Taking Classrooms to The Craft Cluster: A Co-Creation Approach for Fashion Education

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ABSTRACT

The awareness of material, techniques, process of manipulation and connected aesthetics are a few of the core concepts of fashion education. India as a country has diverse cultures, geography and materials unique different parts of the country, which is displayed through the many crafts practised by its people. This gives a unique opportunity for design education in India. NIFT, a premier fashion education institute, is giving craft-based design education in multiple phases which is incremental.

This research explores the impact of tacit knowledge in the craft process, particularly focusing on how design students are sensitized to this knowledge before engaging with artisans in a co-creation workshop. In the study, design students were introduced to the craft's tacit knowledge before joining artisans in the Channapatna Toy and Doll cluster, where they worked with turn-wood lacquer techniques to create an artefact. The study aimed to assess how this prior exposure influenced the students' learning experience.

The findings highlighted that design planning needs to account for both tacit and explicit knowledge systems embedded in the craft process, as these influence the co-creation outcome. Additionally, students realized the importance of conducting product development in the artisan’s workshop, where artisans are most comfortable, underscoring the value of creating in the artisan's workshop.

In this pedagogy, learning primarily happens outside the classroom as students work with the artisans in the location of the craft cluster itself. This allows students to immerse themselves in understanding the complex scenarios and then come up with co-created solutions. The education outside the classroom leads to adaptability and resilience among the design students and the artisans.

This engagement with the artisan community and co-creation experience keeps the craft sector current and contextual. The incremental changes in the attitude, expressions and technological acceptance among the artisans brought out by these engagements allow the craft and the design entrepreneurs to stay relevant in the future.

Keywords: Fashion education; Crafts; Co-creation; Tacit knowledge; Pluriversal design

INTRODUCTION

Craft is ubiquitous in India. Today, India is known in the world for its highly skilled handmade products which also lends this country a unique identity. Dior's work with Indian embroidery is well-known. Fashion-led design education in India is aware of the potential that Indian crafts bring to the world of design (Minder, Kaindl and Junginger, 2019; Minder, 2022). Many design graduates are working in the craft cluster through frameworks which are hinged on revival, continuance, sustainability, and indigeneity to name a few. A few notable design institutes in India are the National Institute of Design (NID), the Industrial Design Centre (IDC) at the Indian Institute of Technology (IIT), the National Institute of Fashion Technology (NIFT), Indian Institute of Crafts and Design (IICD), Somaiya Kala Vidya. Both NID and NIFT design education program sensitises their students towards the craft cluster as per the requirements of various disciplines offered by them.

The hands and thoughts of the artisan come together during the creation of an artefact. Materials, tools, machinery, and objects come into direct contact with the artisan's body. As the artisans work with the material, the material influences the artisan's ways of engagement with it and shapes the final outcome (Malafouris, 2019). The interaction of the material, the artisan, and the attempted outcome produces the artefact. This implicit knowledge, which is mostly private and personal, becomes tacit knowledge.

In a co-creation environment between an artisan and a designer, mutual trust and motivation are essential for them to work well together. When an artisan and designer collaborate on a project, the designer must understand the craft's methods, the limitations and possibilities of the materials utilised, and the equipment required to create the final product (*Weaving with Rush: Exploring Craft-Design Collaborations in Revitalizing a Local Craft*, no date; Payne, 2018).

Research gap

The presence of tacit knowledge in craft sector is well established by many authors. The learning from demonstration is also researched upon in craft (Groth, 2016, 2017; Camilla and Arild, 2018). However, the students' interaction with the artisans and the tacit knowledge learnt from the sensitization or prior information regarding the same is reported in a limited manner in literature. Documenting of the tacit knowledge embedded in the craft practice is also not reported in detail. Since the tacit knowledge in craft is honed up by artisans over time and is not evidently noticed in first few interactions, therefore it is largely not understood by the new learners/students in craft.

This hinders the in-depth learning of the craft process. Therefore, design interventions by students and novice designers in the craft process tend to not pay attention to the existing tacit knowledge.

For the designers working in the craft sector for any co-creation activity, it is pertinent that the tacit knowledge possessed by the artisans are understood in detail. This will make the design intervention much more contextual and therefore easily acceptable by the artisans. It will also bring in the improvement in quality, better realisation of design concepts and overall design language in craft.

Therefore, in this research, the effect of the prior sensitisation of design students towards the tacit knowledge of the craft is studied. This study was carried out in the Channapatna Toys and Dolls cluster using Turn-Wood Lacquer techniques to create the artefact. The study is also done to understand the effect on the learning of the students by taking the classroom to the craft cluster.

LITERATURE REVIEW

The homogenised global market has given rise to a group of products which are locally produced, reflect local identity and highlight cultural values. Organisations like the United Nations Educational Scientific and Cultural Organisations (UNESCO), Aid to Artisans, and World Craft Council (WCC), have brought in designers to work with the artisans to keep the craft relevant and contextual (UNESCO, 1997; Kikuchi, 2015).

