ethical leadership
a new frontier for design
JUNE 3-7, 2025
Nantes, France
Cumulus Association
L'ÉCOLE DE DESIGN Nantes Atlantique

CULTIVATING CARE: ETHICAL PEDAGOGY FOR COLLABORATION IN PUBLIC SPACES

Lakshmi Srinivasan*[a], Daniele Busciantella-Ricci[b], Khusboo Jogani[a], Malay Dhamelia[c]

a BITS School of Design, Birla Institute of Technology and Science, Pilani, India

b University of Florence, Italy

c Indian Institute of Technology (IIT) Gandhinagar, India

*lakshmi.jayashree@gmail.com

ABSTRACT | We are witnessing a significant shift toward inclusivity in the global design paradigm, where thought leaders emphasize collaborative design. Opposed to traditional perspectives that hail the designer possessing awareness of special forms of knowledge and place them in an authoritative position, designers are now seen as integral team members (Herriott, 2023), contributing to a larger context and promoting collaborative good (Costanza-Chock, 2020). The new paradigm advocates for addressing complex global challenges through holistic, socially responsible, and systems-oriented approaches (Lima, 2023) (Norman, 2024). While this conversation about design practice is infiltrating mainstream thought, there is yet to be radical shifts in design pedagogy needed to sustain this momentum. Engaging new generations of designers in social challenges necessitates rethinking their roles in social innovation processes (Tjahja & Yee, 2022). At this juncture, it is crucial for educators to envision a pedagogy for a just design future that embodies a culture of care. Furthermore, there is increasing recognition of the socio-political contexts shaping design, emphasizing that it does not exist in isolation. While many design schools engage with communities, particularly those from lower economic strata, they often unintentionally commodify these people and places, extracting value for student learning without giving back, especially in public space and social innovation projects. <A padding

sentence, will come back> The authors have triangulated their findings from their research and praxis in three areas: a) Pedagogical design for inclusion b) Design for inclusive attitudes, and c) Reciprocal and responsible community engagement. Based on this triangulation, this abstract proposes a new schema in design education—an ethical design pedagogy infused with an attitude of care. This schema embeds aforementioned perspectives on collaborative, reciprocal design in Freire's (1970) and Hooks' (1994) critical pedagogies. The principles of this schema are:
Positionality:
1. Collaborative, Designer-Uncentered Approach (democratic inquiry)
2. Attitudes of Care, Inclusiveness and Equity
Methodology:
1. Cultural Sensitivity, Contextual Awareness and Real-World Contexts
2. Systems Thinking with transdisciplinary and interdisciplinary outlooks
3. Active and Engaged Learning in the Classroom
4. Reflective & Critical Practice (Awareness of Existing Power Dynamics and One's Own Process)
Impact:
1. Education to Drive Industry
2. Reciprocity of Knowledge, Care and Applicability to Real World

The paper outlines practical aspects of applying the proposed schema through two case studies of design studio modules: one in Mumbai, India, and another in Florence, Italy. Both modules were conducted for early undergraduate design students across various streams. By comparing two similar levels of study in distinct socio-political contexts with varying levels of citizen power and agency, the case studies evaluate the schema through student work and reflections.

KEYWORDS | PEDAGOGY, COLLABORATIVE DESIGN, CARE, DESIGN JUSTICE, ATTITUDE

1. Introduction

Design discourse is shifting from hierarchical models toward inclusive, collaborative approaches. Traditionally, designers have assumed expert roles (Herriott, 2023), but contemporary thought leaders advocate for designers as facilitators in interdisciplinary teams addressing social challenges (Costanza-Chock, 2020). This shift aligns with global calls for ethical, sustainable, and socially responsible design (Lima, 2023; Norman, 2024). Despite these discussions, design education has yet to fully transform. Engaging future designers in social innovation requires rethinking their roles within complex socio-political contexts (Tjahja & Yee, 2022). While pedagogy often engages marginalized communities, reciprocity remains a

challenge, risking the commodification of lived experiences.

This paper proposes a schema for ethical, care-centered design education, integrating insights from inclusion-focused pedagogy, designer attitudes, and responsible community engagement. Informed by Freire (1970), hooks (1994), and Giroux (2011), it examines two undergraduate studio modules in Mumbai and Florence to evaluate its applicability across contexts, offering insights into shaping responsible, engaged design practitioners.

Literature Review

The investigation into literature for this paper began with a reflection on "Pedagogy of the Oppressed" (Freire, 1970) and subsequent, critical reflections on the same over the years. Two such reflections and evolutions of the text are regarded as seminal works today - "Teaching to Transgress" (Hooks, 1994) and "On Critical Pedagogy" (Giroux, 2011). Both texts had their unique additions - Hooks' work brought in concepts of intersectionality, love, and emotional engagement in learning. Giroux's work expanded the critique to cultural and capitalistic politics including media, neoliberalism, and political resistance.

Hooks' (1994) Contribution

"Teaching to Transgress" responded to the needs of its time by expanding Freirean critical pedagogy to address race, gender, and intersectionality, advocating for an engaged pedagogy that emphasized personal experience, dialogue, and the dismantling of hierarchical power structures in education. Rooted firmly in feminist ideology, it brought with it discussions of teacher-student relationship grounded in empathy and care.

Giroux's contribution

Giroux's On Critical Pedagogy (2011) took on a more systemic adaptation of Freire's ideas to counter and question the increasing commodification of education under neoliberalism, calling for schools and universities to become sites of resistance where students develop critical agency to challenge systemic injustices.

In the seminal text "The Field of Cultural Production", Bourdieu(1993) discusses the distinction between autonomous and heteronomous pole - the former the concept of prioritization of symbolic capital over commercial success and the latter, the practice of cultural producers catering to market demands, prioritizing economic success and mass appeal. Many like Giroux (2011), highly critique modern neoliberal education as highly market driven and as leaning towards heteronomous pole. Therefore, if design is to shake off the neo-liberal, capitalistic influences, the pedagogy needs to reflect a less market-centered and society-centered approach.

Contemporary Design Literature

In order to contextualise critical pedagogy to design and to focus on the contemporary issues pertaining to design, a literature review of contemporary mainstream literature in design was conducted. Contemporary scholarship emphasizes ethical, non-hierarchical design education,

where designers act as facilitators rather than central authorities (Costanza-Chock, 2020; Lima, 2023). Rooted in designer-uncentered methodologies (Busciantella-Ricci et. al, 2024), this approach prioritizes collaborative, community-led engagement over expert-driven models. Developing new frameworks grounded in democratic inquiry is essential, as the absence of structured methodologies risks sustaining hierarchical and extractive pedagogical practices.
Furthermore, reciprocity of care in design education remains a pressing concern. Many institutions incorporate field visits and community engagement activities as part of active learning, with the aim of learning from real-world co-creation experiences. However, such engagements often commodify the knowledge and labor of marginalized communities, especially when socio-economic power asymmetries exist between students and communities. This is evident in cases where artisanal crafts, street vendors, and low-income workers become subjects of student projects without reciprocal benefits (Buckley & Sabreen, 2017).

Drawing inspiration from the above literature, the authors discussed and meditated on what a contemporary interpretation of these texts would be, specifically in the context of design education. Thus was born the new schema for pedagogy "Cultivating Care" proposed in this paper. The following central concepts emerged as the schema from this review:
With respect to Positionality i.e. how we situate ourselves in design & education, two key observations emerged:

a) Collaborative Design Paradigm and Designer-Uncentered Approach (democratic inquiry): While participatory approaches have long been advocated (Giroux, 2011), their significance in design education lies in challenging dominant paradigms such as designerly ways of knowing (Cross, 2006) and Rams' ten principles of good design (De Jong, Klemp, & Mattie, 2021). Herriott (2023) critiques the overuse of Cross's framework for elevating designer expertise and marginalizing non-designers, while Rams himself acknowledged the evolving nature of his principles. Contemporary scholarship increasingly critiques the myth of singular expertise, calling instead for co-design and community collaboration (Costanza-Chock, 2020; Norman, 2023; Lima, 2023; Authors, 2024). Design is reframed as democratic inquiry (DiSalvo, 2022), where problem-solving becomes collective sense-making. Two of the authors have also proposed "Radical Inclusive Attitudes," an epistemological model advocating for a Designer Un-Centered approach (Buscinatella-Ricci et. al, 2024), which diverges from traditional notions of "design as activism" or "force for good" that may still centralize designer authority if not rooted in the right attitudes.
b) Attitudes of Care, Inclusiveness and Equity: Contemporary design must position the designer within collaborative ecosystems to foster systemic, socially responsible outcomes (Costanza-Chock, 2020). Educational frameworks increasingly embed care and collaboration into curricula, with Tjahja and Yee (2022) advocating for pedagogies that redefine designers' roles through equity and care. To deepen ethical engagement,

Designing for Inclusive Attitudes was proposed as a framework that integrates inclusive design with attitude formation, grounded in the multi-component model of attitudes (Eagly & Chaiken, 1993; Maio et al., 2019). Drawing on Self-Perception Theory (Bem, 1972; Maio & Haddock, 2009), it suggests that behaviors—such as co-design and community engagement—actively shape ethical dispositions. Thus, experiential learning, reflection, and reciprocity are essential to cultivating meaningful, ethical design practice.

