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Research Article

The Holistic Alternative: Recovering Tagore's Educational Philosophy in Contemporary Indian Art and Design

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Abstract

For over 175 years, Indian art and design education has evolved through colonial industrial art schools, nationalist revivalist experiments, post-independence modernist institutions, and contemporary global frameworks. While policy reforms—most recently, the National Education Policy (2020) and UGC guidelines on internationalization (2021)–have sought to enhance India's global academic standing, they have established an economic rationale that emphasizes market efficiency, industrial scalability, and professionalization. This paper critically examines the prevailing economic dominance within design disciplines, highlighting how curricula increasingly prioritize technical proficiency and industry preparedness over considerations of environmental ethics, social justice, and cultural diversity. Through historical analysis, policy critique, and disciplinary case studies, it contrasts prevailing approaches with Rabindranath Tagore's holistic educational vision of kālā bhābanā, which integrates art, craft, community, and ecology into a cosmopolitan yet locally rooted pedagogy. Incorporating insights from critical design theory, liberal education models, and participatory frameworks, this study advocates a shift in Indian art and design education towards ethical, regenerative, and community-focused practices. This approach redefines designers not only as service professionals but also as cultural custodians and systemic thinkers. They are envisioned as capable of tackling climate crises, social inequalities, and cultural homogenization while maintaining creative diversity within an educational landscape that is both globally aware and locally rooted.

Keywords

Design Pedagogy, Creativity and Innovation, Education Policy, Technology Education, Liberal Education

1. Introduction

Over the past 175 years, Indian art and design education has developed through a complex interplay of colonial legacies, nationalist aspirations, identity formation, technological advancement, and global economic pressures [1]. From the founding of industrial art schools and the revivalist efforts of kālā bhābanā (Shantiniketan, 1919) during the British colonial period to the establishment of autonomous institutions such as the National Institute of Design (NID) after independence and the more recent emergence of private and international innovation institutes, art and design education has reflected and reinforced prevailing socio-economic priorities [2]. In recent years, India's educational policy, particularly the *National Education Policy* (NEP) [3] and the subsequent *'Guidelines for Internationalization of Higher Education'* issued by the University Grants Commission [4], has decisively shifted towards the internationalization of educational initiatives. While international collaborations in art and design

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education have a history spanning over a century [5, 6], these recent measures aim to enhance India's standing in global academic rankings and position Indian institutions as attractive destinations for international students [7].

However, this economic and competitive thrust raises critical questions about the deeper values and purposes of education, especially in creative fields such as art and design, where cultural meaning, ecological awareness, and social connectedness are central. While such policy positions have undoubtedly expanded the reach of technical skills and creative practices, they have also largely perpetuated an economic logic that foregrounds market efficiency, industrial scalability, and professionalization. This article contends that prioritizing economic value within the curriculum and practice of Indian design education has been detrimental to environmental sustainability, social justice, and cultural diversity [2, 8, 9]. By investigating these issues and contrasting the prevailing policy discourse with Rabindranath Tagore's educational vision, which pioneered creative education through experiments in kālā bhābanā and set a non-colonial narrative for art, craft, community, and environment within the colonial regime [10], this paper introduces a comprehensive framework for holistic pedagogy in art and design education, emphasizing equal prioritization of environmental stewardship, social equity, and economic viability. In doing so, it aims not only to contextualize the economic bias present in creative education subjects but also to propose an alternative vision: one in which design pedagogy shifts its focus towards ethical engagement, participatory knowledge creation, and regenerative environmental awareness [11]. This argument calls for a fundamental shift in how we perceive "creativity" and "value" in art and design, moving away from a focus on capitalist production and towards an emphasis on socioenvironmental well-being.

2. Methodology

This study employs a qualitative, critical interpretive methodology that integrates historical analysis, policy critique, and theoretical synthesis. It traces the genealogy of Indian art and design education through archival sources and secondary literature [1, 12, 13], examining curricular shifts and institutional mandates. Policy documents—including the NEP 2020 and UGC internationalization guidelines—are critically analyzed to reveal the underlying economic rationales [3, 4]. Drawing on Tagore's educational writings [10] and critical design theory [11, 14], this study constructs a conceptual framework for holistic pedagogy. This interdisciplinary approach enables a systematic interrogation of dominant paradigms while articulating an alternative vision rooted in ethical, ecological and participatory values.

