

Critical Learning and Reflective Practice through Studio-based Learning in Planning and Architecture Education

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Abstract: Studio-based Learning is central to architecture and planning education. In terms of assessment and time spent, almost forty to fifty percent of the credits are devoted to the studios courses. Based on real life situations the Studio helps students synthesise various concepts in the process of finding solutions to complex problems. This paper attempts to connect the concepts of Experiential Learning, Reflective Practice and Critical Pedagogy to Studio-based Learning and, argues that, instead of being the ritualistic exercise it is currently perceived as, Studio-based Learning has an untapped potential to provide a transformative experience for the student. Such a transformative experience would include a re-examination of the current teacher-student relationship, nature of studios as physical spaces, system of assessment and transformative nature of the studio exercise.

Keywords: Studio-based Learning; Experiential Learning; Planning Education; Critical Pedagogy.

1. INTRODUCTION

Over the past few years, a lot of emphasis is being laid on what is being termed as ‘design thinking.’ The Ministry of Human Resource Development has announced the setting up of ‘Innovation Centres’ and issued advisories to all engineering colleges for conducting a course on ‘Design Thinking.’ When I first heard of this term becoming a national policy, it bemused me since, for me it was always an integral part of my architecture and planning education. What is meant by the term is that we need to develop an ability to be creative. Without getting into the larger implications of such an emphasis on innovation in the neo-liberal, globalising world, I would like to focus critically on the Studio-based Learning and its potential.

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Studios and learning through the problems posed in the Studios are central to Planning and Architecture Education. However, often the studio experience does not necessarily facilitate learning but becomes a ritualistic requirement towards completion of the degree. One of the concerns, that many of us as educators share, is about how to motivate, engage and develop the students as lifelong learners so that they master the process of learning rather than just become containers of the specific cognitive information which they download from the internet and memorise for their exams.

Many of us, who have been in teaching for some time, are aware that one of the major challenges of teaching is how to make the subject matter relevant to the students; something that they can connect to their current stage of life and experiences. It is because of the inability to connect to life experiences at the stage of learning that many of our students disconnect from studies, or, work just enough to go through the system without actually learning much. It is also commonly seen that most of students' learning takes place through peers outside the classroom, or, through experiences that take us teachers out of our comfort zone. We are then required to adapt to the new situation by applying various learning strategies.

In this context of various learning strategies, an attempt has been made through this paper to connect the concepts of Experiential Learning by Kolb and Fry (1975), Reflective Practice by Schon (1982) and, Critical Pedagogy as articulated by Freire (2005). Subsequently, it has been suggested that Studio-based Learning provides an opportunity to create a transformative experience for the student. Kolb's famous Cycle of Learning helps to understand how individuals learn. On the other hand, Schon's work demonstrates, with examples from the field of architecture and town planning, the limitations to reflection and its implications in practice. Freire's work suggests as to what can be the possible direction of transformation at a social level.

2. EXPERIENTIAL LEARNING, REFLECTIVE PRACTICE AND CRITICAL PEDAGOGY

2.1 Experiential Learning Theory

Many of us teaching in the field of Planning and Architecture usually develop, or have already acquired basic and advanced domain knowledge to be imparted to the students. However, strangely enough, none of the career teachers of Planning and Architecture Schools are trained on how to educate, even though education is a complete discipline by itself. Most of us are unaware of various learning theories that have been developed to enhance teaching and learning and, thereby, continue to teach with the limited traditional methods.

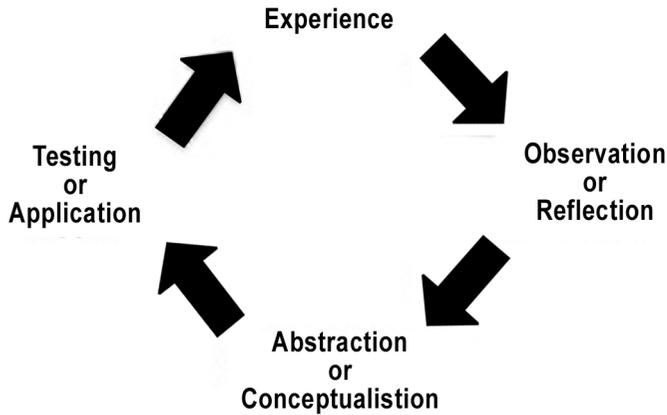


Figure 1: Kolb's Learning Cycle.