With respect to Methodology i.e. how we approach learning & design practice, the following parts of the schema were derived:

c) Cultural Sensitivity, Contextual Awareness, and Real-World Contexts: Design education must move beyond abstraction to engage with socio-cultural realities. Dominant frameworks often impose Western-centric narratives, reinforcing epistemic hierarchies (Escobar, 2018), while universalist models overlook local knowledge systems (Otto & Smith, 2013). Decolonial design emphasizes valuing indigenous and vernacular perspectives (Tunstall, 2023), asserting that design should emerge from societal contexts (Hara, 2015) rather than being externally imposed. Without contextual sensitivity, designers risk creating "techno-sterile solutions" that perpetuate deficit-based narratives (Papanek, 1984). Emphasizing power, privilege, and relationality, design must become collaborative, not prescriptive (Costanza-Chock, 2020; Udoewa, 2022). Bridging theory and praxis requires immersive fieldwork, community co-creation, and iterative feedback, enabling place-based design rooted in complex socio-ecological systems (Manzini, 2015; Deserti & Rizzo, 2023).

d) Systems Thinking with transdisciplinary and interdisciplinary outlooks: Lima (2023) and Norman (2024) advocate for integrative approaches that promote partnerships across disciplines and communities to address global challenges effectively. Moreover, the scope of contemporary designers has expanded to include complexities such as climate change and societal issues. As a result, systems thinking has become even more crucial. However, design education is struggling to adapt to these changes, as demonstrated by the lack of designers in high-level positions within organisations and government (Meyer & Norman, 2020).

e) Active and Engaged Learning in the Classroom - Contemporary research points to the effectiveness of active learning techniques in classrooms (Dixit, Bedekar, Jahagirdar, & Sathe, 2020). Through techniques such as group discussions, case studies, and hands-on activities, students develop a deeper understanding and can better apply their knowledge to solve real-world problems. Research also highlights the positive impact of these techniques on student engagement, retention, and skill development.
Authors such as Zimmerman (2014) have extensively explored the role of games in simulating real-world complex systems. In his 2013 article, "Manifesto for a Ludic

Century," he discusses how games serve as metaphors reflecting specific systems, offering players active learning experiences. Therefore, incorporation of games in the classroom to simulate real-life situations can allow students to explore complexities of various situations before and after site visits.

f) Reflective & Critical Practice (Awareness of Existing Power Dynamics and One's Own Process) - Students engaging with marginalized communities often encounter conflicting perspectives that challenge their preconceived notions. Maio & Haddock (2009, p. 34-35) describe attitude ambivalence as the coexistence of positive and negative perceptions about an issue. This ambivalence can create discomfort but is essential in fostering critical thinking and ethical awareness. Encouraging iterative reflection through structured self-evaluation exercises and peer discussions helps students develop more nuanced perspectives on ethical design practices. The seminal work "The Reflective Practitioner" (Schön, 1983) explores how professionals need to engage in reflective practice to navigate complex, uncertain, and dynamic situations. He critiques traditional technical-rational models of knowledge, arguing that expertise is not just about applying predefined theories but also about reflecting in and on action.

With respect to Impact i.e how education translates into broader societal change, the following parts of the schema were derived:

g) Education Needs to Drive Industry - Traditional design education has largely catered to industry needs, reinforcing existing market structures rather than challenging them (Giroux, 2011). Scholars advocate a paradigm shift toward socially responsible, ecologically regenerative, and critically engaged design (Fry, 2009; Manzini, 2015). Embedding systems thinking, critical pedagogy, and ethical frameworks enables students to understand design as a political and economic force (Escobar, 2018). Key strategies include fostering transdisciplinary collaboration, integrating activism, and decoupling design from market constraints. Ethical industry partnerships and models of civic and regenerative design illustrate how education can drive systemic change (Costanza-Chock, 2020). Justice-oriented pedagogy must shape, not mirror, future industries.

h) Reciprocity of Knowledge, Care and Applicability to Real-World: Field visits and community engagement are vital to active learning in design education, enabling co-creation and real-world applicability. However, the commercialization of higher education creates structural barriers to ethical pedagogy, fostering materialistic student mindsets and profit-oriented institutional agendas that devalue socially responsible approaches (Tsiotsou, 2024). Community engagement often risks becoming transactional, particularly when socio-economic asymmetries exist between students and communities, as seen in India's engagements with lower-income groups such as auto drivers, artisans, and street vendors—an issue intensified in Global North–South

collaborations (Buckley & Sabreen, 2017). Ethical pedagogy must counter extractive practices and promote community-led, inclusive design (Costanza-Chock, 2020), prioritizing reciprocity and care over market imperatives (Jacoby, 2015).

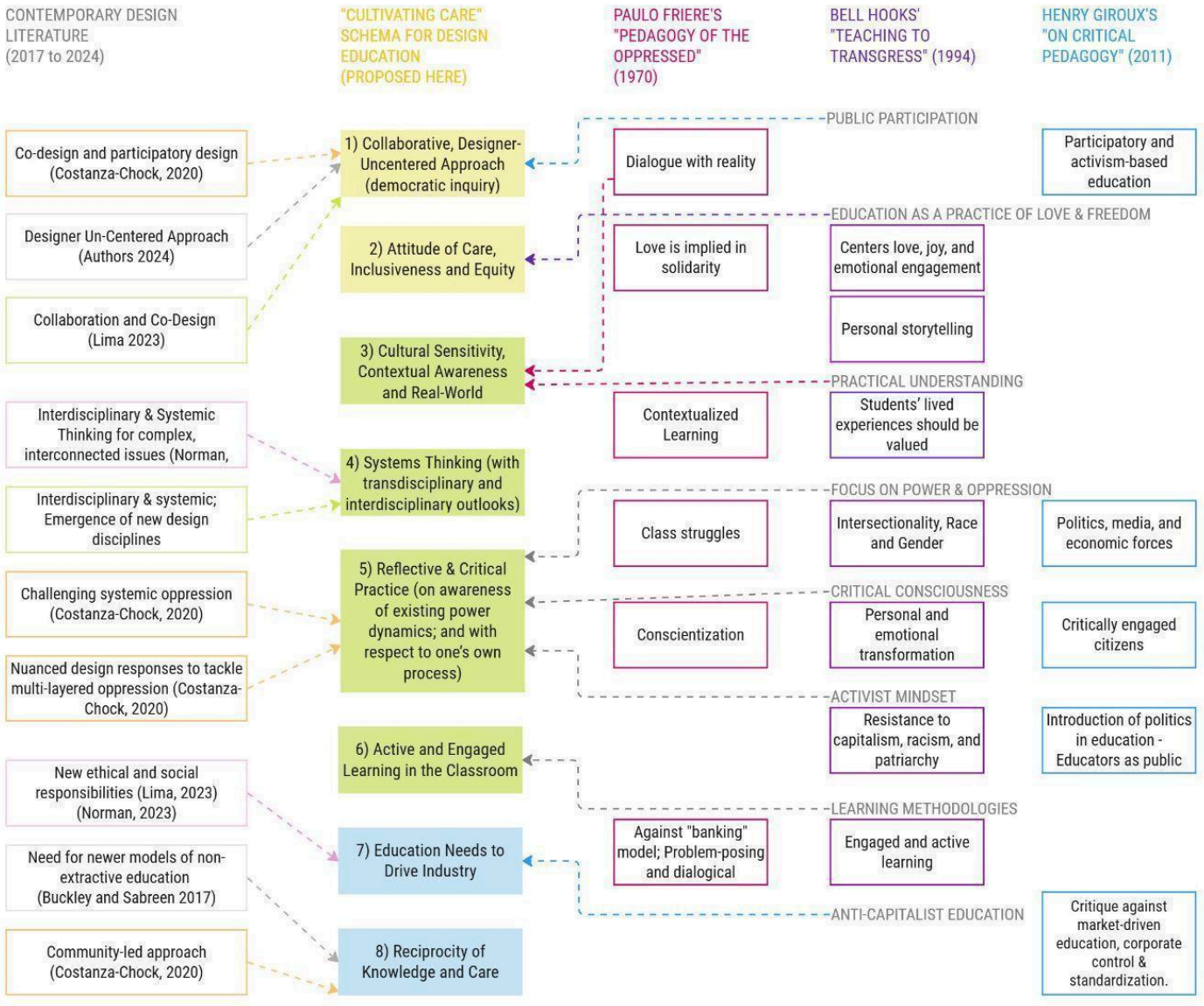


Figure 1. The above figure illustrates the development of the proposed schema based on a comprehensive literature review. The schema, represented by the central eight points, integrates pedagogical frameworks that emphasize critical pedagogy (positioned on the right) with contemporary design literature (positioned on the left). The latter highlights emerging attitudes and ways of being that are essential for the present and future of design.

Research Context

The proposed schema was applied and tested in two pedagogical contexts - through a Design Methods studio at the BITS Design School in Mumbai, India and in a course, namely 'Laboratory of Design II - Eco-Social' divided into two modules (Design for Social Innovation and Civic Design) in Florence, Italy.

