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EXPLORING EXPERIENTIAL LEARNING PRACTICES AND THE USE OF CRAFT-BASED LEARNING IN ARCHITECTURAL PEDAGOGY FROM AN EDUCATORS' PERSPECTIVE

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Abstract:

The integration of Indian crafts into architectural design education serves as a multifaceted approach, enriching students' understanding of India's heritage while fostering an appreciation for the cultural and environmental significance of craft traditions. This paper delves into the pivotal role of crafts in Indian lifestyle, emphasizing their intrinsic connection to the sense of place and space. By infusing this perspective into the curriculum, architectural education can cultivate a deeper sense of belonging and rootedness among students.

Craft-based learning facilitates hands-on experience and direct engagement with building materials, nurturing experiential learning and iterative design processes. The paper highlights the detrimental impact of the declining appreciation for craft in pedagogy on architecture students' ability to generate original design ideas. By reinstating craft as a fundamental component of architectural education, educators can foster creativity, innovation, and a profound understanding of the built environment.

The research methodology employs a comprehensive approach, utilizing both quantitative and qualitative analysis, including insights from faculty perspectives gathered through questionnaire surveys. The findings contribute to the ongoing discourse on transforming architectural education, aiming to establish a framework where craft integration is evident across the curriculum. By intertwining Indian crafts with architectural design education, this research aims to cultivate a holistic approach that not only imparts practical skills but also fosters a deeper connection to India's cultural heritage and environmental consciousness.

Keywords: Craft- based learning, experiential learning theory, teacher's perception, design cognition

1. Introduction

Architectural education stands at a pivotal juncture where the integration of traditional craftsmanship and contemporary design practices holds immense significance. In recent years, there has been a growing acknowledgment of the intrinsic value of craft-based learning in architectural pedagogy (Saxena et al., 2016). Craft traditions, deeply rooted in cultural heritage and environmental consciousness, offer a rich tapestry of knowledge that enriches students'

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understanding of the built environment (Ulusoy & Kuyrukçu, 2012), (Hlaváček & Čeněk, 2019).

Craft-based learning not only provides students with hands-on experience but also fosters a deeper connection to the materials and processes involved in architectural design. Moreover, the integration of craft traditions into the curriculum serves as a bridge between past and present, offering insights into historical practices while encouraging innovation and creativity in design thinking (Pöllänen, 2009). The exploration of experiential learning practices and the utilization of craft-based learning in architectural pedagogy are central themes in this paper. Drawing upon the perspective of educators, this research delves into the multifaceted role of Indian crafts in architectural design education. By infusing the curriculum with the ethos of craftsmanship, educators aim to nurture a deeper sense of belonging and rootedness among students, fostering an appreciation for India's rich cultural heritage (Mishra, 2019).

Craft-centered learning not only fosters hands-on skills but also promotes experiential learning and an iterative approach to design (Jain & Thakkar, 2019). However, the diminishing emphasis on craft in education presents a significant obstacle, affecting students' capacity to generate original design concepts (Sharma & Thatte, 2021). As a result, reinstating craft as a core element of architectural education is crucial to help educators nurture creativity, innovation, and a deep understanding of the built environment among students (Kokko, 2021).

Kohl defines craft as the proficient use of fundamental skills such as "balancing teacher-initiated ideas with student-initiated ones, conducting research as an instructor, and observing and adapting based on what actually worked with the students" (Robertson, 1987). This differs significantly from following a fixed curriculum or using standard textbooks, requiring planning, research, observation and adaptation.

Craft knowledge refers to the way teachers express both the factual knowledge found in subject matter and their practical methods of effectively engaging with students. This type of professional skill involves creating specific, student-centered teaching strategies based on contextual understanding, rather than simply applying theory or principles to practice (Leinhardt, 2023). Although it is not a separate section within the text, Dewey extensively discusses the teacher's role in "Experience and Education." Dewey emphasizes that educators should facilitate relevant experiences that actively involve students as a key aspect of experiential learning theory (Cooper & McIntyre, 1995).

The research methodology employed in this study adopts a comprehensive approach, combining quantitative and qualitative analysis. Insights from faculty perspectives, gathered through questionnaire surveys, offer valuable insights into the challenges and opportunities associated with integrating crafts into architectural pedagogy (Sharma & Thatte, 2021) (Wang, 2009). By contributing to the ongoing discourse on transforming architectural education, this research aims to establish a framework where craft integration is evident across the curriculum (Mazumdar, 1993). Through the intertwining of Indian crafts with architectural design education, this study seeks to cultivate a holistic approach that not only imparts practical skills

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but also fosters a deeper connection to India's cultural heritage and environmental consciousness.