One such learning theory that can be very useful for Architecture and Planning teachers is the Experiential Learning Theory (ELT), developed in the early 1970s by David A Kolb, an education theorist and Professor of Organisational Behaviour¹ and Ron Fry. The theory is called 'Experiential Learning' to emphasise the central role that experience plays in the learning process, distinguishing it from other learning theories like 'Cognitive Learning' or 'Behavioural Learning Theories'.

The intellectual origin of this theory is seen in the works of Dewey, Lewin and Piaget (Kolb and Kolb, 2005). ELT defines learning as 'the process whereby knowledge is created through the transformation of experience.' There are four components of this model: Experience, Reflection, Conceptualisation and Experimentation (Fig.1). Concrete Experience and Abstract Conceptualisation are modes of grasping experience, while Reflection and Experimentation are modes of transforming experience. (Kolb, 1984)

Learning is thus seen as a 'process' and not as 'outcomes'. The difference between 'process' and 'outcome' is a difficult one to grasp since most of us are focused on the outcomes, consequences, results, etc. For example, reflecting on an experience of failure can bring about our greatest learning experiences, if the reflection can bring about change. Learning, thus, as a process is not focused on achievements but whether as a consequence of the process of experiencing, reflecting, conceptualising and applying, I change myself as well as the manner in which I do certain things.

¹ David Kolb is also known for his Learning Style Inventory (based on the Experiential Learning Theory) in which he identifies four types of learners based on the combination of modes of grasping and transforming experience.

Any new learning is built upon our existing knowledge, beliefs and the element of change. Thus, a process of learning will challenge our beliefs, assumptions and knowledge about the subject. In this sense all learning is re-learning. Thus, an Experiential Learning will focus on drawing out assumptions and beliefs of the learner about a topic, examining the same and refining or reframing them. Experiential Learning requires resolution of internal conflicts and contradictions without being defensive. It means that I am able to see inherent contradictions in my own ways of being and acting.

Since this process involves all modes such as thinking, feeling, intuition and behaviour, it is not dichotomous like rational and irrational, or, subjective and objective (Kolb and Kolb, 2005). Amongst other limitations, it is said that the model pays insufficient attention to the process of reflection and does not include sufficient discourse on different cultural conditions (Smith, 2001, 2010). However, despite these limitations, the Experiential Learning Theory is recognised as a useful framework for teaching and learning. The theory provides an insight into learning processes of which reflection, though less discussed, is one of the components.

2.2 Reflective Practice

Central to the concept of 'Reflective Practice' by Donald Schon is the process of reflection. Donald Schon, philosopher by education, was a Professor of Urban Studies and Education at the Massachusetts Institute of Technology. Like Kolb, his work is also influenced by Dewey. He is known for many important concepts in learning and one of them is 'Reflective Practice'. Through an analysis of what practitioners actually do Schon highlights, in his famous book "*The Reflective Practitioner*," the process of reflection and how our theories of action prevent us from reflection and, thereby, learning.

'Reflective Practice' talks about 'reflection-in-action' and 'reflection-on-action'. The former is usually explained as thinking on our feet. It involves drawing events from our experiences, connecting to our feelings and using our theories of action. 'Reflection-on-action' is done after the experience. It helps to identify the reason for the way we acted; the justifications that we give for our actions. In this process of reflection, the practitioner is able to identify the similarities of the current experience and the previous experience as well as the uniqueness of the current experience and, thereby, develop new learning.

The idea of 'Reflective Practice' was a counter to technical rationality of professions in the context of their decreasing relevance. The crisis of professions arises because real-life problems do not present themselves neatly as specific cases to which scientific generalisations apply. Schon considered all professions to be like design in some senses. Through creating a template for

design education he intended to create a design for education (Waks, 2001). Schon's work established a clear relationship between reflection in and on action. One of the criticisms of his work is the extent to which his work entails *praxis*. His theory talks about informed action but the clarity on the commitment it entails is missing. Commitment here means some sense of what might be good (Smith, 2001).

2.3 Critical Pedagogy

This brings us to the third idea of 'Critical Pedagogy.' Experience provides us a rich base for learning while reflection in and on action is central to the process of learning. The concept of 'Critical Pedagogy' put forward by Paulo Freire provides an answer to what should be the purpose of such experience and reflection. Freire was a Brazilian educationist and his book 'Pedagogy of the Oppressed' has been one of the most influential books, particularly in the field of informal education.

The work is critical in the sense of being critically aware of the contradictions and of forces that reduce humans into objects. It is critical also in the sense of being able to see everyone as subjects acting upon and transforming the world. The purpose of education is to develop what he calls *conscientizagdo*, meaning "learning to perceive social, political and economic contradictions, and to take action against the oppressive elements of reality." According to him, this process has two stages, the first, "whereby the oppressed unveil the world of oppression and by praxis commit themselves to liberation, that is transformation in itself." The second stage is the one through which it becomes a struggle of all people for liberation.