Mumbai, India: The Design Methods module at the BITS Design School was conducted as a five-week studio, engaging 105 first-year Undergraduate design students across three sections. The structure of the studio was designed to introduce foundational design

research methodologies and frameworks, systems thinking, and participatory research methods. The module also introduced different types of design process models such as design thinking and the Double Diamond framework, while actively encouraging a critical outlook on these frameworks.
Each section was divided into five groups, totaling 15 groups overall, with an average of seven students per group. This collaborative structure was essential in fostering peer learning, iterative research, and interdisciplinary problem-solving. The studio's pedagogical approach combined fieldwork, hands-on participatory research, and synthesis exercises to encourage students to develop an evidence-based approach to problem definition and ideation. Through semi-structured site visits, observational studies, stakeholder interviews and participatory research, students engaged with real-world design challenges, emphasizing contextual awareness and ethical engagement. This studio was not only an academic exercise but also a pedagogical experiment in fostering ethical design research.

Florence, Italy: The "Design II - Eco-Social" course at the University of Florence is a twelve-week, second-year undergraduate course introduced in 2023-2024, with 24 students engaging in Design for Social Innovation and Civic Design. The course is structured into four sequential stages:

- Introductory Stage – Included lectures on the fundamentals of design for social innovation, civic design, co-design, service design, and speculative design. Students participated in collaborative laboratory exercises to explore key themes.
- Immersive Stage – Hands-on experiences with five local third-sector organizations, each presenting a specific context to explore and a challenge to address. Students designed and prepared toolkits for contextual investigation including engaging with stakeholders.
- Reflective and Defining Stage – Included data analysis and collaborative definition of design challenges to be addressed. This process led to the formation of project groups and the identification of themes for idea development.
- Development Stage – This phase comprised several sub-activities: a) Concept development; b) Review and feedback sessions; c) Final synthesis and presentation

Methodology

After the schema was developed from a comprehensive literature review, the authors followed two sets of methodology - a) To incorporate the schema into pedagogical practice and b) to test the effectiveness of the pedagogy in delivering the schema.

Methodology to incorporate the schema into pedagogical practice

To effectively integrate the schema into a module's pedagogical framework, we employed a multi-layered methodological approach across four distinct categories: (1) Methods Taught In The Studio, (2) Pedagogical Methods/Mechanisms, (3) Attitudes/Environment Created, and (4) Evaluation and Assessment Mechanisms. Each category aligns with principles of positionality, methodology, and impact to foster an inclusive, critically engaged, and reflexive design education.

1) Methods Taught In The Studio:
   The module incorporated a range of research and design methods that aligned with our

schema's emphasis on democratic inquiry, cultural sensitivity, and systems thinking. Participatory Action Research (PAR) (Kemmis & McTaggart, 2005) was a central methodology, positioning students as co-researchers rather than passive learners. Research Through Co-Design (Author 2, Co-author, 2024) was another methodology that aligned with PAR and was incorporated as an optional methodology for students. Additionally, various methods of participant observation including Ethnographic research methods (Pink, 2013), Systems mapping (Meadows, 2008) and Reflective Thinking (Schön, 1983). Table 1, 2 and 3 depict the methods employed and their relevance to the schema.

2) Pedagogical Methods/Mechanisms:
   The modules moved beyond passive learning through participatory methods—employing inquiry-based learning (Pedaste et al., 2015), dialogic pedagogy (Freire, 1970), and problem-based challenges to enhance student agency. Game-based learning (Gee, 2007), simulations (Zimmerman, 2014), and pop-culture role-play (Dune et al., 2016) facilitated engagement, systems thinking, and ethical reflection, aligning pedagogy with collaborative and critical learning outcomes.
3) Attitudes/Environment Created:
   Cultivating care, inclusivity, and equity relied on relational pedagogies (Noddings, 2012) and reciprocal knowledge exchange (Tuck & Yang, 2012), emphasizing co-learning and mutual knowledge construction. Emotional intelligence and reflective dialogue (Goleman, 1995) promoted ethical self-awareness. The Cognitive-Affective-Behavioral (CAB) model (Maio, Verplanken & Haddock, 2019) highlighted the integration of cognition, emotion, and behavior in attitudinal change—principles embedded throughout the pedagogical design.
4) Evaluation and Assessment Mechanisms:
   Assessment methods prioritized process-oriented evaluation (Biggs & Tang, 2011), valuing learning trajectories over final outputs. Reflexive journaling (Bolton, 2010) fostered critical awareness of bias and power, while peer assessment and dialogic feedback (Nicol, 2010) encouraged collaborative critique and perspective refinement. Real-world impact was assessed through frameworks emphasizing social implications (Brown, 2009), reinforcing meaningful design interventions.

This methodological approach embedded the design pedagogy schema conceptually and operationally through concrete teaching strategies, learning environments, and assessment. Centering participatory, reflexive, and socially engaged methods, the framework cultivates critical capacities for students to address contemporary global challenges.

Methodology to test the effectiveness of the pedagogy in delivering the schema

1) Quantitative Content Analysis of Student Work (Krippendorff, 2018; Neuendorf, 2017): A systematic content analysis similar to the quantitative newspaper analysis outlined by Krippendorff (2018) was employed on student work to identify patterns in the absorption and application of the schema's principles. This involved coding final project submissions and intermediate exercise submissions to assess how students engaged with key concepts of the schema such as democratic inquiry, interdisciplinarity and systems thinking.
2) Qualitative analysis of Student Work: This was done to complement the quantitative analysis as a way of meaning-making as suggested by Krippendorff (2018). He emphasizes that content analysis is not merely about counting words or themes but about interpreting meaning within context, making it a valuable tool for both qualitative and quantitative research. To understand the effectiveness of pedagogical methods, qualitative analysis of student work and analysis of reflective student journals was conducted. These were thematically analyzed to capture insights into student perceptions of active learning, engagement with game-based pedagogies, and their evolving attitudes toward inclusivity in design. Reflexive journaling (Bolton, 2010) was particularly useful in tracing how students internalized and critically reflected on their learning journey.

Application In Pedagogy

The detailed breakdown of application of schema through pedagogical methods in both Indian and Italian contexts are depicted in the tables below.

Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Positionality" Section of the Schema - PART 1

BITS Design School, Mumbai, India › **Faculty** - Lakshmi Srinivasan, Khusboo Jogani, Malay Dhamelia (Author 1, 3 and 4) › **Guest lecture & Mentoring** by Daniele Busciantella Ricci (Author 2)	**Collaborative, Designer-Uncentered Approach (Democratic Inquiry)**	**Attitude of Care, Inclusiveness and Equity**
Methods Taught In The Studio	Participatory Action Research; Stakeholder Mapping; Research Through Co-Design (Author 2, 2024)	Ethnographic Research, Contextual Inquiry and allied Methods of Observation, Stakeholder Interviews
Pedagogical Methods/-Mechanisms	Exercises: Reflections on inclusivity in engagement; Getting feedback from stakeholders Mechanisms: Both faculty and peer assessment, Peer Feedback Loops; Student Organisation: Emphasis on Group Work - Collaboration between students made mandatory	Exercises: Analysis of field notes; Student reflected on socio-cultural factors that affected lives and livelihoods of community Mechanisms: Site Visits, Immersive Fieldwork
Attitudes/Environment created	Cognitive: Emphasis laid on learning to look at the community as the experts and the design students as the "learners" (of the context). Affective: Learning to be comfortable with discomfort Behavioural: Emphasis on depth of community participation - lead to students repeatedly returning to site to engage with stakeholders.	Cognitive: Students needed to learn about the site from diverse stakeholders (women, elderly, shopkeeper vs customer, vehicle user vs pedestrian) with different identities and understand their emotional experiences
Evaluation and Assess-ment Mechanisms	Measured through process documentation and insight generation by students. Learning Outcome Assessed: Conduct research to gather nuanced insights into user needs and contextual challenges.	Measured through qualitative community feedback and student response. Learning Outcome Assessed: Conduct research to gather nuanced insights into user needs and contextual challenges.

Figure 2. Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Positionality" Section of the Schema - Part 1.

University of Florence, Italy
- **Faculty** - Daniele Busciantella Ricci (Author 2)
- **Supported by two faculty members (contract professors)** - Marco Berni, Riccardo Luciani

Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Positionality" Section of the Schema - PART 2

	Collaborative, Designer-Uncentered Approach (Democratic Inquiry)	Attitude of Care, Inclusiveness and Equity
Methods Taught In The Studio	Research Through Co-Design (Author 2, 2024)	Self-reflection process; Personal toolkit co-creation; Secondary data collection; Immersive experiences; Field observations; Embedded for a day (with the usage of the toolkit); Challenges exploration; Design ethnography
Pedagogical Methods/-Mechanisms	Group work with third-sector entities, Peer and faculty feedback	Open Space Technology methodology; Community feedback; Design brief
Attitudes/Environment created	Cognitive: Collaborative (peer, faculty and communities - where possible) definition of the design challenges; Group project definitions	Cognitive: Students needed to learn about the site from diverse stakeholders from the third-sector contexts
Evaluation and Assessment Mechanisms	Feedback from peer, faculty and stakeholders (where available)	Qualitative assessment through faculty and stakeholders feedback (where available)

Figure 3. Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Positionality" Section of the Schema - Part 2.