1.1 Methodology

The research methodology for this study takes a holistic approach, blending both quantitative and qualitative analysis to examine how Indian crafts are incorporated into architectural education from the viewpoint of educators (Balram, 2005). A mixed-method design is utilized, starting with the dissemination of questionnaire surveys among a varied group of architectural instructors. These surveys are formulated to collect statistical information about the present condition of hands-on learning practices in architecture, as well as educators' viewpoints, difficulties, and suggestions (Yıldırım et al.,2012). Likert scales, multiple-choice questions, and open-ended inquiries are utilized to ensure a thorough understanding of the subject matter (Powell et.al., 2008), (Leydens et al., 2004).

Statistical techniques such as reliability, correlations and regressions are employed to analyze quantitative data, whereas qualitative data is subjected to thematic analysis in order to recognize repetitive patterns and themes (Bradley, 2007), (Vaismoradi et al. 2013). The study acknowledges limitations like sample size restrictions and potential biases (Kangai, 2012). The main goal of this approach is to offer a thorough comprehension of the importance of hands-on learning in architectural education, adding to the discussion on enhancing architectural training with cultural and environmental insights (Gibson, 2018).

2. Literature review of Role of Indian Crafts in Architectural Design Education

In the contemporary global landscape, there's an undeniable trend towards modernization, and India is no exception to this phenomenon (MackIntosh,2014). Rapid urbanization and technological advancements have reshaped architectural practices, often steering focus away from traditional craftsmanship towards more contemporary methods and materials. However, amidst this wave of modernization, it's crucial to recognize the enduring relevance of Indian crafts in architectural design education (Mazumdar, 1993).

Indian architectural schools have long upheld the importance of context and culture in their curriculum. Emphasizing settlement studies, workshops on traditional building techniques, and a comprehensive exploration of history, these institutions instill in students a deep appreciation for the rich tapestry of India's architectural heritage (Saxena et al., 2016). By immersing students in the cultural and contextual nuances of different regions, Indian architectural education nurtures an understanding of how local traditions, materials, and environmental factors shape the built environment (Jain & Thakkar, 2019).

Centuries of contemplation and synthesis have gone into traditional architecture and design to maintain its environmental coherence. The surrounding and the built form, products are both attuned to each other. Traditional environments are those that enhance, celebrate, and support human activities, those that reflect behavioral and cultural norms defined by society, those that ultimately integrate economy, ecology, and society into those everyday environments.

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According to (Thakkar, 2011), there are multiple values of building crafts which one should recognise.

- **Evidential Value:** Traditional building methods, like mud construction and stone carving, showcased in ancient structures, provide tangible evidence of our rich architectural heritage. Hands-on workshops focusing on these techniques offer students practical skills while deepening their understanding of indigenous practices.
- **Historic Value:** Indian building crafts offer insights into the past and reflect sustainable principles through locally-sourced materials and traditional techniques. Implementing these practices in design studios teaches students to create environmentally responsible architecture that respects its natural surroundings.
- **Aesthetic Value:** Architectural carvings serve as tangible expressions of regional identities and traditions, offering sensory and intellectual inspiration. Studying building crafts in design studios fosters cultural preservation and identity, encouraging students to draw from local heritage in their design language.
- **Communal Value:** Building crafts provide a sense of belonging and community involvement, with knowledge passed down through generations. Design studios can collaborate with local artisans and communities, offering hands-on learning and meaningful connections with stakeholders.
- **Innovation and Adaptation:** While rooted in tradition, Indian building crafts present opportunities for innovation and adaptation to contemporary challenges. Design studios serve as incubators for exploring new techniques, materials, and approaches that build upon traditional practices.
- **Cross-disciplinary Collaboration:** Integrating building crafts into architectural design studios encourages collaboration with fields like anthropology, sociology, and environmental science. Engaging with diverse experts provides holistic perspectives on architecture's cultural, social, and environmental dimensions.