The remainder of this paper presents a concise historical overview of art and design education in section three, accompanied by disciplinary critiques of product and communication design education in subsections. This further elucidates the distinctions between art and design education, particularly regarding the concept of creativity in section four. Section five explores recent liberal and humanist perspectives, incorporating design into traditional technology education and highlighting key initiatives and institutions. Section six examines strategies for reclaiming holistic education, and the final section concludes with a proposal for a forward-looking framework for ethical pedagogy in art and design education.

3. Historical Context and Genealogy of Art and Design Education in India

The institutional foundations of design education in India were laid during the colonial era, beginning with the establishment of 'Industrial Art' schools in Madras (1850/52), Calcutta (1854), Bombay (1857), and Lahore (now in Pakistan) (1875) in formal setups [12]. In contrast, the patronage of aristocrats and princely states, with the cooperation of British bureaucrats, gave rise to art, craft, and technical institutes (Design), such as Trivandrum (1881/1888), Baroda, Mysore (1881/1913), Hyderabad, Jaipur, and Alwar, by the end of the 19th century [13], and many others before independence, which were primarily intended to train artisans to produce goods that met the tastes and demands of colonial markets. The curriculum emphasized precision, replication, and functionality, all in service of imperial economic goals. This utilitarian model reflected the industrial ethos of the British industrial arts movement but was stripped of its philosophical concerns regarding the moral and social dimensions of craftsmanship and well-being [13]. As the nationalist movement gained momentum in the early 20th century, art education began engaging with indigenous traditions. Institutions such as kālā bhābanā (*Santiniketan/1919*, *Sriniketan*, and *Shilpasadan/1922-28*). After independence, the *Faculty of Fine Arts* in Baroda (1950) and other collectives attempted to reclaim cultural and spiritual grounding for Indian arts and crafts [1]. However, these institutions also grappled with the pressures of modernization, identity building, decolonization, and professionalizing art and craft education.

Although serious consideration was given to training indigenous industrial designers in the early days of independence [15], the founding of the NID (1961) in Ahmedabad by the Indian government, with support from the Ford Foundation and international experts such as Charles and Ray Eames [16], marked a significant shift in India's design education system. The NID embraced modernist design principles grounded in functionality and rooted in Indian craft heritage and innovation to meet Indian needs. The *Industrial Design Center* (IDC) within the Technology Institution (IIT Bombay) became the second design center to meet the industrial needs of the nation, after the NID, with an emphasis on design education. This period was also marked by a focus on the country's 'needs,' reflecting broader global development challenges. This emphasis was articulated in the essays presented at the 8th ICSID General Assembly and Congress, held in Kyoto, Japan, in

September 1973 [17]. These essays were authored by Adarkar, an advisor involved with IIT Bombay in establishing the IDC. In his first essay, Adarkar predicted and outlined the future roles of industrial and product designers in India. His second essay introduced an environmental perspective to the analysis of the topic. In his third essay, he explored the role of visual communication in social development, arguing that communication design can address various social challenges in India [18].

The theme was also evident in the subsequent symposium held in London at the Royal College of Art (RCA), which centered on 'Design for Need: The Social Contribution of Design.' During this event, Nadkarni discussed the 'Identification of Design Problems in India' [19]. The Ahmedabad Declaration (1979) marked a significant milestone, reinforcing the commitment to the country's social development with the motto 'Design for Development' [20]. While these institutions introduced interdisciplinarity and global discourse on design in earlier decades, they also perpetuated a techno-rationalist ideology that prioritized industry readiness over critical, social, and ecological reflection after economic liberalization [21]. The transition from handicraft to machine-oriented practices (often digital) persisted, accompanied by a wave of new design institutions that emerged after the late 1990s, justified by the rationale of economic development. This is evident in the Indian government's recent initiatives for the internationalization of education, which contrasts with Tagore's holistic vision articulated nearly a century ago, which remains pertinent to addressing the challenges of cultural identity and educational reform in the contemporary world.