BITS Design School, Mumbai, India
- **Faculty** - Lakshmi Srinivasan, Khusboo Jogani, Malay Dhamelia (Author 1, 3 and 4)
- **Guest lecture & Mentoring** by Daniele Busciantella Ricci (Author 2)

Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Methodology Section of the Schema" - PART 1

	Cultural Sensitivity, Contextual Awareness and Real-World Contexts	Systems Thinking (transdisciplinary, interdisciplinary outlooks)	Active and Engaged Learning in the Classroom	Reflective & Critical Practice
Methods Taught In The Studio	Ethnographic Research, Contextual Inquiry, Observation Methods	Systems Mapping, Pedestrian Mapping, Actor-Network Theory, Fishbone Analysis, Time-Motion Analysis	Participatory Action Research (PAR) – Students engage with local communities using fieldwork, interviews, and co-design exercises to understand socio-cultural contexts and collaboratively generate insights.; Research Through Co-Design (Author 2, 2024)	Frameworks for reflections; Journaling
Pedagogical Methods/-Mechanisms	Site Visits, Immersive Fieldwork, Stakeholder Interviews	Expert Panels, Cross-Disciplinary Collaboration, Intersections with Other Fields	Game-Based Learning - Role-playing and data analysis exercises inspired by pop-culture phenomena; Collaborative Studio Critiques and Peer-Led Discussions – Structured design critiques and peer-review sessions are integrated to encourage reflective inquiry, cross-disciplinary collaboration, and co-learning.	Self-Reflection Logs, Critical Reviews of popular design process frameworks, Structured Peer & Faculty Feedback
Assessment & Evaluation	Analysis of field notes; Student reflections on socio-cultural factors	Faculty review of systems mapping outputs; Student identification of connections across disciplines and complexity in systems understanding	Measured engagement through field participation logs, peer reflections, and faculty assessment of participatory contributions in group activities.	Assessment of structured reflections, depth of analysis, and critique quality; Measured through change in student perspectives over time

Figure 4. Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Methodology Section of the Schema" - Part 1.

Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Methodology Section of the Schema" - PART 2

University of Florence, Italy › **Faculty** - Daniele Busciantella Ricci (Author 2) › **Supported by two faculty members (contract professors)** - Marco Berni, Riccardo Luciani	**Cultural Sensitivity, Contextual Awareness and Real-World Contexts**	**Systems Thinking (transdisciplinary, interdisciplinary outlooks)**	**Active and Engaged Learning in the Classroom**	**Reflective & Critical Practice**
Methods Taught In The Studio	Self-reflection process; Personal toolkit co-creation; Secondary data collection	Design-orienting scenario	Collaborative design simulations(Author 2, 2024)	Structured Peer & Faculty Feedback
Pedagogical Methods/-Mechanisms	Immersive experiences; Field observations; Embedded for a day (with the usage of the toolkit); Challenges exploration; Design ethnography	Double Diamond	Co-analysis; Toolkit co-design with peers and faculty; community feedback	Participatory Action Research
Assessment & Evaluation	Community feedback; Design Brief Qualitative assessment through faculty and stakeholders' feedback (where available)	Speculative design principles Theory of Change	Open Space Technology methodology Project exam presentation including all the materials provided throughout the whole course	Meta-design of the process to prepare the final exam Final qualitative assessment for the exam

Figure 5. Table depicting methods applied in the teaching and learning space to introduce/reinforce the "Methodology Section of the Schema" - Part 2.

Table depicting methods applied in the teaching and learning space to introduce/refinforce the "Impact" Section of the Schema - PART 1

BITS Design School, Mumbai, India › **Faculty** - Lakshmi Srinivasan, Khusboo Jogani, Malay Dhamelia (Author 1, 3 and 4) › **Guest lecture & Mentoring** by Daniele Busciantella Ricci (Author 2)	**Education Needs to Drive Praxis**	**Reciprocity of Knowledge, Care and Real-World Application**
Pedagogical Methods/-Mechanisms	ntegrating Design Research into Public Engagement – Students apply participatory research methods (ethnographic observation, stakeholder mapping, and behavioral analysis) to identify systemic challenges in urban public spaces. Findings are synthesized into design frameworks that inform policy, urban planning, and service innovation.	Community-Centered Co-Design – Design interventions are developed in direct collaboration with community members through … and participatory feedback cycles. The focus is on understanding the problem area with and designing with, rather than for, the community.
Pedagogical Methods/-Mechanisms	Participatory Action Research Mela to make visible to practitioners and academics outside the institution, the field engagements of students (detailed below)	
Pedagogical Methods/-Mechanisms	Student-Led Design – Project outputs extend beyond coursework, are implemented in collaboration with local communities. Eg. urban wayfinding systems, public space redesigns, socially responsible business models.	Knowledge Exchange and Mutual Benefit – Instead of extractive learning, the pedagogical model ensures a reciprocal exchange of knowledge—students gain contextual insights while communities receive …

Figure 6. Table depicting methods applied in the teaching and learning space to introduce/refinforce the "Impact" Section of the Schema - Part 1.

Table depicting methods applied in the teaching and learning space to introduce/refinforce the "Impact" Section of the Schema - PART 2

University of Florence, Italy › **Faculty** - Daniele Busciantella Ricci (Author 2) › **Supported by two faculty members (contract professors)** - Marco Berni, Riccardo Luciani	**Education Needs to Drive Praxis**	**Reciprocity of Knowledge, Care and Real-World Application**
Pedagogical Methods/-Mechanisms	Transferring service design, co-design and speculative design to cover the basic design knowledge for developing capabilities related to design for social innovation and civic design	Collaborative design education practices (peer-to-peer, and peer-to-faculty) and learning-by-doing approach
Pedagogical Methods/-Mechanisms	Simulating a Double Diamond process	earning-by-doing approach; peer-to-peer learning process; learning through the co-design
Pedagogical Methods/-Mechanisms	Providing embedded experiences in collaboration with third-sector entities to address real-world challenges	Students provide contextual observation insights and the communities provide feedback and design challenges
Assessment & Evaluation	Developing strategic scenarios, service concepts, information and communication prototypes, as well as product-service system concepts	Peer-to-peer collaboration and co-assessment of the conceptual results; students provide feedback about the learning process; faculty provide an assessment of the learnings through the final projects

Figure 7. Table depicting methods applied in the teaching and learning space to introduce/refinforce the "Impact" Section of the Schema - Part 2.

Some salient and unique features of the pedagogy are highlighted through text and images below:

BITS Design School, Mumbai, India

1) Game-Based Approach: A "Halloween Heist" of pop culture Brooklyn-99 fame was organized for a day where students analyzed quantitative and qualitative data sets provided to them from two universes - Harry Potter and Marvel Cinematic Universe. These hypothetical datasets that simulated real-world datasets were analysed and interpreted by students to make effective insight and How Might We statements. As students reported the insight-generation stage to be difficult, this was incorporated to make the process more engaging and light-hearted.

2) PAR Mela: Author 2 visited India to deliver lectures on Research Through Co-Design and mentor students on Participatory Action Research (PAR). A PAR mela (mela is a Hindi word for

carnival) was organized to showcase findings from the field to various design experts from industry and academia to create an added impact of the work done by students. It also provided the students with an opportunity to be mentored by experts.

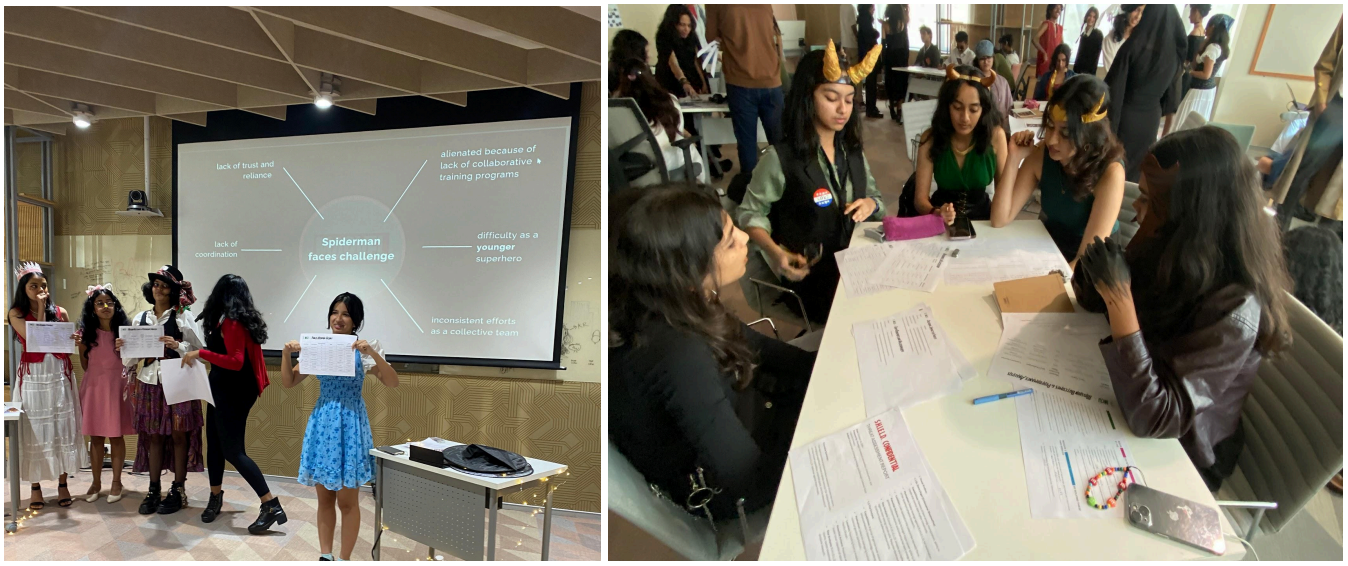


Figure 8: Game-Based Approach – "Halloween Heist" Activity

Students participated in a "Halloween Heist" inspired by Brooklyn Nine-Nine, analyzing hypothetical datasets from the Harry Potter and Marvel Cinematic Universe.