Taking design classroom to the cluster

Design education in India plays a vital role in making design students aware of the craft community, the importance of local resources and their play in a place's identity (Minder, 2022). To make students sensitized towards the environmental, social and economic, material factors at play in the craft cluster, the design students must have primary and in-person experience of the cluster and the artisanal practice. This also makes them more sensitive towards the design challenges posed by the cluster. Collaboration between artisans and designers plays a key role in bringing new products and new markets to the craft cluster. For designers, the craft plays a vital role in allowing them to create novel prototypes (Sawyer and DeZutter, 2009; Chan, 2015; Rhodes, 2015). For artisans, it brings in a new aesthetic vocabulary which is based on the current artefacts and their design, therefore bringing incremental but futuristic changes in the craft practice. For the design students, working with the craft community builds up their creativity as they learn to adapt to new working environments, with new sets of affordances and constraints. This helps the students to bring in openness, adaptability and resilience in their attitudes, which are key characteristics of creativity (*Weaving with Rush: Exploring Craft-Design Collaborations in Revitalizing a Local Craft*, no date; Sawyer and DeZutter, 2009; Vega, 2018; Minder, Kaindl and Junginger, 2019).

Co-creation process in craft

In the craft sector, the artisans' hands and minds come together to create an artefact. The artisan's body directly contacts materials, tools, machines, and objects. The making of the product is central to the form and object, following the morphogenetic modes according to Tim Ingold (2010). As the artisans experience the material, the material informs the decision of the artisans about the usage of the final form taken by the material. The creation of artefact results from the interaction between the artisans, the material, and the intended effect. It is reported in the literature, that shared motivations and trust are crucial factors for success in collaboration between the artisan and designer (Suntrayuth, no date). In a co-creation process between artisan and designer, the designer needs to be familiar with the craft practices, affordances and constraints of material used in the craft, and the tools used in the making of the product. The artisans need to understand the thoughts and intent behind the design and the environment around the intended design (Carrozzino *et al.*, 2011; Camilla and Arild, 2018).

The conceptualisation and design process in craft is informed by the artisans' sensory experience and spatial reasoning which is further shared with the designer verbally or non verbally (Wang, Bryan-Kinns and Ji, 2016).

For any craft practice, experiential knowledge is based on embodied knowledge embedded in the material and practice of the craft. This knowledge is built through practice. The more practice one has with the material, the better one becomes at expecting the opportunities and constraints posed by the materials. To create is to follow the material (Lehmann, 2012). Ingold describes artisans as wayfarers who discover making as they work through the material, needing continual corrections and understanding of the material. Therefore, for the co-creation process to be successful in the craft sector, it is pertinent to build experiential knowledge for both the artisans and the designers (Kolb, 1984; Miettinen, 2000; Niedderer and Reilly, 2010; Camilla and Arild, 2018)

Tacit and explicit knowledge of craft

Tacit knowledge in craft is described as personal and private knowledge (Leonard and Sensiper, 2009; Lambert and Design, 2019). This knowledge is not available for conscious introspection. It is reported that as the artisans gain more experience, the knowledge which was explicit earlier becomes tact with practice and experience (Wood, Rust and Horne, 2009; Wood, 2014; Le Bellu, 2016). This learning is learnt in a workshop setting with constant supervision and guidance. It is observed through the researcher's more than 25 years of association with many artisans, that the knowledge which are tacit is not written down but stays within the body and mind of the artisans. During the training process, embodied learning takes place, which turns the tacit knowledge of the experienced artisan into explicit knowledge for the new learner

(Chennamaneni and Teng, 2011; Chennamaneni, Teng and Raja, 2012). The knowledge which are easily accessible are explicit knowledge but the knowledge which are deeply individualised and inarticulable are tacit knowledge (Smith, 2008; Schön, 2017).

Pluriversal nature of design education

Pluriversal nature of design education recognises that there are multiple world views, which may be contradictory to each other, but they exist together and are valid in their own contexts (Amstel, 2021). It recognises the indigenous methods of creating and the people who create it. It views that working with the localised method of creation can help in building the localised method of industrial design. Therefore, it views the craft practice as having its own approach and design methods, which should be embedded in the local and the among the people of practice (van Zeeland, 2024). The foundation of pluversality lies in coexisting of multiple narratives and heterogeneity. The pluriversal nature of design education views design as an agent of change, building up structural framework for new world view (Leitão, 2022; Torretta *et al.*, 2023). It is informed there are two tenets of pluriversal nature of design; life affirming work and approaches to practice that respects and protects other worlds. It embraces communication across languages and cultures, ensuring the value of different lived experiences (Leitão and Noel, 2020; Amstel, 2021; Torretta, 2023).

In this research paper, the ideas and concepts emerging around classroom education, co-creation, tacit and explicit knowledge in craft and pluversality nature of design education is explored.

