studio: Integrating Interventions into Design

When the above steps were completed, the students were asked to bring an old plan from their previous semester's work and enhance it by including built environment interventions for the persons with disabilities. The students first overlaid tracing sheets over their old designs and made changes by adding Universal Accessibility Interventions. This was an intensive exercise where the students could actually see the difference in the design before and after the interventions. There was special care taken to make sure they could make minimal structural changes to the design in order to integrate the changes. In some cases, changes required radical structural changes which were added appropriately.

Discussion and Conclusion

Submissions

The semester concluded with the students submitting various innovative submissions during the semester. One such submission was to watch a video on architecture for the Persons with disabilities and present the innovations in this field in the form of a small one page description. In another such classwork assignment, the students were made to sketch a wheelchair along with the measurements to scale. This wheelchair was brought and placed on the teacher's table in the class and the students sketched it and measured it like an art class specimen. This drilled in the size of the basic element of Accessible design for each of the class students. There were other such innovative submissions that were made by the students.

The Survey

In an additional class, the students who were present were made to take a small survey where they were asked to provide a feedback to the semester based class. The responses of the 16 students who took the elective are recorded in the Table 1 provided below.

Question	Response
Do you think this elective has sensitised you towards the people with Disabilities?	87.5% students were positive. Out of those positive, 78.57% has an absolute affirmation
Do you think this approach of having Persons with Disabilities come to the class and share their experiences helps you visual their problems in the built environment better?	81.25% students were positive. Out of those positive, 84.61% has an absolute affirmation
Do you think the simulation exercise where you were made to sit in a wheelchair and move about increased your awareness about the problems faced by the persons on wheelchairs?	81.25% students were positive. Out of those positive, 92.00% has an absolute affirmation
Do you think the practical visit to the metro station (a model accessible building) has been an important exercise in making you actually visualize and experience a space which is friendly for the persons with disability?	87.5% students were positive. Out of those positive, 85.71% has an absolute affirmation
Has your participation in this elective: 'Universally Accessible Design' enabled you to look at Accessible Design from a view which is	87.5% students were positive. Out of those positive,

based on Compassion rather than just compliance of the rules?	**85.71% has an absolute affirmation**
How important do you think are special electives like these (on Universal Accessibility) in making you skilled and aware of the aspects of Universally Accessible Design	**100% students were positive.** **Out of those positive, 81.25% Strongly Agreed.**
Do you think all the students of Architecture Schools should be made to undergo a semester-long class on Universally Accessible Design as you have undergone?	**100% students were positive.** **Out of those positive, 81.25% has an absolute affirmation**

Table 4: The Survey Questions with the responses of the students.

Results

The students provided an affirmative and positive response to all the questions asked. In the question about the importance of the electives in Architecture schools on Universal Accessibility, there was a unanimous affirmation by the students who responded to the survey. The aim of sensitizing the students was also achieved as the students gave a 87.5 percent positive response to the question which had asked about whether they were sensitised about Universal Accessibility or not.

Conclusion

To conclude, it would be right to state the Universal Accessible Design is a much needed skill which architecture students are already exposed to. This study has also highlighted the importance of introducing an elective for the same in Architecture colleges for the students in their formative years of Architecture education. It is also evident that the students had a positive

emotional sensitisation in this elective which will be a lifelong learning. They are also going to use this skill in each of their design not only as a compliance requirement but as a compassion driven duty.

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