TRANSDISCIPLINARY FUTURES: WHERE DO EMBODIMENT, ETHICS AND EDUCATION MEET FOR SUSTAINABILITY LEADERSHIP?

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ABSTRACT

Artists, designers and educators of today and the future have the particular challenge to create for a fragile world where politics, economics and ecosystems are placed at the tipping point of culture, ethics and the tradition of the artisan. The sustainability crisis is not merely one of the biophysical environment and its extreme degradation but also a severe crisis of the social, cultural and individual environment. These crises are not just outcomes of global demands in technology, production and volume but rather complex behavioural issues and the paradigms that sustain them. With all these existential and philosophical issues at stake today, Universities offering Design education programmes have the challenge of creating programs that embrace sustainability through transdisciplinary viewpoints. In this paper, we are offering two transdisciplinary units - 'Sustainable Institute' and 'All of a sudden!- Time as paradox' as case studies to exemplify Sustainability curriculum design and its outcomes.

Key Words: Embodied Learning, Transdiciplinarity, Gardening, Sustainable Institute

INTRODUCTION

Curriculum designers in today's Design schools envision the people who will navigate their programs and emerge with unique capacities to interact with the world in diverse ways and design meaningfully under global duress and transition. "Until recently, sustainable design methods seldom engaged with more fundamental questions such as the meaning and place of products in our lives and the contribution of material goods to what might be broadly termed the human endeavor" (Chapman, J. Design for (Emotional) Durability Design Issues vol 25 number 4 2009 pg 29-35). With all these existential and philosophical issues of the human condition at stake today, Universities offering Design education programs are forced to reconsider what they train their students to excel in, as well as create newer programs that embrace multiple viewpoints through transdisciplinarity and/or consider transition as a key navigation scheme. (School of Design at Carnegie Mellon University. (2012). Transition Design. Retrieved from https://transitiondesign.net/). Two key approaches today are looked at as Nicolescuean and Zurich schools of thought in transdisciplinarity. "Nicolescu's writing led to a new way of thinking about knowledge and inquiry that has included writing from ethical, metaphysical, and even mystical perspectives (see Nicolescu, 2008, de Mello, 2008, Voss, 2008), while the Zurich school has led to work aimed at designing and implementing tangible solutions to "real world" problems (Segalàs & Tejedor, 2013)." (As cited in Bernstein, 2015).

Transdisciplinarity challenges knowledge fragmentation and emphasizes production of knowledge in a reflexive non-linear format ready to respond to uncertainty and the local character. It enables inter-subjective and context-specific transaction of knowledge frameworks. Transdisciplinary research combines the individual's access and relationships within the social network to the constraints enmeshed within the social, natural and material contexts thereby requiring close collaboration during all phases of a research project. It is especially needed for theoretical analyses and interpretation of complex issues that interconnect the individual with the environment, economics, society, science. Much of the traditional paradigms of Asian and Far eastern approaches and traditions rest on transdisciplinarity as well and there is a potential to reflect and adapt many of these paradigms into current approaches and conversations. The notion of creativity is key to culture, education, design production, development and consumerism. The need to unpack the notion of creativity through the framework of the arts in Asia is crucial to reframing and redefining alternative perspectives to Making, Development, Sustainability and Education. Education defines the politics of how we think, make and act in society (Vatsyayan 2010, 2013; Balaram, 2011; Subramanyan, 2007).