Figure 9: PAR Mela – Participatory Action Research Showcase

The Participatory Action Research (PAR) Mela provided a platform for students to present their research findings to industry and academic experts.

University of Florence, Italy

1) Immersive experiences

Five immersive experiences were organized in collaboration with local third-sector entities. Students actively participated in creating conditions for exploring the contexts using design toolkits they developed themselves, which were iteratively assessed by faculty members and through peer-to-peer review. Additionally, collaborative activities were carried out during the immersive experiences to collect data for defining the design challenges.

2) Open Space Technology

The Open Space Technology (OST) technique was applied after the immersive experiences to collaboratively define: (i) design challenges, (ii) student groups engaged in each challenge, and (iii) specific themes to be addressed by each group. These design challenges guided students in developing their final design concepts and project work, which formed the basis for their final exam materials. The OST approach was a crucial activity in democratically defining challenges by considering the needs and issues of the explored contexts while also organizing student groups based on their individual skills and interests.

Figure 10. Students engaged in the two different immersive experiences, a local urban regeneration project based on cultural welfare (on the left), and a co-housing for social inclusion (on the right).

Figure 11. Students engaged in the two key collaborative activities during the OST.

Results & Discussion

Measuring Pedagogical Impact, Mumbai, India

Quantitative Analysis

A quantitative analysis was conducted to understand how various aspects of the schema were visible in student works.

1) With respect to the first two components of the schema, Collaborative, Designer-Uncentered Approach (democratic inquiry) and Attitudes of Care, Inclusiveness and Equity, PAR methods, including semi-structured interviews, and participatory toolkits were employed. Research Through Codesign was employed through speculative scenario-building and mapping exercises.

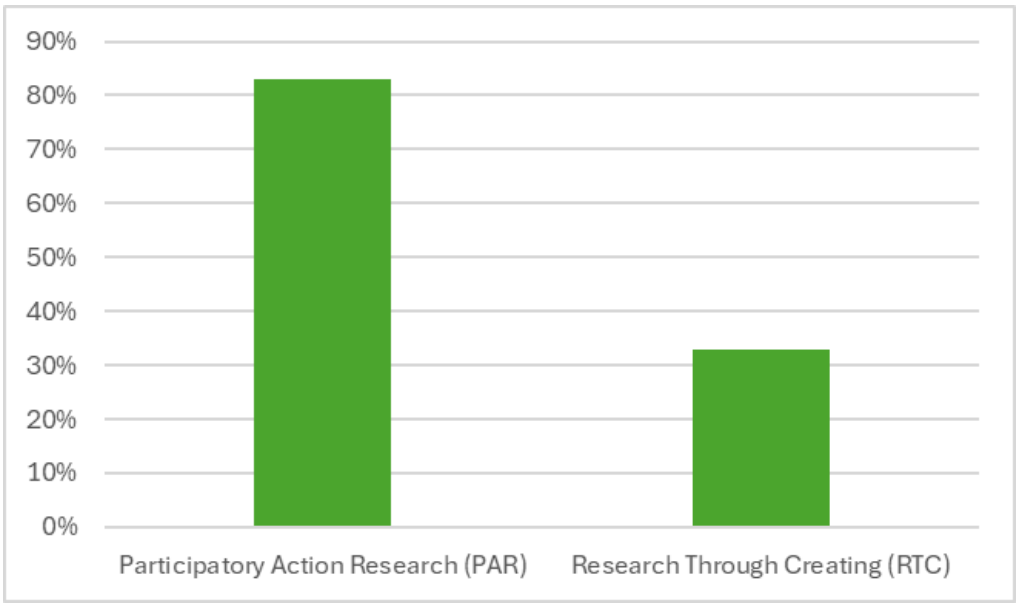


Figure 12. Chart depicting percentages of students employing PAR and RTC in Institution, Mumbai, India

2) To operationalize the third aspect of the schema—"Cultural Sensitivity, Contextual Awareness, and Real-World Application"—the pedagogical approach involved curating site selections based on six distinct thematic categories. These categories were strategically chosen to expose students to diverse socio-economic, cultural, and spatial dynamics, ensuring a comprehensive understanding of design in real-world contexts. The six thematic site classifications were:
    1. Urban Public Spaces & Transit Hubs
    2. Commercial & Informal Business Spaces
    3. Institutional & Educational Environments
    4. Community Spaces
    5. Recreational & Leisure Spaces
    6. Service-Oriented & Repair Economies

By engaging with these varied spatial typologies, students developed a nuanced awareness of place-based design, fostering an appreciation for contextually responsive and socially embedded design practices.

3) The interdisciplinary modes of working along with systems' thinking was visible through various methods students chose to employ from what was introduced to them. Fig.13. depicts the various disciplines students engaged in.
4) With respect to the aspect of the schema, "Active and Engaged Learning in the Classroom", various active learning strategies were employed. Fig.14. gives a detailed breakdown of class hours spent on different strategies.
5) In the subsequent module, all student groups carried their interventions to the site, ensuring a 100% translation of classroom learning into real-world application. This approach reinforced the principles of Education to Drive Industry and Reciprocity of

Knowledge, Care, and Applicability to the Real World, demonstrating the tangible impact of design research when directly engaged with stakeholders.

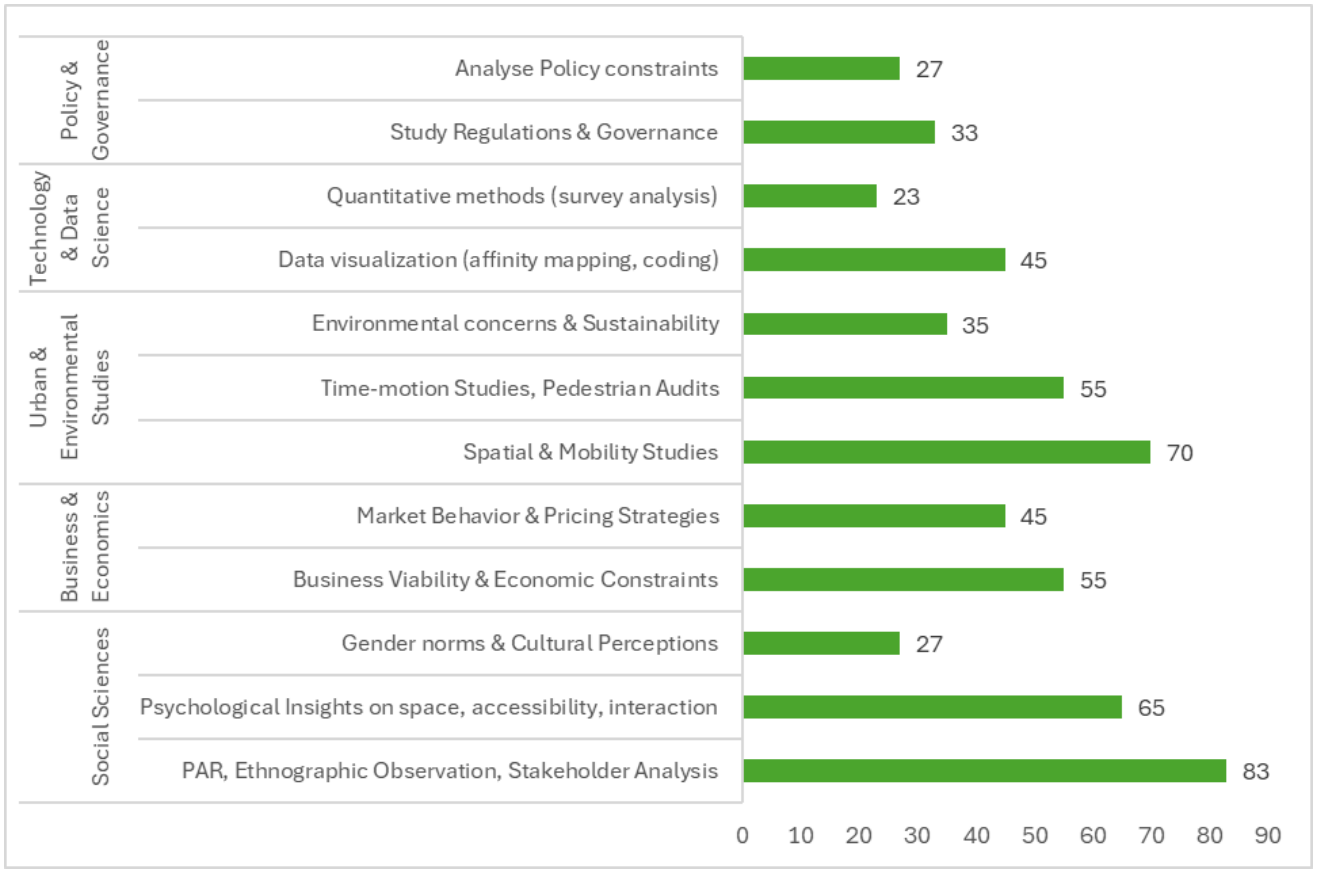


Figure 13. Image depicting percentages of students engaged with other disciplinary perspectives