In his essay "The Center of Indian Culture" (1921), Tagore articulated a vision for holistic pedagogy, which underpins the foundation of his institution, Visva-Bharati. This vision integrates diverse elements of Indian culture with knowledge from other cultures. Tagore posited that effective education should be deeply rooted in a nation's cultural context, thereby facilitating the generation of new ideas and fostering creativity. He emphasized that education should not solely concentrate on intellectual endeavors but should also prioritize the arts, music, and aesthetic education, which he deemed vital for national self-expression. Tagore envisaged his institution as economically self-sustaining, integrating education with practical skills and community development. He advocated for a comprehensive approach to education that amalgamates the intellectual, economic, aesthetic, social, and spiritual dimensions of life. Tagore believed that such an approach would enable India to assimilate foreign knowledge more effectively while preserving its cultural identity. His ultimate objective was to create an environment in which Indian culture could thrive, contribute to global culture, and address the unique challenges facing the nation, which is fundamental to the essence of design education. This historical context is crucial for understanding how the two major design disciplines (products/communication) are shaped by their content, forms, purposes, and philosophies.

3.1. Industrial Product Design and Economic Rationality

In India, industrial/product design (material-oriented) has been framed as a response to the needs of the industry and development. The early design ethos centered on need-based efficiency, manufacturability, and scalability, which are essential qualities for industrializing the local economy. Product design is viewed as a means of modernizing indigenous practices, industries, and consumption. Institutions such as the NID and IDC have been instrumental in redefining traditional crafts within industrial design frameworks. Although such efforts introduced new aesthetic languages and improved usability, they also faced significant challenges after economic liberalization. Design education in India has gradually transformed from an emphasis on craft, community, and sustainability to one that promotes economic development, industrial production, and global competitiveness [22]. Consequently, the erosion of its once-critical perspective, along with the marginalization of ecological concerns, community participation, and vernacular traditions, has become deeply entrenched in the curriculum. Modern technologies and tools are frequently lauded as hallmarks of design education, particularly the uncritical acceptance of technology, unsustainable and harmful materials in the educational process, and the predominance of consumerism in professional practice. This indicates a significant epistemological shift, wherein design is no longer perceived as a cultural or ethical endeavor but as a professional service that responds to market demands and profit making [11, 18, 21].

The proliferation of design institutions has highlighted design principles that produce skilled yet uninformed professionals equipped with tools but overlook their environmental implications. Curriculum innovation frequently neglects environmental costs and social consequences. Designers have been positioned as problem solvers for clients rather than collaborators with communities or ecosystems. Design has become complicit in accelerating consumption, resource extraction and environmental degradation. Traditional knowledge systems are appropriated without considering ecological balance or social context. Philosophical traditions such as self-reliance (swadeshi), nurturing inner dimensions, and ethical design, which offer paradigms that emphasize local materials, sufficiency, and moral responsibility, remain peripheral to mainstream design education. Critical pedagogy brings these perspectives to the forefront by treating sustainability as a foundational principle. Reimagining product and industrial design requires moving beyond personal gains and profitability. This calls for a curriculum that embeds environmental ethics, promotes ethical practices, and fosters an understanding of materials, users and ecosystems. Such a shift transforms designers from technocrats into engaged moral agents.

3.2. Communication Design and Visual Persuasion

Visual culture in India emerged with print culture, advertising, and visual propaganda as part of popular culture before Indian Independence [23]. Colonial authorities employed local artists for administrative purposes, and popular visual culture became central to nationalist mobilization and post-independence nation-building [24]. Communication design was introduced to meet the 'unmet needs of the country' [18]. However, with the emergence of digital tools and mass media, communication design has aligned with commercial interests, adopting persuasive logic that favors economic objectives over social dialogue [2]. Modern communication design pedagogy focuses on branding and interaction research, analyzing trends in strategy building and content creation, which corporations use through attractive career packages to benefit a narrow group rather than society, viewed through the lens of market impact and consumer satisfaction. While technically sophisticated, with experts in narrow specializations, such curricula typically exclude the ethical implications of message-making—who speaks, for whom, and to what end.

Visual languages are seldom contextualized within power structures, with evaluations typically concentrating on refining design aspects (both logistical and technical) rather than questioning their value (moral and ethical), premises, or underlying assumptions. The impact of dominant media narratives, the erasure of vernacular forms, and the homogenization of cultural expressions remain largely unexamined. Indigenous practices, motifs, and visuals are often aestheticized rather than meaningfully engaged with, especially in textiles and fashion design. Critical design pedagogy examines the role of design in shaping the public discourse. Drawing from the theories of critical consciousness by Gandhi and Tagore [25], educators can encourage students to question how messages are designed and what they convey. For instance, how does visual design reinforce social hierarchies and ecological apathy? How can it foster inclusivity, environmental awareness and civic engagement? By integrating visual activism, participatory storytelling, and environmental communication into the curriculum, students can use visual design as a tool for advocacy, rather than mere persuasion. This approach reframes communication design and related disciplines from industry-driven practices to democratic and ecological action. A similar approach can enhance technology-driven practices such as filmmaking, animation, typography, graphic design, environmental design, and service design.