In 2015, when Srishti Institute of Art, Design and Technology expanded its vision, B.Des and M.Des Information Arts and Information Design Practices as well as M.Des Earth Education and Communication were three new courses that were started as transdisciplinary courses. They problematize the fields of art and design within socio-cultural, ecological and ethical frameworks. Further, their focus emerges from and lies in the crucial space of education, problematizing the nature and politics of knowledge in the emergent transdisciplinary frameworks of the two courses. Srishti has developed its positioning of the two courses within the School of Law, Environment and Planning (SLEP) and through the Centre for Educational, Research, Training and Development (CERTAD). Our unique stance and approach to these emergent frameworks evolve from the intersection of the philosophy and praxis of both SLEP and CERTAD. My particular challenge as the principal curriculum designer[1], Course Leader (2015-current) and Associate Dean for SLEP, (2018-) therefore is to design and develop these two key courses as programs that would dissolve discipline-based perceptions, notions and definitions of information and data to engage with real life in its nuanced stories, allowing for new discourses to emerge. The units within the courses were developed with the aim to adapt and evolve modes and acts of research, making, collaboration, storytelling, exchange, communication, coexistence, intelligence, negotiation and leadership, enabling transdisciplinary and embodied engagement in the field. The courses are positioned within the School of Law, Environment and Planning (SLEP) and through the Centre for Educational, Research, Training and Development (CERTAD). The unique stance and approach to these emergent frameworks evolve from the intersection of the philosophy and praxis of both SLEP and CERTAD. Within the framework of Srishti, the core values of the institution lie in transforming consciousness through its pedagogical approaches (Narayanan, 2010). The transformation of consciousness through embodied practices, community engagement, contemplative reflection on the self, rediscovering interdependence and coexistence and the processes of learning and teaching lie at the heart of both IAIDP and EEC. My focus for both IAIDP and EEC curriculums is the aim to enable the student to be a discerning designer, one who is liberated from a 'cosmology restricted to the marketplace' and a 'sense of time limited to cycles of fashion and technological innovations' (Findeli, 2001). A discerned practitioner emerges from investigating, researching and creating in place and time, keeping all these complexities; the natural world; cultural histories; human notions of creativity and being across time.

The challenges of operationalizing any curriculum lie in translating the vision of the course through diverse units, documentation, assessment, training faculty and in evolving models of mentorship. Ensuring different aspects

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of the curriculum run cohesively and coherently across the different years of the program both undergraduate and postgraduate are key to the development and sustained evolution of the program. The design of units, supportive mentoring in the classes, primary and secondary research that both faculty and students immerse in to develop key ideas of a unit, extending the unit to develop new ways of being and making that are resonant with the curricular vision and emerging both critical reflections and directions for engagement in the field are essential components of translating the vision of the curriculum and the capabilities that we seek to develop in students. The educational/ pedagogical question here is - how do we translate the vision of a curriculum in its individual unit level components and how does it address the capabilities framework of the program. Emotion, embodied practice, interdependence, creativity, reflection, community engagement and leadership are guiding principles of the pedagogy. The translation of these through unit design, mentorship, tools and methods used for teaching and learning, administrative support, research, and reflection are key goals to understand how the teaching of sustainable thinking can be evolved in the framework of the program.

Two of the units that I created for IAIDP and EEC M.Des students were co-taught with Sandhiya Kalyanasundaram from Aug -Nov 2018. We are offering these two transdisciplinary units - 'Sustainable Institute' and 'All of a sudden! - Time as paradox' as case studies to exemplify the curriculum design and its outcomes. The goals for these units were to support students in emerging an individual quest for developing an ethical and ecological consciousness as well as a keen interest in sustainability leadership.

THEORETICAL BACKGROUND:

Ecological, social, cultural and economic issues dynamically intertwine in the complex interplay of sustainability issues in India and sustainable design must be evolved keeping in mind India's position in the world marketplace. It is within this complexity that our contemporary practice as artists and designers arises. It is impossible to separate the politics of self, culture, ecology and making from our own personal practice. Reflective Practice, Ethics, Values, Being, Intelligence, Consciousness and Creativity -create the basic texture in which these programs are rooted. The key questions that fuel both these programs are: What does it take to be human? What are the ethics of engaging with life? What is the responsibility of creativity? What is the epistemology of good art and design practices?

The predominant pedagogical goal of environmental sustainability management education has focused on helping students increase their cognitive understanding of environmental sustainability in managerial practices and decision-making (Shephard, 2008). Yet, recent studies call for a significant shift in this paradigm (e.g., Audebrand, 2010; Shrivastava, 2010; Starik et al., 2010). For example, Shrivastava (2010) explains that teaching environmental sustainability management requires a more holistic pedagogy, that is, a pedagogy that integrates cognitive learning with emotional, spiritual, and physical learning. Christopher Uhl writes in his chapter on Process and Practice: Creating the Sustainable University, "Nine students expressed an interest in the project and we met to hatch a plan for measuring sustainability. I was candid with the students telling them that although I knew how to measure the dissolved oxygen concentration of a lake and the acidity of soil, I didn't know how to measure sustainability. Indeed, there is no equipment manufacturer that sells a "sustainability meter" (Barlett, Peggy F, and Geoffrey W. Chase(Ed.), 2004). We asked ourselves similar questions alongside the question of how we can find an internal meter for sustainable practices. Uhl and Stuchul articulate that the industrial and cartesian worldviews, alongside education and modern technologies have left us with a 'separation consciousness' (Uhl and Stuchul 2011, 4). They suggest a closer observation of life to emerge a 'relational consciousness' and turning inward to ask questions about how we can change ourselves to deal with the paradigms of both sustainability and ecological crisis (Uhl and Stuchul 2011, 5).