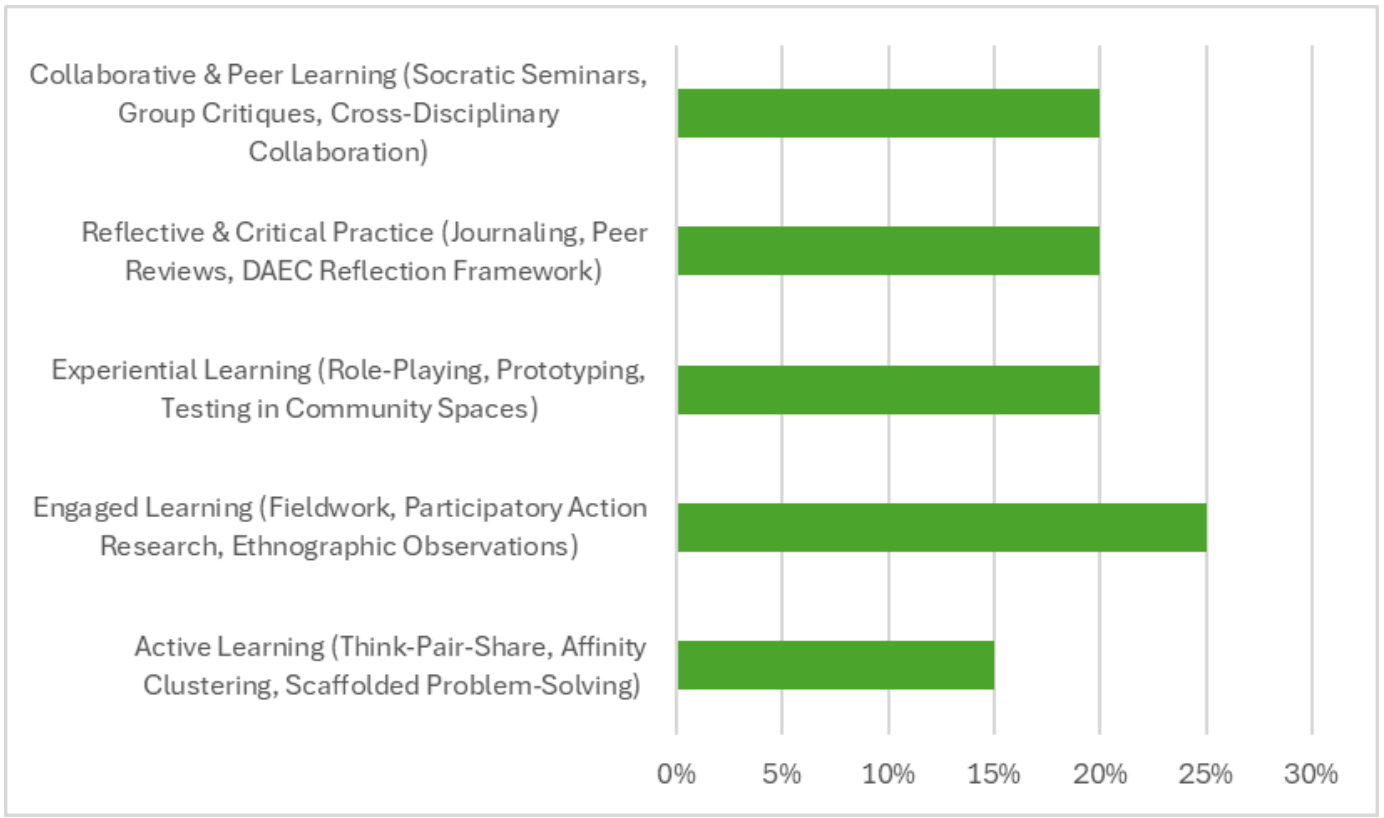


Figure 14. Breakdown of class hours spent on different types of active learning strategies

Qualitative Analysis

We refer to three case studies of student work here to further demonstrate the pedagogical impact as a way of "interpreting meaning within context" (Krippendorff, 2018).

Case Study 1: Waste Collectors' of "Lucky" Street

In Mumbai's urban streets, informal waste collectors and sweepers play a vital role yet face systemic neglect in welfare, safety, and recognition. This project addressed inequities such as unsafe conditions and stigmatization, alongside hazardous waste disposal behaviors. Initially, students viewed improper waste disposers as culprits, but immersive interviews and participatory action research (PAR) revealed deeper systemic causes, profoundly shifting their understanding of street users.

Findings and Insights listed by students:

- The design of the current dustbins required pedestrians to touch the lid and get themselves dirty in order to dispose of waste. Users of the street needed to dispose of waste conveniently without getting dirty.
- Waste collectors and street sweepers faced health risks due to inadequate protective gear and unsafe collection practices.
- Cigarette smokers needed special and convenient disposal systems for cigarette butts. The site lacked this.

This case underscores the importance of ethical reflexivity, as students critically examined their role in advocating for systemic change while respecting community agency. They also recognised design as an embedded mechanism within a larger system encompassing various government bodies, stakeholders and urban ecosystems. Waste collectors' dignity and safer working conditions were prioritized.

Case Study 2: Bus Ridership Challenges and Impacted Urban Mobility

This project investigated declining bus ridership and its impact on vulnerable users, analyzing ridership data, infrastructure gaps, and stakeholder behaviors to identify barriers. Employing mixed methods, students conducted vehicular audits to locate congestion points, interviewed senior citizens about travel challenges, and used quantitative rider counts to reveal usage patterns across demographics including mothers, office workers, and seniors.

Findings and Insights listed by students:

- Travelling in a bus for a senior citizen can be a challenge because the bus infrastructure and vehicles are not built with their physical limitations in mind.
- Accessing toilets in case of emergencies is a challenge for diabetic bus users as it is difficult to locate toilets quickly en route.
- Night-time journeys are a challenge for women because there is limited activity on the street, and intoxicated people, and it is not well-lit.
- Commuting is a challenge for a daily worker because they have limited transit options that are punctual and affordable.

- Knowing what bus to take is a challenge for people as route information is not prominent and accessible.

This project exemplifies the pillars of systems thinking and interdisciplinary problem-solving, with students integrating social, and infrastructural considerations into actionable insights.

Figure 15. Case Study 1 -Students Anjali Lodha and Prisha Modi of BITS Design School, Mumbai conducting interviews and PAR with street sweepers and waste collectors.

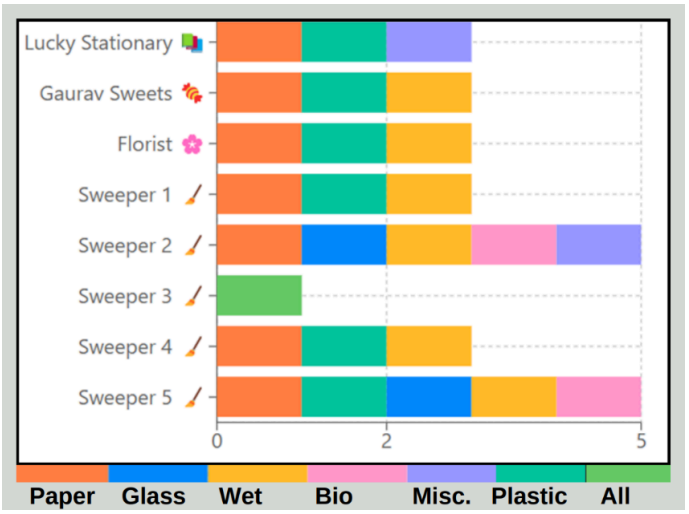
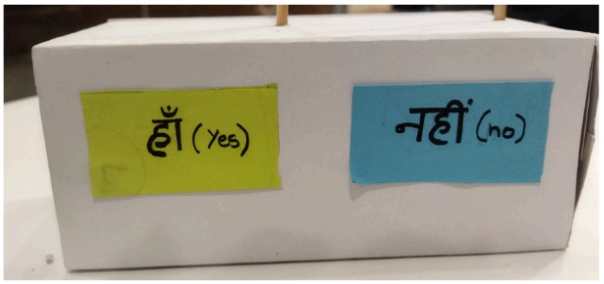


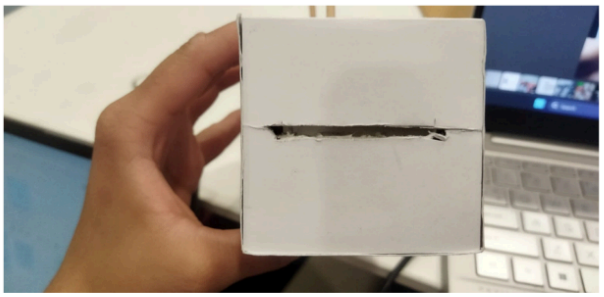
Figure 16. Case Study 1 - Student mapping of types of waste generated by different shops and the different sweepers whose daily work is impacted by the same. Student work submitted by Dhiren N,

Prisha Modi, Anjali Lodha, Srivaishnavi Lakkaraju, Siddhi Joshi

These are our cue cards colour coded and marked differently for easy identification of our quantitative data.
Blue are aspects on the bus and **pink** are aspects on the bus stop.