2.1 Craft-Based Learning and Experiential Education

Integrating building crafts into the design studio significantly impacts the quality of student work. By directly interacting with materials, students develop a profound understanding of their physical properties, performance, and potential for unexpected behavior. This practical experience also enhances their awareness of possible material defects. Additionally, craft-based learning creates a more inclusive learning environment by catering to various learning styles, ensuring all students have the opportunity to excel (Djabarouti & O'Flaherty, 2019). Design studios can equip students with problem-solving tools rather than providing them with fixed products and solutions for specific challenges, considering that these challenges are likely to evolve throughout their careers. Various studies on architecture education suggest that the current teaching and learning model is employed not necessarily because it is the right way but because it has proven effective over a long period (Andjomshoaa et al., 2011). Recognizing the

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significance of the "Process" is essential as it elucidates how spatial experiences are manipulated. As Benjamin Franklin famously stated, "Tell me and I forget. Teach me and I remember. Involve me and I learn." In architectural education, basic design is enriched more by students' curiosity and experiences than by theoretical content. Learning by doing proves to be an effective teaching method for basic design (Ghom & Dr. George, 2020).

The National Education Policy (NEP) of 2020 underscores the importance of hands-on experience and Indian traditional knowledge in education. This alignment with craft-based learning emphasizes the need to integrate traditional craft practices into architectural education. NEP 2020 advocates for a holistic and experiential approach to learning, which resonates with the principles of craft-based education. A few researchers have conducted some experiments with the students to note the learning outcome. A few of them are as follows.

(Djabarouti & O'Flaherty, 2019) conducted a pilot study comparison experiment with architecture students based at a UK institution. The impact of experiential learning was investigated with the two groups. One of the groups was exposed to a hands-on building craft exercise (the other group was not) and the impact of this exposure was tested using a design task. The findings of the research suggest that the incorporation of experiential hands-on learning within the architectural design studio could enhance the students' ability to better understand the complexities of building materials, which in-turn could contribute towards more effective design solutions when working with built heritage. His process however revealed economic and logistical constraints which are perhaps reflective of the wider barriers that architectural institutions are confronted with when attempting to integrate such methodologies in the architectural design studio.

The paper asserts that architectural education thrives when students engage with real materials in a studio setting, emphasizing play and critical craftsmanship evaluation. This process involves experimenting with materials like concrete, cycling between open-ended experimentation and goal-oriented application. Combining critical feedback with iterative play cycles fosters innovation and fresh ideas. Hands-on experience with tangible materials is crucial for architectural design innovation (NILS GORE, 2014). Dougan suggests that active engagement in the creative process is inherently human, preserving the innate drive for active creativity, deeply embedded in human DNA (Dougan, 2008). Students and educators advocate for increased emphasis on practical, hands-on learning, valuable for cultivating problem-solving abilities, client interaction, and mastery of materials. Kolb's theory of experiential learning, akin to 'design thinking' in architecture, emphasizes active experimentation and hands-on learning. It involves cycles of concrete experience, reflective observation, abstract conceptualization, and active experimentation, enriching craft-based learning and enhancing students' educational journey in architectural education.

Craft-based learning and experiential education play crucial roles in architectural pedagogy, offering students opportunities for hands-on experience, direct engagement with materials, and iterative design processes. By immersing students in practical, tactile experiences, craft-based learning fosters deeper understanding, creativity, and innovation in architectural design.

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Understanding educators' perspectives becomes important. Their insights inform craft-based learning integration, enhancing teaching practices and student experiences. Gathering educators' opinions ensures relevant and practical research findings for effective architectural pedagogy, curriculum development, teaching strategies, student engagement, and professional development in architectural education.

3. Challenges and Current approaches of Craft Integration

Continuing from the discussion on the importance and impact of integrating building crafts into the design studio, it is essential to understand the challenges faced by faculty in incorporating craft methodology into architectural education. A survey involving 108 faculty members across India was conducted to gauge their perspectives on this matter. This study used a non-probabilistic convenience sample according to the faculty members that could be accessed. The questionnaire has not been published previously and was developed from the bibliography and the researchers' relationships to the topic of study (Yair K., Schwarz M. 2011), (Schukken, A. 2016), (Thakkar, J. 2011), (Adamson, G. 2007), (Mutlu, H. 2015), (Potur, A., & Barkul, O. 2006), (Ibrahim & Utaberta, 2012), (R. Sumner 1968), (Pöllänen, N. V. 2020), (Schukken, A. 2016), (Huotilainen, M. R.-H. 2018), (Bryan-Wilson, J. 2013), (Corazzo J. 2019), (Djabarouti & O'Flaherty, 2019), (Salama, A. M. 2010), (Linda H. Lewis, C. W. 1994), (Kolb, A. Y. 1984), (KOLB, A., & KOLB, D. 2012), (Srinivasan, B. 2011), (Dua, S., & Chahal, K. S. 2014). The questionnaire is divided into 3 sections. The first section is all about the respondents, the second is to gauge Experience-based observations, and the third focuses on the Current Practices, Challenges and Future directions.