METHODS

Sustainable Institute Initiative is on the agenda of every major educational Institution across the world and across disciplines. Creating the community garden and the Mati eco-club were the first steps to this vision. Pedagogy, as well as assessment frameworks were carefully planned to create transdisciplinary engagements, contexts as well as methods that allowed students to take on large goals that enable them to engage with openness, question their own notions of disciplinarity as well as residues of cartesian and industrial worldviews. Embodied practice and contemplative reflective making were two key principles that we decided to adopt as our core methods for the two units. Cognition is viewed as embodied action by Varela, Thompson and Rosch in The Embodied Mind (1991). Merleau-Ponty also postulates an 'Embodiment Theory of Art' where he proposes that ideas of art have their origin in embodiment. (Haworth, 1997). Indian aesthetic thought perceives aesthetic emotive states as reflective and embodied states of performance stemming from a state of equilibirum arrived at through lived experience and meditative transformations. "It is the unreflected which is understood and conquered by the reflective. Left to itself perception forgets itself and is ignorant of its own accomplishments "(Merleau-Ponty 1964a: 19 as cited in Haworth, 1997).

A triangular patch area of 500 sq. ft. was chosen for regeneration in a red soil area where erosion has occurred for several years. The entire area was being used by the nearby communities as a dumping site for garbage, construc-

tion waste and other wastes. The aim was to regenerate the land and

- Create a community resource garden with social, ecological, ethical and learning design principles
- Reflect on interdependence and co-existence
- Strategically work with emergent systems and chaos
- Develop a body of creative work based on the embodied experience of creating a garden
- The broad approach to learning design included:
- Studying the soil quality, drainage rate of water
- Digging the garden. Understanding body and mind in relation to the simple act of digging and understanding varied layers of soil, trash. Reflecting consciously on the body.
- Consulting with experts, faculty in Srishti and other experts that include gardeners, Specialists in Traditional medicinal plants, composting, fencing, and others to build primary research and understanding of how to work in the garden.
- Developing a rain garden; Creating an onsite compost pit.
- Visiting FRLHT, TDU and GKVK campuses to get a list of medicinal plants and also visit the nursery. Selecting Plants, planning butterfly and medicinal garden.
- Understand relationship between elements and principles of art and design in visual works as applied in gardens and how to design for a garden keeping seasonal parameters in mind.
- Preparing the land, working with labourers, improving soil quality with vermicompost and additional layer of topsoil. Creating pits, contour bunds, planting grasses and embedding porous tiles along edges to stop soil wash-off
- Document work, reflections, online blog development, social media; Develop charter

The second year students transitioned their work to first year students First year students worked on the garden for five weeks as part of their class and for two weeks as a self-designed inquiry. First year students build the rain garden and furthered the work with the community leading to a community event. Both batches worked on some aspects together post the SDI to develop systems design for expanding their work further both with community and strategizing plans for the eco-club.

TEACHING PEDAGOGY

1). Ways of thinking: We scaffolded the students at all steps in order to enable several ways of thinking about Sustainability as a whole and land regeneration in particular - Critical thinking; Holistic thinking by understanding indigenous methods of land regeneration, Systems thinking; Futuristic thinking; Strategic thinking for community involvement and land ownership issues.

2). Working styles and Inspiring awareness methods: The tasks were set in stages so that students could brainstorm and work in teams as well as independently reflect on their work while offering well thought out critical peer reviews. With the community engagement component the students were tasked with ways of enabling and motivating others to participate, come up with immersive workshops and act as community catalysts for change. In the process they realised that building alliances with the community members was key to conflict resolutions. Above all deepening listening as an act of embodied cognition and reflective compassion emerged as the core of new design and art.

3). Personal transformative processes: Empathy for self, human and non-human; Dealing with complexity and uncertainty; Dealing with personal grief and environmental grief; Self-reflect and group reflect; Commitment and self-responsibility towards their own learning; Moving from a place of paralysis regarding the ecological crisis to action through a reflective self; Overcoming tacit assumptions were varied processes that students experienced as evident in their reflection papers.