For individuals to see the structures of oppression and act to change these structures requires a fundamental shift in the education system and, particularly, a shift in the teacher-student relationship. The current relationship of teacher as a subject and student as a patient, listening object has to change to where both the teacher and the student are subjects, jointly inquiring about a reality, co-learning and re-creating knowledge in the process. The current model of education, which requires students to memorise and get filled with information, is termed as a 'banking model of education,' in which students are engaged in act of depositing or, are considered as containers to be filled in by teachers.

For raising critical awareness, it is important to develop a dialogical relationship between the subject and the object rather than continue with a transactional relationship of the two. This would mean that a new dialogical relationship of 'teacher-student' and 'student-teacher' needs to be established. According to Freire dialogue involves respect. It should not involve one person

acting on another, but rather people working with each other. The dialogical process of education involves learning and relearning the material together. It is not about delivery of known content, it is not about using the dialogue as a technique “to manipulate rather than illuminate.” Since its writing, this type of learning -- also called ‘Participatory Learning’ -- has become a popular term, particularly in the case of rural development projects. However, in the education system, and more particularly in technical education in India, such pedagogy is still nascent (Shor and Freire, 1987)

2.4 Common Characteristics

From the above brief introduction to the ideas of ‘Experiential Learning,’ ‘Reflective Practice’ and ‘Critical Pedagogy,’ one can identify some common characteristics between the three domains.

Reflection is an important stage in the learning process to become aware of our beliefs and assumptions. Current pedagogy limits this reflection and compartmentalises technical competence from individual growth. These methods focus very little on ‘knowing in practice’ and place much more focus on ‘knowing for practice.’ A fundamental shift in the relationship between teacher and student can facilitate development of critical awareness, which is necessary to prevent de-humanising and objectification processes that lead to oppression in the society.

In the next section, the paper suggests how Architecture and Planning Studios actually have all the ingredients for such a desirable shift. Subsequently, it goes on to explore how the current ritualistic mode of organising a studio should be re-evaluated and re-organised for it to become a more meaningful exercise in shaping future generations.

3. STUDIO-BASED LEARNING

3.1 The Origin

The origin of Studio-based Learning, perhaps can be traced to the study of visual arts. In architectural education, the Beaux Arts tradition in Paris developed a system of training in which a design problem was given to students early in the term and the design solution was developed under close guidance and through different stages of design development, i.e., from a sketch to a finished design. The exercise ended as a *Charrette*, French for “carts, the finished drawings, were carried by carts to the “Master” for a critique (Lackney, 1999).

This studio-based model of learning, also based on learning-by-doing, was also adopted in the USA. In India too, all the architecture schools have the Studio as a central feature of their educational programme.

3.2 Planning Education in India

Planning education in India started as a graduate programme and it drew heavily from the architecture profession in India. This close association of architecture and planning in India led to the adoption of Studio-based Learning in the planning programmes as well. This is unlike many of the western countries where planning is located in social science disciplines and the concept of the Studio, as we understand it, does not exist. Planning projects in a typical undergraduate studio in India vary in scale and complexity and include making a site plan, local plan, city plan and district plan respectively.

Some of the characteristics of Studio-based Learning are ‘learning-by-doing’ method, a non-competitive approach to learning since each individual student is independent to frame the problem in his/her own way under a given set of constraints. Since the problem is based on some real life situation or issue, it engages the student and allows him/her to integrate various concepts through application to the planning problem, encourages risk taking and collaboration and allows them to handle uncertainty and complexity in a simulated environment (Lackney & Mathews, 2010; Balassino, 2010).

In an ideal Studio-based Learning process, the initiation of a studio project usually is from a problem or an issue from the current reality, thereby providing an opportunity for a problem-posing education. Individual students are free to interpret the problem variously, connecting it differently to their own concrete experiences. The faculty can also generate new experiences for the students through study tours and field visits. This, in fact, is parallel to the first step of Kolb’s Learning Cycle.

In an attempt to find solutions, students are required to make various choices for the solution to work within the defined constraints. This stage of the project requires reflection as well as a continuous and iterative process on their part so as to enable them to integrate various concepts for developing a preliminary planning or design concept based on-various assumptions, role framing and action strategies.

The last stage involves development of the final planning proposal, which may require the student to revisit and recast many of his/her earlier assumptions. This stage, then, has the potential of refining the student’s understanding, knowledge and position about a particular topic. The entire exercise also involves the process of formal and informal reviews, feedback as well as continuous interaction with peers or other experts, with a review by an expert in the field as the last stage.