The survey involved 108 participants from various regions of India. In terms of their professional backgrounds, 57.4% were associated with educational institutions only, while 18.6% had experience in both educational and professional settings. Regarding years of experience, the sample was diverse: less than 5 years (15.8%), 5-10 years (36.8%), 10-20 years (26 .3%), and over 20 years (21.1 %). The survey findings indicate strong support for integrating craft into architectural education, a significant majority (94%) of faculty members believed it enhances students' understanding, with very few expressing uncertainty about the integration process. to its perceived value in preparing graduates for success.

The majority 80% respondents expressed a preference for introducing the methodology during the initial years (first or second year) to establish a basis in skills and design principles. Nevertheless, 20% of respondents believed that there is ongoing value in later stages (third and fourth year) for blending crafts with more intricate design endeavors. This underscores the possibility of craft education developing concurrently with students' expanding expertise.

faculty members have integrated craft-based learning through curricular and extra-curricular activities. The list of the activities is as shown in Table 1.

Table 1: The present approach to incorporating crafts into architectural education, Source: Authors

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Sr. No.	Current Activities	Responses	Percentage
1	Students' engagement in hand crafting of conceptual and final models during the design studio process for initial years	20	26%
2	Understanding of spaces through modeling software	8	10%
3	Material based learning and construction techniques to get a first-hand experience of the particular construction material	16	21%
4	Design thinking and cognitive understanding through theoretical sessions	8	10%
5	Case Study and field visits to the manufacturing units to learn the process of crafting	8	10%
6	Arranging workshops to try and bridge the gaps between practice and theory.	10	13%
7	Peer learning through student experience	8	10%

Table 1 shows that the dominant approach to manual construction exercises in architectural and creative education heavily focuses on incorporating traditional material explorations. This technique offers students valuable insights into building materials, leading to a better understanding of their properties and potential uses.

The study examines a significant deficiency in current craft-based learning practices, particularly regarding building materials and construction, as well as how they can be used to comprehend material properties. This deficiency also extends to the limited integration of these methods within design studio education. While data suggests that students benefit from experiential craft-based learning methods, which enhances their spatial comprehension, these techniques are not widely utilized in the development process of design-integrated projects within an Indian context. A survey was conducted with the aim of comprehending the challenges faced by faculty when implementing these methods and addressing this gap in practice.

Faculty members encounter various obstacles when striving to more firmly integrate crafts into architectural education. These challenges may involve balancing the curriculum to include hands-on learning experiences, ensuring access to sufficient resources and materials for practical exercises, and providing adequate guidance and mentorship for students involved in

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craft-based projects. Additionally, there may be institutional limitations requiring professional development opportunities for faculty members so they can effectively teach subjects focused on craftsmanship.

Table 2: Challenges or obstacles in integrating craft-based education into architectural programs, Source: Author

Sr No	Parameters	Responses	Percentage
1	There is not enough time to involve Building craft-based activities in Studio routine	62	**36.5%**
2	Costs are involved in arranging the logistics and resources to use this as a teaching tool	51	**30%**
3	There is no need to use this tool, students can apply knowledge from workshops and extra-curricular activities in the studio	2	1.2%
4	Students are not interested	1	0.6%
5	It is difficult to give justice to hands on tools when there are too many students	11	6.5%
6	Lack of knowledge to use this as a tool in the studio (about the effects, how to use etc.)	33	**19.4%**
7	It hampers other subjects	3	1.8%
8	Lack of support from the institute	2	1.2%
9	Lack of opportunity	3	1.8%
10	It requires a lot of effort to embed and hence not feasible	2	1.2%

Based on table 2, the major problems are

- Lack of time in the studio routine, to involve craft-based activities
- Higher costs involved in arranging the teaching tools and resources
- Lack of awareness

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During discussions with faculty, potential approaches to tackle the above-mentioned difficulties were explored. About 30% of the faculty recommended arranging workshops to bridge the gap between theoretical knowledge and its practical application. Other suggested measures included organizing educational visits to culturally significant sites where students can immerse themselves in traditional Indian craftsmanship. Additionally, proposing case studies and their outcomes was viewed as a way to spark students' interest and motivation for learning. These initiatives seek to enrich the academic experience by providing students with hands-on opportunities for applying their knowledge and gaining insights into the real-world aspects of their field.