4). Experiential learning/embodied learning: Translating embodied acts in the garden into creative practice and process consciously.

5). Understanding that sustainability is an act of self-transformation: Working the land, preparing it, understanding, observing and becoming more aware of our immediate surroundings and our relationship with non-human/ more-than-human world; Observations and documentation of changes in the land; Observations and documentation of how one's own mind-body awareness has shifted.

6). Understanding that sustainability is as much a social and behavioral change movement: Working with communities in Srishti and around N4 to build a relationship with the land and evolving strategies for a long term upkeep and maintenance of the land were key tasks.

7). Understanding that sustainability is a reflective and responsible creative practice: Engaging with the question of time through personal artistic/design practice

8). Results and Analysis

Both the batches of Year I and year II students learnt to persevere and persist under emergent problems and put in very long hours to overcome internal resistance clear the land and create the rain garden. They also performed exhaustive research on the plant list and traditional/organic land reclamation method. As four of the second

year students started working in the land, each stage posed emergent challenges that they had to overcome to create the garden space. The students first discovered that it had been used as a rubbish dump and they had to stop all other work and focus and removing trash including trash that was buried under layers of soil. They also discovered that the land had huge rocks and also had lots of small rocks that made it difficult to dig or start planting immediately. They eventually had to buy new red soil as well as vermi compost to create about 3 inches of new earth in which they could finally start planting. All the 4 students worked rigorously to buy fence materials and make the fence around their designated space to keep out cows and animals. Besides actually working on the land, the 4 students also worked on creating the vision for Mati eco-club with the goal of involving the larger Srishti community. They specifically brainstormed and came up with a plan for varied aspects to ensure continuation of their work to reclaim the land and create a garden space by transitioning to the M.Des first year students. As the eight first year students started working in the remaining area of the land, each stage posed emergent challenges that they had to overcome to create the garden space. The students first discovered that it had been used as a rubbish dump and they had to stop all other work and focus and removing trash including trash that was buried under layers of soil. They also discovered that the land they wanted to work on first needed to be cleared of all the construction waste that their seniors had excavated from the nearby space. They had bought coco peat and vermi-compost to create a rain garden in which they could finally start planting. All the 8 students worked rigorously to buy fence materials and expand the fence around their designated space to keep out cows and animals.

Besides actually working on the land, the eight students also worked on creating the Mati eco- club with the goal of involving the larger Srishti community. Each of them underwent a personal transformation as they reflected on the trash, the paradoxical nature of time, self-referentiality, transdisciplinary link-making, awareness of self and discovering a chosen media of self-expression.

For Year 1 students, as it was a fifteen day class and a lot has been accomplished. However, we felt more could have been accomplished and extended the exercise to another ten days of Self-directed inquiry(SDI).The students initially felt a lot of resistance because they were unsure about the future of the land as the land belonged to Karnataka Housing Board corporation (KHB). There were other land ownership issues by neighbouring farms that tried to stake their claims on the land that also took away time from actual work on the land. Students needed assurance that their work would not go to waste even if the land belonged to KHB. The extension of the project into a ten-day Self designed inquiry, allowed students to engage with community and set up a framework for community engagement starting with a community event at the end of seven weeks of engagement with the land.

IMPACTS ON SUSTAINABILITY

Upon reflection, the students acquired a great sense of ownership and joy, responsibility, teamwork, initiative and leadership combined with a love for working the land. They also reflected about time and learnt how time is at once cyclical, geological, linear, non-linear, personal, psychological, emotional, expansive and contracting. They also understood that time was not just anthropomorphic, time belonged to and was possibly different for different creatures. While resolving land ownership issues that arose during their project time, they worked on their leadership and diplomacy skills while ensuring they were able to continue their work. In creating their posts for Mati, they have learned to write about their work and in their attempts to engage the larger student community, they have also learnt and applied the principles of information design and social media marketing. The engaged work in a short span of ten weeks has allowed us to emerge important educational outcomes as well as pedagogical principles that align with the capabilities of the two courses. Developing ecological consciousness through embodied practices of land reclamation and regeneration, community gardening, as well as creative making and linking these processes through community engagement and deep personal reflection have shown us ways in which we can encounter internal parameters for sustainability. These units are ongoing projects that we continue to work with students on for a long term evolution of key ideas and to further develop an institution led eco-club that takes on sustainability as a social change movement. We hope to emerge a model that can raise critical issues and challenges along with creating tools, strategies and possibilites.

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