3.3. Art and Design in General Education

Since the introduction of the National Policies on Education (NPE/NEP) and Curriculum Frameworks (NCF), art education and creativity have been regarded as important. The first *'The Curriculum for the Ten Years School'* mentions that "the goal of art education should be to develop the aesthetic attitude which permeates all activities and not only the learning of the skills of the arts" [26]. Similarly, the subsequent '*National Curriculum for Elementary and Secondary Education'* mentions that "Art education should be treated as an important area of curricular activity for all-round development of the child" [27]. Despite the recognized importance of these activities in children's development, their expectations and significance are often misunderstood. Resource personnel are frequently assigned tasks unrelated to their expertise or used as event decorators. They often lack the facilities, space, or appropriate time slots to conduct these activities effectively. Encouragingly, this situation is changing; in recent decades, significant progress has been made in integrating creativity as a fundamental component of curricula and practice.

The National Council of Educational Research and Training (NCERT) regularly updates the Central Board of Secondary Education (CBSE) curriculum. With the implementation of NEP-2020, ' design ' has been integrated into general education through a design-thinking module [28], and content books have been created for Art and Design subjects. This marks a significant departure from earlier, smaller initiatives, such as the 'National Design and Creativity Camp 2004," conducted by the NID in partnership with the British Council [29]. Incorporating design into general education was the final step in a five-part strategy outlined in the 'National Design Policy' to advance design education in India [29]. Amid the challenges of embedding art education into school curricula, professional design education continues to explore its ideological foundations in a liberalized economic context. It is anticipated that design will be taught by educators who may lack the necessary tools and understanding to manage the subject effectively. This situation demands increased attention and critical analysis from educators, scholars, and experts in the art and design education sector [1].

Furthermore, the rise of 'coaching centers' for design institutions nationwide, often using inadequate crash course methods for admissions, poses a significant challenge to design education in India. Many centers prioritize rapid examination preparation over foundational skills and creative thinking. This approach undermines the holistic learning necessary to nurture creative talent and critical design skills. Consequently, students may enter programs with limited design understanding, potentially affecting the field's quality and innovation. Moreover, the quick-fix focus of these centers can distort the perception of design education, reducing it to an admission gateway rather than a rigorous discipline that requires sustained effort and conceptual growth. This trend compromises student preparedness and challenges institutions to maintain high academic and creative standards. Addressing this issue requires promoting comprehensive, skill-based learning and raising awareness of the importance of in-depth training in the artistic and design domains.

4. Art and Design Education: Differences and Similarities

The intricate relationship between art and design education is characterized by distinct yet interconnected components, shaped by both historical foundations and contemporary advancements. Art education primarily seeks to cultivate individual creativity and self-expression, whereas design education emphasizes problem-solving and the application of aesthetics in practical contexts, where function and value are of utmost importance. Fundamentally, design integrates scientific methodologies and artistic practices [30]. When creativity is regarded as a fundamental personal value, it transcends mere artistic production and assumes a broader social significance. Artistic expression is predominantly driven by intrinsic rather than extrinsic factors. Although intrinsic motivation cannot be directly instilled or enforced, it can be fostered, appreciated, and recognized as a crucial impetus for creative endeavors in the workplace. Conversely, design follows a structured approach, typically involving collaboration among individuals with diverse skills to achieve rational solutions or outcomes for specific problems. Creativity was the initial impetus in both cases. One approach results in an expressive output through the selection of an appropriate medium, whereas the other involves a design-oriented process that culminates in an innovative outcome [31].

Comparative Table Summarizing the Differences and Similarities between Art and Design Education:

Table 1. *Art and Design Education: Differences and Similarities.*

Aspect	Art Education	Design Education
Primary purpose	Self-expression, cultural exploration	Problem-solving, user-centered outcomes
Creative process	Open-ended, intrinsic motivation	Structured, iterative (design thinking)
Evaluation criteria	Aesthetic, emotional, cultural resonance	Functionality, usability, market feasibility
Outcome focus	Personal or social commentary	Practical, manufacturable solution
Pedagogy	Experiential, mentor-guided	Project-based, collaborative, client-oriented
Shared foundation	Creativity, visual/material sensitivity, critical thinking	Innovation, visual literacy, critical thinking