As discussed in the next section, studio-based learning in planning education focuses mostly on content and presentation and much less on the underlying processes of experience, reflection and change.

4. STUDIOS IN UNDERGRADUATE PLANNING PROGRAMMES

4.1 The Beginning of Undergraduate Planning Programme

The first undergraduate planning programme in India started in the School of Planning and Architecture (SPA), New Delhi in 1989, i.e., twenty five years ago.² Many more undergraduate planning programmes have started since then. Admission to the undergraduate planning programme in the SPA is through the Joint entrance Examination (JEE) earlier known as the All India Engineering Entrance Examination (AIEEE).

The entrance examination is common for both architecture and planning. Since the entrance examination is at a national level. Students who join planning are a diverse group in terms of their ethnic, economic and social background. Even though the qualifying criterion does not require them to have a science background, almost all the students who join the programme have studied science subjects at the school level. Faculty too is drawn from diverse disciplines like planning, architecture, geography, engineering, economics, etc. with graduate or doctoral degrees in planning.

4.2 The Studio in Planning Education

As in the architecture programme, the Studio is central to planning education at both the undergraduate and graduate levels. It constitutes almost forty percent of the teaching hours and fifty percent of the credits. A Planning Studio requires proposals to be formulated for a complex area like a neighborhood, a ward, a city or a region in different semesters. Exercises last the entire semester. In this semester-long exercise, different groups of students in the class are expected to study and analyse different components of the problem and then synthesise them into a single document.

Typically, separate groups of students would look at demography and economic characteristics, land use, housing, industry, facilities, infrastructure and transportation. Depending on the context and complexity of the exercise, a few other aspects like finance, institutional set up, environment, etc. may also be included. The final output of the entire class is dependent on the work done by each group. At the end of the semester students are expected to provide two or three alternative solutions to the issues perceived for the area. It is usually a linear process.

In the following paragraphs the author shares some generalised observations drawn over the last 15 years in her role as the Studio Coordinator for the Second

² As recognised by the Indian Institute of Town Planners, as of April 2013, there were twenty one institutes that imparted planning education at graduate level and five at the undergraduate level. Available from: http://www.itpi.org.in/files/List_of_recognized_schools_or_institutions_upto_April_2013.pdf. [Accessed: 10 April 2015]

Semester and Fifth Semester undergraduate planning students. The Second Semester Studio includes exercises related to space perception, land use and area appreciation, usually covering an area of about 100 to 200 ha. The Fifth Semester students undertake a semester-long problem of a Zonal Plan or a Local Area Plan, covering an area ranging from 5 sq.km. to 20 sq. km., with a population ranging from 50,000 to 5,00,000 depending on the city. The studio is expected to teach students to detail out the proposals of a higher order of planning like a Master Plan. Most of these exercises are undertaken in groups of two to four students.

4.3 Introducing the ‘Studio Exercise’

The first stage, the problem setting stage, is usually decided by the faculty, following which students are assigned groups in which they would work. The ‘studio exercise’ is handed out to students on the first day of the semester. A weekly review is scheduled and the entire programme is heavily structured. Since the students have little or no involvement in the problem formulation, they usually do not take ownership of the enquiry. It is a given problem of which they are just the recipients. It is also usually difficult in a heavily structured semester to create space through which students can connect the problem with the ongoing reality as well as their own life experience.

In an earlier paper, based on one of the Zonal Plan Studios in which the problem was formulated differently, the author has discussed how engagement and motivation of the students increases when they see the significance of their work and are able to connect it to the ongoing reality. The problem formulation, even in this studio, had very little involvement of the students, but since the exercise related to real-life ongoing court cases on ‘implementation of low-income housing provisions and sealing of commercial establishments in residential areas’, the involvement of students was much higher than in previous years (Prakash & Mathur, 2007).

A single example may not be sufficient to establish a case for changing the existing approach, but the possibility of improving the learning experience through involvement of students and establishing relevance of the problem to their life experience is worth an exploration.

4.4 Experiences of Data Collection

In the second stage of interpreting and analysing the problem, the Studio provides a learning experience through field visits. Field visits require primary surveys of various types and data collection through meeting with officials. Most of the students find field visits, particularly those outside the city, as one of the highlights of their education. Travelling to new places in a group is an

intense experience and a great learning opportunity. However, this opportunity is often lost as the total focus is on the outcome of data collection.