The toolkit has two segregations, Yes and no. If a personal has a problem with an aspect they put it in yes and if not then no.



We also added a slit for additional feedback and qualitative data which is not mentioned on the cards. This gave us unexpected and different types of opinions.

Figure 17. Case Study 2 - Participatory toolkit designed to analyse infrastructural issues that impacted bus ridership. Student work submitted by Sharanya Mukherjee, Simona Das, Sara Tripathi, Kujal verma, Harshit Jaiswal, Aarushi Pranavi, Dhruv Srinivas, BITS Design School.

Case Study 3: Investigating Kirana Stores

This research examined daily operations of Kirana stores—small, family-owned retailers vital to local supply chains—focusing on inventory management and data tracking amid a changing retail environment. Students employed systems mapping, time-motion analysis, stakeholder interviews, ethnographic observation, and participatory toolkits to explore decision-making, financial practices, and technology use in depth.

Findings and Insights listed by students:

- Maintenance of the Khaatas is tedious for the store owner due to keeping multiple copies of them in the form of pdfs. This redundant process leads to confusion and discrepancies in data.
- Cluttered placements of products lead to low product visibility leading to reduced impulse purchases.

The findings highlighted both challenges and opportunities for enhancing efficiency and resilience within these micro-enterprises. This study was a prime example of systems thinking that incorporated interdisciplinary understandings where design thinking intersected with finance and project management.

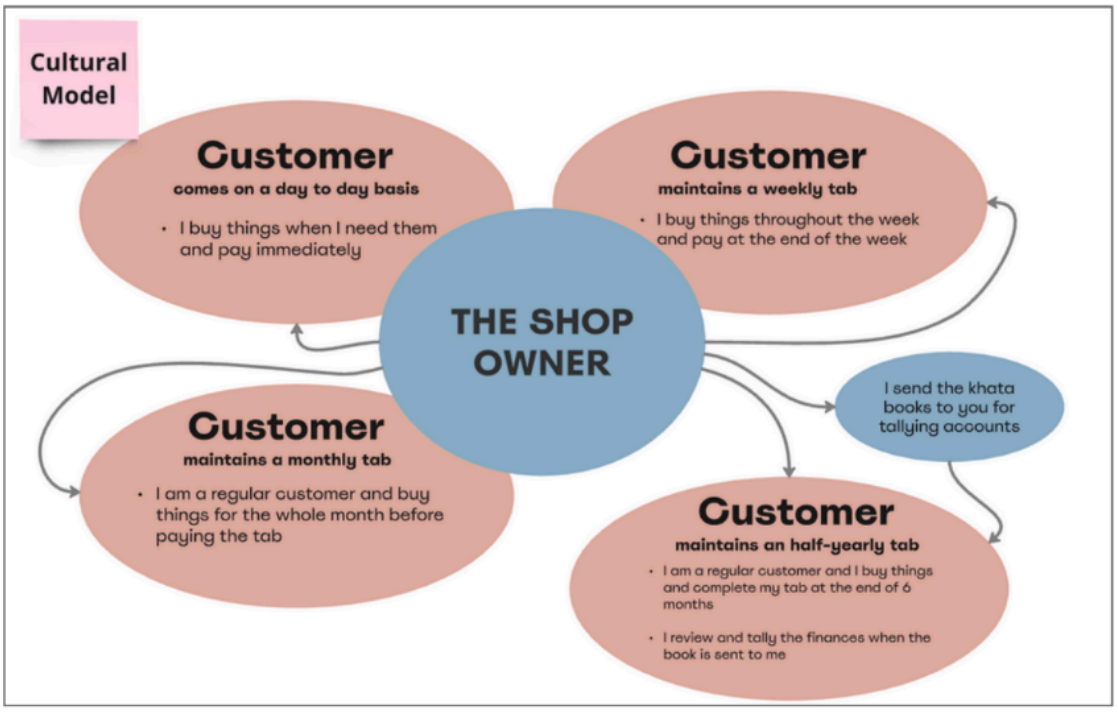


Figure 18. Case Study 3 - A Cultural model showing relations and exchanges made between different types of customers and the store owner that constitute the current system of Khatta-keeping. Student work submitted by Arya, Purvi, Siya, Aneesh, Arnav, Riddhi, Sakshi, BITS Design School

These case studies highlight participatory research's transformative potential in overcoming systemic barriers, emphasizing cultural sensitivity, interdisciplinary problem-solving, and ethical reflexivity. They validate the applied framework by showing how tools like stakeholder mapping and narrative inquiry yield actionable, community-centered solutions. For communities, the projects fostered empowerment and advocacy; for students, they reinforced critical reflection and developed participatory research skills alongside holistic socio-economic understanding.

Table 1. Table depicting incorporation of schema in student projects case studies for Mumbai, India

Observation from Student Work	**Insight wrt Pedagogy**	**Relevance to Schema**
Waste Collectors' of "Lucky" Street		
Student project on waste collectors considered multiple stakeholders' perspectives and analysed it from different lenses.	A combination of contextual immersion mixed with behavioural study and deliberate stakeholder mapping proved effective in this case to make students consider multiple perspectives.	Collaborative, Designer-Uncentered Approach (Democratic Inquiry)

Students' initial assumptions about stakeholders (users of the street) dramatically changed after PAR.	PAR helped students develop greater nuance and cultural sensitivity towards the real-world context they were investigating.	Cultural Sensitivity, Contextual Awareness and Real-World Contexts
Students focused on the most vulnerable and least powerful stakeholder on their site - the waste pickers. They focused their design brief around the waste pickers.	Relevant Methods Taught: Interviews, Stakeholder Maps Explanation: The conversations while making stakeholder maps to mark stakeholder relationships and to evaluate most and least excluded paid off.	a) Attitudes of Care, Inclusiveness and Equity b) Reflective & Critical Practice (Awareness of Existing Power Dynamics and One's Own Process)
Bus Ridership Challenges and Impacted Urban Mobility		
Students employed a combination of different methods to uncover detailed patterns, issues and specific stakeholder needs.	Incorporation of quantitative methods that emphasize systemic understanding and ethnographic methods that encourage empathy with stakeholders can created nuanced and effective contextual immersion and insight generation	a) Contextual Awareness and Real-World Contexts b) Attitudes of Care, Inclusiveness and Equity c) Systems Thinking with transdisciplinary and interdisciplinary outlooks
Investigating Kirana Stores		
Students employed systems' mapping, time-motion analysis to understand store owners' working patterns and provided tech support for financial management.	The nature of the context provided provoked students to employ systems thinking tools and interdisciplinary techniques.	a) Contextual Awareness and Real-World Contexts b) Systems Thinking with transdisciplinary and interdisciplinary outlooks

Analysis of Reflective Journals

Maio & Haddock (2009, p. 28-30) highlight open-ended self-assessment methods, such as reflective journals and belief listing, as effective tools for measuring attitudinal shifts. Applying these qualitative assessment models in design education can help evaluate whether students have internalized ethical design principles. The following quotes from student reflections submitted at the end of the module illustrate this,

Sampoorna Krishna wrote “From viewing our street as just grounds for business, conducting the participatory activities and conducting interviews gave our project’s narrative a parallel storyline of Hope. Awadh uncle, a vendor, spoke to us at length about his life, livelihood and how he does what he does so his children can get a good education and have a good life. Conversing with many stakeholders like this breathed life into our experience of research.”
Siddhi Joshi wrote “Working on this project made me realize how a simple street we often walk on can be seen as a complex site of interaction. For instance, I discovered that sweepers feel emotionally supported when we address their concerns about extra work or injuries from sharp objects during the waste collection process.”
Prisha Modi wrote “I learnt that the whole design research process required no assumptions, biases, and an insight into the different perspectives of different stakeholders to finally gain a problem statement that we can then work on..”
These excerpts also demonstrate how the pedagogy was impactful with respect to incorporating a critical part of the schema “Reflective & Critical Practice (Awareness of Existing Power Dynamics and One’s Own Process)”.

Measuring Pedagogical Impact, Florence, Italy

It is possible to frame results and outcomes - as short and mid-term impact conditions - directly observable from the education experience in Italy. First, students provided several kinds of outputs related to their design studies and processes such as

- 7 design scenario;
- 24 design toolkits (at least one for each student);
- 231 design tools filled throughout the whole course;
- 7 projects (including service and strategic design concepts) that addressed the design challenges discussed in collaboration with the entities that determined the immersive experiences

Second, in terms of the mid-term impacts of the course, students activated three internships on the same topics and one went into a thesis project with the same topics and learnt approaches.
Third, the initial experience in the course provided data that were co-analysed in collaboration with the faculty who taught the course. This analysis aimed to improve the course and develop a revised version for the next academic year. The main insight was that the students were well-prepared in terms of methodologies and process awareness. However, the quality of the final exams needs improvement, particularly in refining details that can enhance the evidence for impactful design ideas. The faculty team is working on strategies to address this gap.