The literature offers valuable insights into pedagogical approaches, curricular structures, student experiences, and the evolving role of technology in both domains [32]. However, a comprehensive understanding of creativity, particularly its application in the art and design domains, is highly beneficial. In this regard, Glaveanu's conceptualization of creativity paradigms, namely, “He, I, and We," is particularly relevant, as it distinctly theorizes the sociocultural dimensions of creativity into three categories [33]: When we refer to the pronoun 'He,' it often brings to mind the idea of male genius, a concept with roots in Western classical traditions. In contrast, the pronoun 'I' is linked to the modern scientific view, which sees creativity as something that occurs within an individual. Both of these views focus on the individual, sometimes overlooking the importance of the cultural context for creativity. In contrast, the 'We' perspective brings in the sociocultural aspect, which is crucial for shaping both personal psychological elements and wider sociocultural factors [33, 34].

Glaveanu defines creativity from a cultural perspective as “a complex sociocultural psychological process that, by working with culturally impregnated materials within an intersubjective space, leads to the generation of artifacts that are evaluated as new and significant by one or more persons or communities at a given time” [33]. Modern research challenges the notion that creativity is the domain of the 'individual' or the isolated 'male' genius, suggesting instead that creativity is a skill that can be learned, observed, and taught to others [35]. In art and design education, innovative pedagogical methods are emerging that incorporate cultural elements, including art-based research and studies of visual and material culture. Art-based research examines creative expression from the practitioner's perspective, blending practical application with theoretical understanding. This approach highlights that the knowledge gained through hands-on practice is as valuable as the intellectual insights derived from theory [36]. The latter investigates the social aspects of creation by analyzing its visual and material dimensions, encompassing sociocultural, sociopolitical, economic, and ecological factors in accordance with postmodern and contemporary theories [37-39].

Art education has long been revered for fostering creativity and encouraging students to explore personal expressions, cultural narratives, and emotional depth within their work. Art pedagogy prioritizes experiential learning, in which the creation process is as important as the outcome of the learning process. Starting at a young age, art education cultivates artistic skills and gradually promotes critical thinking and cultural appreciation, which are crucial for holistic development in children. This intrinsic focus on personal and subjective aspects is shaped by educators who act as mentors and guide students through their artistic journeys. Institutions such as Shantiniketan and Baroda are

known for this pedagogical approach, often adopting a more open-ended approach, facilitating discussions on aesthetics, cultural significance, emotional resonance, and sociocultural relevance within the artwork, leading to a richer student experience [40]. This inner and personal transformation and broader concerns about socioemotional and ecological well-being defy the argument that art is non-functional or without use and elevate its purpose and aim from materialistic rhetoric, with a great purpose beyond the immediate and economic aspects.

Conversely, design education emphasizes practical creativity, focusing on user experience, real-world applications, and market feasibility. Design essentially integrates two modes of thought: imaginative and analytical [41]. Designers engage in a systematic process comprising analytical and evaluative stages until they achieve the desired outcome. This process is known as *design thinking*, which is elaborated in the subsequent section of this paper. The current educational landscape, heavily impacted by recent global challenges, highlights the need for educators to foster resilience in students and equip them with the skills to navigate an ambiguous and competitive future. Cultural attitudes towards art and design education further delineate these fields. For example, the Chinese system, as discussed by Hui-Jun and Halabi, emphasizes cultivating aesthetic sensitivity among its art design undergraduates, aligning educational goals with national cultural aspirations [42]. This cultural embedding of art education raises questions about the universality of pedagogical approaches, encouraging a thoughtful consideration of how localized practices can influence broader educational frameworks in arts and design education. Given the ongoing debates surrounding pedagogical models in art and design education, it is critical to explore frameworks that advocate crossover and integration between the two.

As discussed by Amon, the concept of "intermediality" within contemporary artistic practices suggests a foundation for redefining boundaries and fostering collaboration between art and design pedagogy. [43] This notion supports the idea that art can encapsulate the functional aspects of design, whereas design can embrace the art's expressive dimensions. Finally, the evolution of art and design education must acknowledge the historical tensions that have shaped them as distinct fields while embracing their interconnectivity in the current educational landscape. Such fluidity in understanding can inform innovative curricular developments and teaching methodologies that benefit students in both disciplines, ensuring that they are well equipped to engage with an evolving world that increasingly values interdisciplinary competence and collaborative practice.