Despite facing challenges in integrating crafts into architectural education, this incorporation has proven advantageous for students. The hands-on experience fosters various skill sets such as problem-solving, attention to detail, and adaptability. This practical approach also deepens understanding of material properties and construction techniques among students. Consequently, it has led to an improvement in their overall comprehension abilities which contributes towards a more holistic learning experience that is effective as well. The tangible involvement in crafts stimulates critical thinking and creativity among students preparing them for future complexities within architectural practice.

Table 3: The skills cultivated through this experiential learning process offer students numerous opportunities, such as enhanced problem-solving abilities and a deeper appreciation for craftsmanship and materiality in design, Source: Author

Sr No.	Statements	Responses	Percentage
1	Improve engagement in learning	98	92%
2	Connection with society	76	71%
3	Attitudinal changes	88	83%
4	To understand how concepts are applied in daily life	90	84%
5	To achieve cognitive learning goals	86	81%
6	Interact with peers	80	75%
7	Improve understand building material	102	96%
8	Motivation for probing to further research	76	71%
9	Understand importance of the local economies	66	62%
10	Make students aware of climatically sensitive ways of building	84	79%

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11	Improvement in problem solving skills	88	83%

Table 3 indicates that students derive significant benefits from participating in craft-based educational methods, such as improved cognitive processes and enhanced comprehension skills. This hands-on approach allows students to develop analytical thinking and understanding of construction processes, providing valuable insights for educators and learners. By engaging with building tasks, students gain a deeper understanding of material properties and construction techniques, leading to enhanced learning experiences and design proficiency. The incorporation of craft-based learning contributes to comprehensive development for both students and faculty in the field of design and construction.

3.1 Findings and Analysis

The Likert scale designed to analyze the opinion of faculty on crafts-based methodologies has been divided in two parts. The 1st part looks at probable benefits of craft integration and the 2nd part looks at the obstacles of craft integration in the studio. Statistics for both the scales have been analyzed separately. Descriptive statistics and differential analysis were used for 27 related samples. The Pearson correlation test was carried out to analyze the interrelations between the variables and establish the level of association between them. To evaluate the reliability of the scales used, internal consistency analyses were performed using Cronbach's alpha as an indicator. Descriptive and correlation analyses were performed using SPSS 25.0 software.

Section 1: Probable benefits of craft integration

The Cronbach's Alpha is .508. It shows a moderate level of reliability.

The correlation matrix shows that most correlations are non-significant (See significant one tailed section, values >.05 in most cases) and the magnitude of the correlation coefficient is also low (range .01 to .2). The negative correlations show that the questions are measuring opposite ends of a single construct. Therefore, the factor analysis results for part one, are not really reliable, but have been attached for reference.

The KMO test whether we have sufficient data to yield reliable factors. Here the value is 0.55 which shows that sampling is moderately adequate

Figure 1: Scree Plot for factor extraction Source: Author

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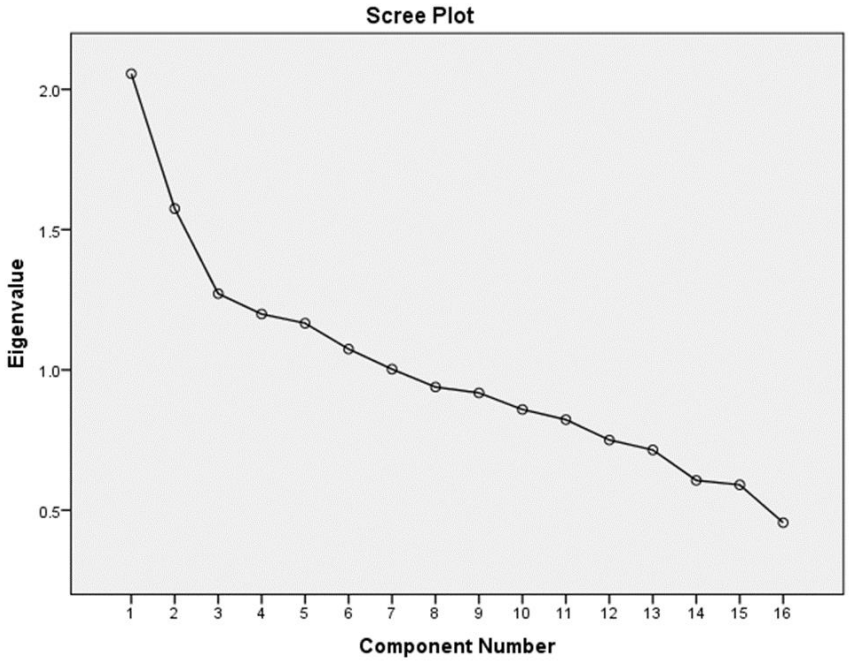

A regression analysis taking the questions from factors 1 and 2 was conducted. Table 4 shows the results of regression where R square is 0.620 which shows that 62% of the change in scores is explained by these factors. Table 5 shows ANOVA and t test tables show the significance of the regression analysis.