Conclusion

The outcomes from the module conducted in India demonstrate rich, nuanced understandings in student work. Additionally, when the schema was incorporated into the pedagogy through the right methodology, environment and behavioural conditions, most students responded to their contexts with sensitivity and developed a sense of humility and appreciation for the local

communities. This was witnessed through student reflective notes and essays. The case study of the student work in India also highlights the importance of integrating interdisciplinary and transdisciplinary methodologies coupled with tools for systems thinking in the classroom (as outlined in the schema) to enable students to develop holistic, designer un-centered approaches to real world contexts. The case study also demonstrates that while reflective praxis and reflective writing can be perceived as cumbersome by students, consistently engaging in reflective thinking can both enhance quality of work and increase students' cultural sensitivity.

The educational outcomes from the Italy module reveal a tangible and multifaceted impact on students in both immediate and mid-term contexts. The creation of design artefacts—such as scenarios, toolkits, and tools—and the development of real-world projects with external partners demonstrate deep student engagement. Continued learning through internships and thesis work further reflects the course's sustained relevance. Faculty-led analysis of course data has yielded critical insights for curricular refinement. While students exhibit strong methodological grounding and process understanding, their final outputs indicate a need for improved clarity and communication. Faculty efforts to address this gap highlight a reflective and evolving pedagogical approach that seeks to enhance both academic rigour and real-world impact.

Both case studies, thus, effectively demonstrate mechanisms through which the schema can be applied in social design pedagogy. Additionally, they also illustrate through experimentation and the above results, the effectiveness of the schema in delivering what it proposes.

Way Forward

Building on our analysis of student case studies, future iterations of this pedagogical approach will focus on refining strategies for deeper engagement with industry and community stakeholders. Emphasizing reciprocity, we aim to strengthen knowledge exchange between academia and practice, ensuring that educational frameworks remain responsive to evolving socio-economic and environmental challenges. Further research will explore scalable models for interdisciplinary and transdisciplinary collaboration, fostering more inclusive and equitable learning environments. Additionally, longitudinal studies will assess the sustained impact of this pedagogy on students' professional trajectories and critical thinking capacities. By integrating continuous reflection and adaptability, we seek to enhance the transformative potential of design education in addressing real-world complexities.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Bem, D. J. (1972). Self-perception theory. *Advances in Experimental Social Psychology*, 6, 1-62. https://doi.org/10.1016/S0065-2601(08)60024-6

Biggs, J., & Tang, C. (2011). *Teaching for Quality Learning at University*. McGraw-Hill Education.

Bolton, G. (2010). *Reflective Practice: Writing and Professional Development*. SAGE Publications.

Bourdieu, P. (1993). *The field of cultural production: Essays on art and literature* (R. Johnson, Ed.). Columbia University Press.

Brown, T. (2009). *Change by Design: How Design Thinking Creates New Alternatives for Business and Society*. Harper Business.

Buckley, C., & Sabreen, T. (2017). *Design and craft: A changing relationship*. University of Brighton.

Busciantella-Ricci, D., Soares, L., Srinivasan, L., de Kreek, M., Berry, A. H. (2024). Radical Inclusive Attitudes: the challenge of doing, undoing, and redoing the world-in-the making. In: P/REFERENCESOF DESIGN Cumulus Budapest 2024, 15-17 May 2024. Moholy-Nagy University of Art and Design Budapest (MOME). ISBN Volume 1: 978-952-7549-02-5 (PDF)

Costanza-Chock, S. (2020). *Design justice: Community-led practices to build the worlds we need*. The MIT Press.

Cross, N. (2006). *Designerly ways of knowing*. Springer.

De Jong, C. W., Klemp, K., & Mattie, E. (2021). *Dieter Rams: Ten principles for good design*. Prestel.

Deserti, A., & Rizzo, F. (2023). *Design for social innovation*. In Encyclopedia of Social Innovation (pp. 118-122). Edward Elgar Publishing Limited.

DiSalvo, C. (2022). *Design as democratic inquiry: Putting experimental civics into practice*. MIT Press.

Dune, T., Bidewell, J., Firdaus, R., & Kirwan, M. (2016). Communication Idol: Using popular culture to catalyse active learning by engaging students in the development of entertaining teaching and learning resources. *Journal of University Teaching & Learning Practice, 13*(5). Available at http://ro.uow.edu.au/jutlp/vol13/iss5/15

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.

Escobar, A. (2018). Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds. Duke University Press.

Freire, P. (1970). *Pedagogy of the oppressed* (M. B. Ramos, Trans.). Herder and Herder.

Fry, T. (2009). Design Futuring: Sustainability, Ethics, and New Practice. Berg Publishers.

Gee, J. P. (2007). *What Video Games Have to Teach Us About Learning and Literacy*. Palgrave Macmillan.

Giroux, H. A. (2011). *On critical pedagogy*. Continuum.

Goleman, D. (1995). *Emotional Intelligence: Why It Can Matter More Than IQ*. Bantam Books.

Herriott, R. (2023). The delightful phrase: Are there really designerly ways of knowing? *Design Issues,* 39(3), 72–82. https://doi.org/10.1162/desi_a_00727

Hooks, b. (1994). *Teaching to transgress: Education as the practice of freedom*. Routledge.

Jacoby, B. (2015). *Service-learning essentials: Questions, answers, and lessons learned*. Jossey-Bass.

Kemmis, S., & McTaggart, R. (2005). "Participatory Action Research: Communicative Action and the Public Sphere." In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 559-603). SAGE Publications.

Krippendorff, K. (2018). *Content Analysis: An Introduction to Its Methodology.* SAGE Publications.

Lima, M. (2023). The new designer: Rejecting myths, embracing change. The MIT Press.

Maio, G. R., Verplanken, B., & Haddock, G. (2019). *The psychology of attitudes and attitude change*. Sage.

Manzini, E. (2015). Design, When Everybody Designs: An Introduction to Design for Social Innovation. The MIT Press.

Meadows, D. (2008). *Thinking in Systems: A Primer*. Chelsea Green Publishing

Meyer, M. W., & Norman, D. (2020). *Changing design education for the 21st century*. She Ji: The Journal of Design, Economics, and Innovation, 6(1), 13-49.

Neuendorf, K. A. (2017). *The Content Analysis Guidebook.* SAGE Publications.

Nicol, D. (2010). "From Monologue to Dialogue: Improving Written Feedback in Mass Higher Education." *Assessment & Evaluation in Higher Education*, 35(5), 501-517.

Noddings, N. (2012). *The Ethics of Care: Personal, Political, and Global*. University of California Press.

Norman, D. A. (2024). *Design for a better world: Meaningful, sustainable, humanity-centered*. The MIT Press.

Otto, T., & Smith, R. C. (2013). Design anthropology: A distinct style of knowing. In W. Gunn, T.

Otto, & R. C. Smith (Eds.), Design anthropology: Theory and practice (pp. 1-29). Bloomsbury Academic.

Papanek, V. (1984). *Design for the real world: Human ecology and social change* (2nd ed.). Thames & Hudson.

Pedaste, M., et al. (2015). "Phases of Inquiry-Based Learning: Definitions and the Inquiry Cycle." *Educational Research Review*, 14, 47-61.

Pink, S. (2013). *Doing Visual Ethnography*. SAGE Publications.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action.* Basic Books.

Tjahja, C., & Yee, J. (2022). Being a sociable designer. *CoDesign*, 18(1), 135–150. https://doi.org/10.1080/15710882.2021.2021244

Tsiotsou, R. H. (2024). How does the Commercialization of Higher Education Impact the UN's Sustainable Development Goals? *Higher Education Digest*.

Tuck, E., & Yang, K. W. (2012). "Decolonization is Not a Metaphor." *Decolonization: Indigeneity, Education & Society,* 1(1), 1-40.

Udoewa, V. (2022). An introduction to radical participatory design: decolonising participatory design processes. *Design Science*, 8, e31.

Zimmerman, E. (2014). *Rules of Play: Game Design Fundamentals*. MIT Press.

About the Authors:

Lakshmi Srinivasan is a design educator, researcher, and practitioner with 8+ years of experience in industry and academia. She has a background from the University of Sheffield. Her work spans design research, interdisciplinary approaches to global challenges, including inequality, decolonial practice, climate change, and sustainable development. She has mentored for the JSPF scholarship, and has presented her work in over 13 notable international conferences such as the Include 2022, the Association of Architectural Educators (2023),, GWO etc. Lakshmi currently resides in India and is passionate about inclusive design education, critical pedagogy, mental health awareness. She also enjoys calligraphy and writing poetry.

Daniele Busciantella-Ricci is an Assistant Professor (non-tenure-track) with over ten years of experience in Design for Inclusion, Co-Design, and Design for Social Innovation. He has collaborated within national and international networks, working with public and private organizations, informal communities, and academic laboratories. A member of the Italian Society of Ergonomics

and Human Factors (SIE), Daniele is also a co-founder of the Italian charity Codesign Toscana, which promotes participatory design within local communities. His research interests encompass social inclusion through Design Research, Research Through Co-Design, Design for Inclusion, Inclusive Service Design, Design for Public Sector Innovation, and Design for Policy.

Acknowledgements: The authors acknowledge all participating students for their dedication and self-initiative. The authors are also grateful for the inputs contributed by Dr. Priti Rao to the students of BITS Design School in their insight generation phase. The authors are also grateful for the contributions of and facilitation by Marco Berni and Riccardo Luciani at the University of Florence, Italy. The authors also express gratitude to Adam Kallish at the BITS Design School for valuable interactions and conversations surrounding the module.