5. Liberal Education: Humanist, and Creativity Slants in Engineering Education

In many respects, arts and design education can be regarded as a form of liberal-education. Both disciplines aim to cultivate creativity, foster critical thinking, and promote a comprehensive understanding of the world [44]. Design education plays a crucial role in developing students' abilities to critically assess their environments, question traditional norms, and formulate innovative solutions to intricate challenges [41, 45]. In India, even though professional design education has been associated with the humanities, for example, in the 1960s, NID's incorporation of *Science and Liberal Arts* in the design program [2, 5], or in 1997-98 IIT Guwahati's example of elective courses of Humanities & Social Sciences in the Design Program at the undergraduate level [18]. However, technology education has traditionally been theoretical instruction-centric and rigidly specialized, often at the expense of interdisciplinary exploration and contextual innovation [46]. Since the late 1990s, a wide array of experiments have been undertaken on global and local scales to tackle the crisis in engineering education. For example, the '*Conceive Design Implement Operate*' (CDIO) initiative offers a unified approach to engineering education [47]. Similarly, in 2004, Singapore Polytechnique's campus-wide design primer course *'Innovation, Design & Enterprise in Action'* (IDEA) was offered across seven disciplines to a population of 3,500 students annually [29].

In India, while efforts have enhanced engineering education, the Kakodkar Committee's Report introduced the concept of a 'design spine' into the undergraduate curriculum, distinguishing it from traditional technical design in engineering programmes [48]. This report addresses the National Institutes of Technology (NITs), which have expanded throughout India. It assessed the NIT framework and proposed a strategic plan for future development. This initiative aligns with the earlier Kakodkar Committee report, 'Taking IITs to Excellence and Greater Relevance' (2011), which aimed to reform the IIT curriculum.

The report includes a recommendation by the 'India Design Council' (Annexure V, p 97-106) titled "Design Spine for Undergraduate Engineering Students," stating, "We are proposing to build a 'Design Spine' within the engineering curriculum." The Design Spine courses would be the major vehicle for developing a set of competencies to meet educational goals in areas such as creative thinking, problem solving, teamwork, and Design." Design integration has emerged as a response to a significant deficiency in traditional curricula, which have historically emphasized technical proficiency at the expense of creativity, problem-solving, and user-centric innovations. The concept of the 'design spine' originated from an early pedagogical innovation in 1991 at the Stevens Institute of Technology, where a series of design courses and laboratories, referred to as the 'design thread,' were introduced. This vertically integrated, semester-based design curriculum is structured to foster continuous engagement with real-world problem-solving, thereby enabling students to develop cognitive flexibility and entrepreneurial confidence over time. [49].

The concept of Design Thinking is rooted in the principles

of empathy, ideation, prototyping, and iterative learning. These principles, which originated from design theories in the 1970s, have evolved over the past two decades, resulting in the development of multiple discourses on design thinking. This evolution has led to two distinct strands in the research literature: one concerning scholarly literature on design education and practice, and the other concerning widely accessible economics and management literature [50]. The fundamental premise of this study is that design thinking, or a designerly approach, enhances education and practice across various disciplines by fostering the development of socially responsive and human-centered solutions [51-53]. These initiatives align with international models, such as Stanford's d school and MIT's engineering design tracks, underscoring the necessity of a pedagogical shift from merely "knowing" to actively "doing and understanding" within the realm of engineering education [54]. However, such integration in India remains sporadic and uneven, highlighting the urgency of systemic adoption across technical institutions in India. In this direction, the *Liberal Arts Science and Engineering* (LASE) program, an initiative at IIT Bombay's *Center for Liberal Education* (CLE), presents a compelling model for engineering students admitted to the institution to choose their paths through courses across IIT Bombay [55]. Students have the freedom to explore options within a carefully curated basket of courses and decide which best suits them. It is an interdisciplinary undergraduate program that enables students to design their academic journeys across the liberal arts, sciences, and engineering, cultivating different approaches to problems. The program is conceived based on the Sarkar Committee's recommendations (1948) that outlined some "General Principles in the Design of Under-Graduate Course of Study," stated as "The course of study in an institution should provide a combination of a fundamental scientific training with a broad human outlook."