Table 4: Regression table Source: Author

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.787[a]	.620	.604	2.611	.620	37.776	7	162	.000

a. Predictors: (Constant), SC15, SC7, SC4, SC3, SC10, SC9, SC14

b. Dependent Variable: TOTAL

Table 5: ANOVA Source: Author

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1802.645	7	257.521	37.776	.000[b]
	Residual	1104.349	162	6.817		
	Total	2906.994	169			

a. Dependent Variable: TOTAL

b. Predictors: (Constant), SC15, SC7, SC4, SC3, SC10, SC9, SC14

Section 2: Obstacles of craft integration in the studio

The Cronbach's alpha is 0.742. It shows a good level of reliability.

The correlation matrix shows that most correlations are significant (See significant one tailed section, values <.05 in most cases) and the magnitude of the correlation coefficient is also

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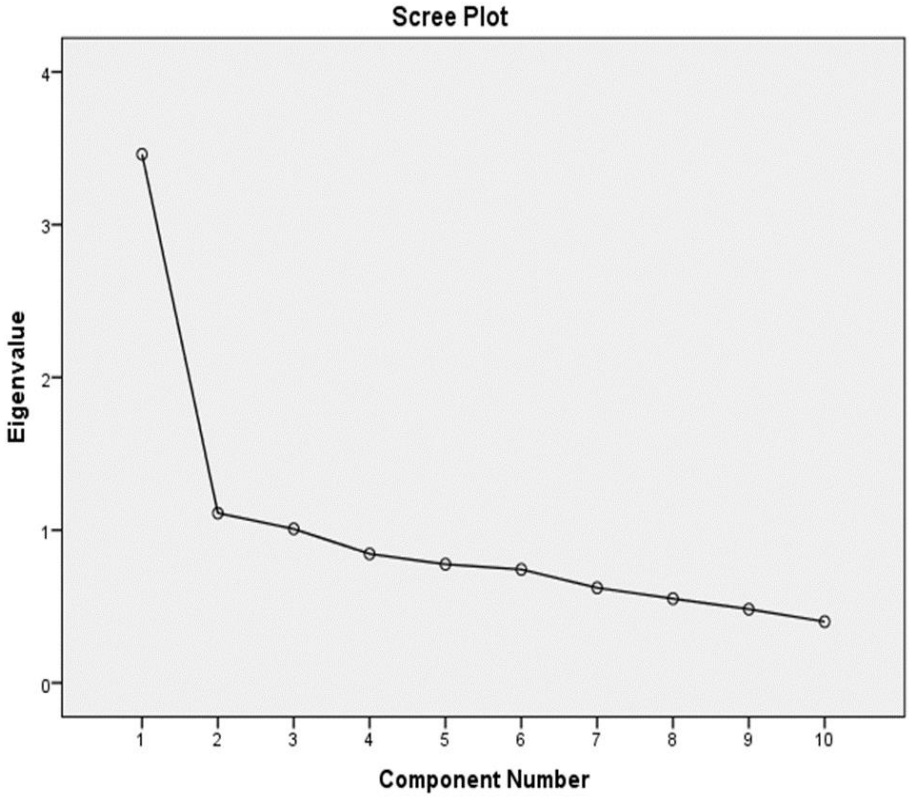
average (range .01 to .4). The negative correlations show that the questions are measuring opposite ends of a single construct. Therefore, the factor analysis results for part two may be reliable.

The KMO test whether we have sufficient data to yield reliable factors. Here the value is 0.831 which shows that sampling adequacy is good.

Figure 2: Scree Plot for factor extraction Source: Author



Regression-

A regression analysis taking the questions from factors 1 was conducted. Table 6 shows the results of regression where R square is .944 which shows that 94% of the change in scores is explained by these factors. Table 7 shows ANOVA and t test tables shows the significance of the regression analysis.