This is not to suggest that data collection is unimportant, but a shift in focus from a purely outcome-oriented approach to a more process-oriented one is needed. The whole experience of living, thinking and being in a different place with an unfamiliar geographical and social context can be enhanced by a space for collective reflection and conceptualisation. Since the focus is on producing an outcome at the end of the semester, there is a tendency to miss out on many learning moments.

For example, a student in the field sometimes comes back and reports a feeling of discomfort about going to low-income areas or feeling unsafe in certain parts of the city. They report about the non-responsiveness of officials or the supportive and helpful environment in an organisation. All these are moments to discuss the assumptions and beliefs with which the students function, the power relations and their own intra-personal blocks. However, since the focus is on whether or not the data is collected, these nuances are likely to be missed or overlooked.

4.4 Analysis, Interpretation and Synthesis

Analysis, Interpretation and Synthesis is a complex process. Due to the limitations of time and the enormity of the task of data collection, many a time the analysis is superficial. The linearity of the methodology provides very little opportunity to revisit the premise.

At this stage, one of the usual complaints of the faculty is that students are not learning from them but listening to each other, even though such learning is faulty. Individual participation of students in the class is restricted to the specific tasks and aspects assigned to their own group work, resulting in a failure to develop a holistic perspective of the problem. The interrelatedness and complexity of various aspects of the problem is usually missed. Reviews become a ritual for students and data analysis and interpretation is presented uncritically. At the end of the studio, many a times, students realise the contradictions in their assumptions, but the (misplaced) focus on finishing the project leads to missing out on a valuable learning outcome and these contradictions are suppressed. The students, many a times, in a rush to finish a project, resort to all the tricks of manipulation rather than honest inquiry, which is completely opposite to the intended purpose of education.

Through this discussion, the aim is to highlight that while the content and outcome are important components of planning education, it is the process of critical reflection and internalisation of the nuances of the project that would help create a transformative experience.

5. TOWARDS A TRANSFORMATIVE LEARNING EXPERIENCE THROUGH STUDIO-BASED LEARNING

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The question then is what should be the Studio-based Learning Process within the framework of Reflective Learning and Critical Pedagogy? For creating such a process a focus on the following is needed:

5.1 Student-Teacher Relationship: A critical re-examination of the current teacher-student relationship would be the most uncomfortable aspect of the process as it threatens to shake the existing power structures. To start with, the faculty can be as much of a learner in the process as the student is, especially if the problem can be set in a manner for them to feel the ownership of the same. One of the ways to also engage the student in a problem is to identify a real client.

5.2 Studios as Physical Spaces: In the day of internet technology, physical spaces of studios seem to have become unattractive and irrelevant for students. They work in the isolation of their rooms and share drawings and information over the net. It is only during the last stages of the project that they suddenly realise that the chaos in which they find themselves cannot be sorted out without their coming together to work in the studios. It is at such moments that these spaces come alive. Perhaps we need to see whether virtual studio spaces can serve the required purpose or a combination of physical and virtual space needs to be provided for collaboration.

5.3 System of Assessment:

- i. The current assessment system lays a major emphasis on the finished product on the day of the review but places no value on the process through which the product was placed on the board. This process can include the manner in which project constraints were interpreted, the manner in which assimilation of information was done, the manner in which various concepts learnt in the theory courses were applied, and, the difficulties faced in the process. The work ethic adopted by different students and the faculty reflects their belief system. All this should be open for discussion.
- ii. An individual and collective learning journal, maintained both by the students and the faculty, can be of help for which a space in the studio time needs to be made. Along with this, discussion and reflection on not only the technical aspects of the problem but of the whole being of the individual should also be recorded. This is, however, easier said

than done as it would require a much greater commitment to honest inquiry by the faculty.

- iii. Finally, we need to devise an assessment system which, rather than simply providing relative marks, is non-competitive and measures individual progress from the beginning to the end of the semester. Such an assessment system should also focus on collaboration and peer-learning.
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5.4 Assessment of Transformative Nature of the Exercise: In the end, through the process and proposals, one also needs to discuss and conceptualise the nature of insights gained towards the structures of power and how this learning has changed both the students and the teacher. If a student, at the end of the exercise, realises the mistakes or the misconceptions about the problem at hand, or his or her own belief system and, is able to articulate it, it would constitute a valuable learning.

Studio-based Learning, unlike many other methods of teaching, thus, has all the ingredients to become a transformative experience in the life of a student. In today's fast changing world it is important that students understand the learning process and develop critical thinking. The ideas of the three educationist-scholars mentioned in this paper provide us with insights which can be helpful in making Studio-based Learning a meaningful experience in the life of an architecture and planning student.

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