Similarly, the incorporation of the HASMED credit framework into the BTech curriculum at IIT Bombay [56], covering 'Humanities, Arts, Social Sciences, Management, Economics, and Design [57], represents a significant structural transformation in engineering education. This framework recognizes that addressing real-world challenges requires technical proficiency alongside critical thinking, empathy, communication, and ethical grounding [58]. By integrating the humanities and design into technology education, a model that transcends disciplinary boundaries is offered, fostering dialogue between art, design, economics, social theory and scientific methods. This approach develops designers who are both skilled artisans and systemic thinkers [59]. The HASMED structure reflects global trends while grounding its pedagogy in India's sociocultural complexity, making it a vital case study for institutions developing locally rooted and globally responsive curricula for engineering and technology education in India. This approach provides a template for reimagining the curriculum design in higher education. As a pioneering interdisciplinary program, it enables students to create personalized paths across liberal arts, sciences, and engineering, fostering "multiple ways of thinking." While the impact of these initiatives will emerge soon, these changes reflect the socioeconomic transformations occurring nationally and globally as India promotes innovation-driven development.

The transition from 'knowledge economies' to' creative economies' is underway. Embedding these frameworks is essential for producing technically proficient, socially grounded, and ethically aware human resources [60]. In the context of art and design education, this approach challenges conventional disciplinary boundaries and encourages dialogue between design, economics, social theory and scientific processes. This shapes designers to be more than just highly skilled craftspeople; they become systemic thinkers with a public awareness. However, new media and technology have become integral to artistic expression, alongside traditional media. If design is to reach more people, its subject matter must be codified [29]. The HASMED framework and LASE program reflect global trends in liberal and interdisciplinary or transdisciplinary education but situate their philosophical stance within India's sociocultural environment. This makes it a vital study for institutions aiming to build curricula that are both deeply connected to local realities and globally responsive.

6. Discussion: Reframing Educational Priorities

The history of Indian art and design education is a testament to its ambition, experimentation, and adaptation. However, it is shackled by a relentless bias towards economic productivity, stifling the transformative potential of design as an ethical and ecological force. This study compellingly argues that, particularly in recent decades, both product and communication design disciplines have inherited and perpetuated this bias, often sacrificing environmental consciousness, social justice, and cultural diversity in the process. It is imperative that the education system undergoes radical reimagining to address the pressing challenges of our time: climate collapse, systemic inequality, and cultural homogenization. We must decisively reject the narrow confines of market logic and embrace a broader worldview that honors life, relationships, and our responsibilities to future generations. This transformation must be both epistemological and institutional, urging us to question not only what we create and design, but also why, for whom, and at what cost. A unified critique of both material and visual design exposes the pervasive influence of economic rationality across the spectrum of design education. Despite their disciplinary differences, both fields have been steered by market priorities that dictate not only what is taught but also how designers are trained to think about the world in which they live. Similar patterns have been observed in the contemporary art world. Key issues are connected to social and environmental problems. However, the art market is still mostly

controlled by money and exclusive groups. In contrast, the local environment suffers from excessive cultural production from politic 0-religious practices. We need to move past these limits and support design education that helps people and the planet thrive.

Drawing on the educational ideals of Rabindranath Tagore, embodied in institutions such as Visva-Bharati, education is positioned as a journey towards spiritual, ecological, and intercultural harmony. He rejected the narrow constructs of nationalism and economic utilitarianism a century ago, advocating for a cosmopolitan sensibility rooted in empathy and freedom. He believed that education should "make our life in harmony with all existence' [61]. For Tagore, art and craft (design) were not merely subjects of education but intrinsic pathways to self-realization and to social cohesion. By fostering intercultural dialogue through collaborations with global intellectuals such as Okakura Kakuzō and Sylvain Lévi, Tagore promoted an educational model that embraced plurality without reducing learning to a set of economic outcomes. His pedagogical approach effectively combines artistic expression, nature-centered education, and moral imagination, laying the groundwork for modern concepts of social and ecological transformation. This complex methodology can be understood through the lens of liberal-education practices.

In contrast, the UGC's initiatives to internationalize Indian higher education emphasize international rankings, credit recognition, educational mobility, and institutional branding, primarily from an economic perspective. Although terms such as "global citizenship" and "cultural diversity" are employed, they are often framed within the instrumental logic of employability and soft power. This creates a dilemma for creative fields such as art and design, where higher education is increasingly viewed as an exploitable skill set rather than a means of ethical inquiry or community engagement, with diminished focus on ethical, critical, and participatory approaches. The emphasis on digital platforms, branding, marketing, and niche cultural products such as yoga and Ayurveda, aligns more with diplomacy than with deep intercultural pedagogy. This divergence is particularly evident in the values for each framework. Tagore's vision emphasizes moral and ecological awareness, whereas UGC policy prioritizes economic expansion and institutional metrics. Scholars such as Martha Nussbaum have critiqued this trend, warning that the humanities and arts are marginalized in favor of short-term economic goals [9].