Table 6: Regression table Source: Author

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.972[a]	.944	.941	1.290	.944	338.108	8	161	.000

a. Predictors: (Constant), SC210, SC25, SC21, SC23, SC27, SC29, SC24, SC28

b. Dependent Variable: TOTAL1

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Table 7: ANOVA Source: Author

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4499.786	8	562.473	338.108	.000[b]
	Residual	267.838	161	1.664		
	Total	4767.624	169			

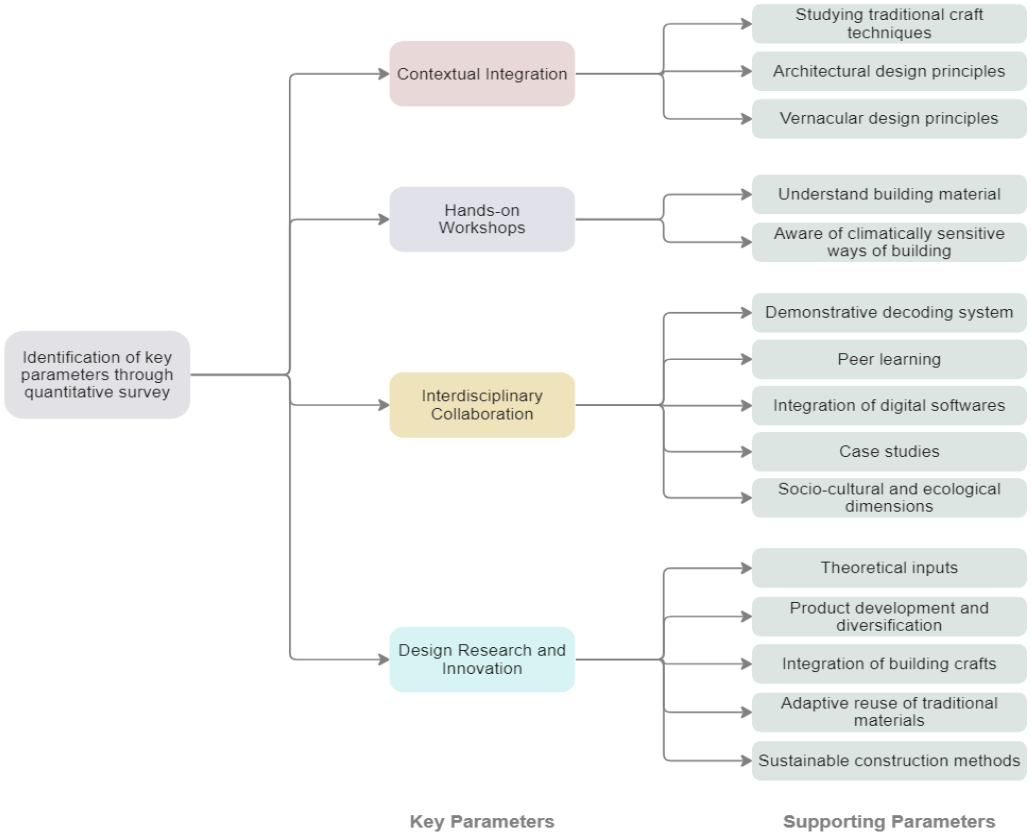
a. Dependent Variable: TOTAL1

b. Predictors: (Constant), SC210, SC25, SC21, SC23, SC27, SC29, SC24, SC28

4. Framework for craft integration

This study aims to identify parameters influencing craft-design innovation and develop an integrated framework for revitalizing crafts. It seeks to determine factors shaping craft-based learning and establish a practical framework through faculty surveys and literature review. Integration of these parameters enriches students' understanding and offers practical learning opportunities, enhancing their educational journey.

Figure 1: Key parameters identified from the quantitative survey of faculty opinions regarding improvements to the craft-based learning module framework., Source: Author



The main parameters are grouped into four categories, encompassing the range of integration among various factors such as craft, architecture, and design cognition.

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1. Contextual Integration: Incorporating building crafts into design studios immerses students in the cultural and historical context of a place. Studying traditional craft techniques alongside architectural design helps students understand the impact of craftsmanship on the built environment.
2. Hands-on Workshops: Hands-on workshops in traditional crafts like woodcarving, pottery, and stonemasonry offer students direct experience. Active participation deepens their appreciation for the skill, precision, and cultural significance of these crafts.
3. Interdisciplinary Collaboration: Building crafts bridge various disciplines in architectural education. Working with artisans, craftsmen, and experts from anthropology, sociology, and environmental science enhances students' holistic grasp of the socio-cultural and ecological aspects of architecture.
4. Design Research and Innovation: Integrating building crafts into design studios inspires students to explore novel ways to reinterpret traditional techniques in contemporary practice. By researching adaptive reuse of materials and sustainable methods, students can create sensitive solutions that preserve cultural heritage.