Similarly, Manzini advocates design as a tool for social innovation, echoing Tagore's emphasis on community resilience and cultural authenticity [14]. As India aims to achieve educational leadership, it must ensure that its creative institutions are globally visible and significant. India, with its rich history of art and design education, is poised for significant transformation. By re-embracing ethics, ecology, and equity as foundational principles, the nation can nurture a generation of art and design professionals who are not only proficient in emerging technologies and adept at design tools and methodologies, but also conscientious citizens and cultural custodians. These designers will extend their roles beyond serving industries to become cultural stewards and systemic thinkers, envisioning a more equitable and sustainable future for the design profession. Designing against the grain transcends mere resistance and embodies a vision of renewal.

7. Conclusions

The historical trajectory of Indian art and design education demonstrates adaptability while remaining constrained by economic bias. From colonial art schools to modern globalized campuses, success is measured by industry alignment and market competitiveness. These priorities have strengthened India's technical capabilities but marginalized ecological stewardship, social justice, and cultural plurality—essential elements of creative practices. Art and design practices perpetuate market rationality and absorb ideologies of efficiency over critical and ecological reflexivity. They risk producing graduates skilled in serving markets but unprepared for the challenges of climate change, cultural homogenization, and inequality. Rabindranath Tagore's vision of kālā bhābanā, grounded in intercultural dialogue, ecological harmony, and moral imagination, offers a counterpoint. His pedagogy views creativity not as a commodity but as a communal and ethical act embedded in cultural and natural contexts. By integrating such values into the curriculum, Indian art and design education can transcend economic determinism. The future requires an epistemic transformation that redefines creativity beyond capitalist metrics and incorporates sustainability, social equity, and participatory ethics as foundational principles. This approach does not revert to pre-modern models but synthesizes technological innovations with ecological wisdom and cultural sensitivity. Such a transformation aims to develop designers as public intellectuals and cultural stewards–professionals capable of producing market-ready outputs while promoting a regenerative future. In an era characterized by ecological decline and social fragmentation, this reimagined pedagogy has the potential to position art and design education as a leader in ethical, sustainable, and culturally diverse creative endeavors.

Abbreviations

HASMED	Humanities, Arts, Social Sciences, Management, Entrepreneurship and Design
IDC (School of Design)	Industrial Design Centre School of Design
ICSID	International Council of Societies of Industrial Designers
IIT (Bombay)	Indian Institute of Technology Bombay
LASE	Liberal Arts, Sciences, and Engineering
NCERT	National Council of Education Research and Training
NEP	National Education Policy
NID	National Institute of Design

NPE	National Policy of Education
NEP	National Education Policy
RCA	Royal College of Art
UGC	University Grants Commission

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Author Contributions

Arun Mascarenhas: Conceptualization, Data curation, Formal Analysis, Funding acquisition, Investigation, Methodology, Resources, Writing – original draft, Writing – review & editing

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Conflicts of Interest

The author declares no conflicts of interest.

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Biography

Arun Mascarenhas works at the intersection of creative practice, pedagogy, and critical inquiry. His career began in 2007 as an assistant toy designer after he graduated as a sculptor with a university gold medal, a point of departure that signals sustained engagement with the form, materials, poetics of play, and toy design. Subsequently, he assumed the role of designer after obtaining his master's degree in contemporary sculpture (2009) and served as a visiting faculty member of Sculpture at the College of Art, New Delhi. From 2011 to 2013, he assumed a full-time teaching position in Indian Central Schools (KVS), gaining concrete experience in teaching and pedagogy (art education). He later held design professor roles at NIFT Kannur and IIT Hyderabad before joining IIT Bombay in 2018, where he actively contributed to design programs, practices, research, policy debates and pedagogical discourses.

Research Field

Arun Mascarenhas: 1). Creativity, Design Education, Public Policy and Analysis. 2). Art and Design Education, Pedagogical Approaches. 3). Basic Design, Design Fundamentals, Practice and Activism. 4). Visual Culture, Design Culture, and Art/Design History. 5). Sculpture, Form and Aesthetics, Design for handmade ecologies