Figure 2. Categorization of initial education parameters in craft-based learning systems., Source: Author

Knowledge creation and transfer occur explicitly and tacitly (A. K., J. & Vibhavari, 2023). The proposed innovation framework includes four segments: faculty-initiated (explicit and tacit) and student-engaged (explicit and tacit). Figure 2 displays priority rings for implementing craft-

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based learning systems, addressing integration challenges. Parameters are color-coded as shown in Figure 1.

The survey, involving 108 faculty members and professionals, showed strong support for integrating craft-based learning into education, offering enhanced opportunities for artisans. Co-design/co-creation concepts (Mironcika et al., 2020) may aid collaborative processes. The evolving framework for collaborative craft-based learning offers valuable insights into methods and motivations, serving as a guide for stakeholders. Continuous refinement will ensure its adaptability to changing needs.

5. Conclusion

In conclusion, this study has delved into the multifaceted relationship between experiential learning practices, craft-based learning, and architectural pedagogy from the perspective of educators. Through a comprehensive exploration of literature, theoretical frameworks, and empirical evidence, the paper has illuminated the transformative potential of integrating Indian crafts into architectural design education.

The findings underscore the pivotal role of crafts in enriching students' understanding of India's cultural heritage, fostering creativity, and nurturing a profound connection to the built environment. Experiential learning practices facilitated through craft-based approaches enable students to engage directly with building materials, develop cognitive abilities, and hone problem-solving skills essential for innovative design processes. Moreover, the incorporation of crafts into architectural pedagogy promotes a holistic understanding of architecture, encompassing cultural, environmental, and societal dimensions. Moving forward, it is imperative for architectural educators and institutions to recognize the intrinsic value of craft-based learning and prioritize its integration across the curriculum. By reinstating craft as a fundamental component of architectural education, educators can cultivate a learning environment that fosters creativity, innovation, and a deeper appreciation for India's cultural heritage and environmental consciousness.

Despite challenges, integrating crafts into architectural education enriches the learning experience. Curriculums should value craft skills alongside theory, with workshops in small groups providing immersive, hands-on learning. Combining craftwork into assignments and showcasing student outcomes through exhibitions incentivizes participation and commitment to craft education, paving the way for a comprehensive architectural curriculum. Integrating craft as a core component of education offers opportunities for advancement by combining digital fabrication technologies with traditional craft techniques to help students explore materiality and form (Oxman, 2010). Collaborative initiatives between educational institutions and local artisan communities can bridge the gap between academia and practice, enriching students' learning experiences (Wagner & Dantas, 2019). Craft-based learning in interdisciplinary projects fosters cross-pollination of ideas and nurtures a culture of experimentation and innovation (Barlex et al., 2016).

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From a faculty perspective, incorporating craft-based learning in architectural education extends beyond theoretical knowledge. Students engage in practical projects such as designing spaces for craftspeople or smaller-scale decorative items. Workshops in brickwork, bamboo construction, or the use of unconventional materials like fabric provide students with immersive experiences in real-world applications. Field trips to observe and document weaving practices or live construction further enhance experiential learning, deepening students' understanding of materials, traditions, and the connection between design and craft.

The proposed craft-based learning framework aims to provide a practical and effective approach for implementation in the Indian education system. Despite challenges such as limited availability of craftspeople and resources for workshops and tools, the theoretical foundation of the framework presents clear advantages. If these obstacles are addressed by the relevant organizing parties, the potential benefits of craft-based learning can be fully realized. Thus, the future of craft-based education in architectural pedagogy appears to be one of increasing importance. Many responses highlighted its potential to address issues of sustainability in building practices by promoting traditional, lower-impact methods. This could also revitalize craft communities and foster a deeper connection to the building process within society. There is a clear recognition of the need for integration, with some advocating for a more prominent role in mainstream education and others suggesting it could be strategically implemented through experiential workshops. Challenges around time constraints and a rigid curriculum were acknowledged, but the potential benefits of the New Education Policy (NEP) in providing more flexibility were seen as an optimistic sign for the future of craft-based learning in architecture.

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