RESEARCH METHODS

The qualitative method used for this research draws on the tenets of ethnographic research of the authors in the craft cluster, which are using the tools of participant and non-participant observations, informal conversations, focus group discussions, authors practice in the Channapatna Toys and Dolls cluster of Karnataka India in the area of new product development. The familiarity of the author with the craft practice in the cluster, materials, tools and techniques, allows to draw upon the experiences and personal knowledge. With the long association of the cluster, the author is accepted as one of their own, which gives an insider's view of the cluster. Therefore, for this research, three-day visits totalling of 27 hours were made to the cluster. The interview was done with five master artisans with more than 20 years of experience in and one master artisan trainer. The design workshop of 18 hours was planned for the design students.

The aim of this research is to study the impact of exposure to the tacit and explicit knowledge spheres of a craft to a batch of students, before engaging with artisans for craft-based product development. Such exposure will positively affect the product planning in a co-creation environment between design students and artisans. The

study was done through multiple levels of engagement that the design students have through various subjects with the craft cluster during their design education and the knowledge gained at every level. This is studied through the informal discussion held in the classroom after the completion of the subject. The study is conducted with the 34 Undergraduate design students of 7th semester at NIFT, Bangalore enrolled into the Bachelor of Design program spanning 4 years, comprising of eight semesters.

Qualitative research tools, namely participant observation, informal discussions and interviews, co-creation approach of students with artisans in the field was employed for this study. Based on this, the tacit and explicit knowledge existing in the craft field is formulated. The researcher has also observed extensively that the master artisans in the craft possess a high degree of tacit knowledge, which is also informed by Chennamaneni and Tang (Chennamaneni and Teng, 2011). The researchers own observation informed that the students engaged with the artisans mostly at the level of explicit knowledge, but the students had limited understanding of the tacit knowledge possessed by the artisans. It is also established that the level of tacit knowledge is higher among the artisans longer number of practice-based experience with the craft. It is also established that the learning of skills in crafts takes place by imitating the master artisan. But the learning was observed to stay incomplete without in-depth inquiry into the tacit knowledge which the master artisan possessed. Many students were seen to not be aware of the tacitness of the knowledge existing among the master artisans.

Experiment

For this study, a product development workshop was organised in Channapatna, in Karnataka State of India, with a Turn Wood Lacquer craft workshop which produced Channapatna Toys and Dolls. The 7th semester undergraduate design students of Accessory design program of NIFT, Bangalore were engaged. The batch of 34 students were equally divided into two groups; Group A and Group B. Both the groups were given exposure to the making process in craft. Both the groups were given lecture by the researcher on the craft, products, materials, tools and techniques. During the lecture, they were also shown the product making process in video format of the same cluster.

Day 1: Group A was given a detailed lecture on the tacit knowledge existing within the craft, particularly focussing on the colouring aspect. They were also informed about the embodied material knowledge of the master artisans regarding the tacitness, which allows the master artisans to judge the quality and completeness of the task regarding the product at hand. Group B students were not a part of this lecture. After this the students were given time to do the secondary research.

Day 2: Both Group A and Group B making the craft products in their natural environment in the cluster to familiarise with the craft processes. The demonstration

was conducted separately for Group A and Group B students by the same master artisan for the same set of task. The second half of day 2, the students were given afternoon half to conceptualise a simple product using one Channapatna turned component. After a few discussions and subsequent iterations of product by the students with the artisans, the design was finalised.

Day 3: On day 3, the students worked with the artisans in the field to acquaint themselves with the lathe used for making Channapatna toys for 3 hours. The material used for making the products were Aale wood (Wrightia Tinctoria), coloured sticks of lacquer, and locally sourced palm leaf for giving sheen to the coloured surface at the end. The tools used for making the product are lathe and chisel of varied sizes to give the shape on the lathe itself.

The researcher observed the students during the following activities:
Activity 1: Demonstration by the master artisan while turning wood on the lathe
Activity 2: Finishing of the surface of lathe turned piece before applying the color
Activity 3: Application of colour on the turned surface
Activity 4: Finishing the surface with the local palm leaf wetted in water

It was observed by the researcher that Group A students were keenly observant during the demonstration of colouring by the artisan.

The Figure 1, Figure 2 and Figure 3 shows the demonstration by the artisan to the students. The Figure 4 and Figure 5 shows the application of colour done by the students. It can be observed that Figure 4 has more even colouring compared to the application of colour demonstrated in Figure 5.

Fig. 1 Demonstration on turn wood and colouring by artisans to Group A and Group B students done separately

Fig. 2 Embodied learning facilitated by artisans on turning wood to Group A and B students

Fig. 3 Embodied learning facilitated by artisans on colouring on a special request by group A

Fig. 4 Finished product with acceptable colouring finish by group A students

Fig. 5 Finished product with poor colouring by group B students

ANALYSIS OF OUTCOME FROM THE WORKSHOP

The products were analysed for fidelity of lathe turned component with design on paper and its surface colour by the master artisans along with the researcher. It was observed that both Group A and Group B have been able to achieve close resemblance to the design drawn on paper to the final lathe turned component. Out of 34 students, 30 students achieved close resemblance and rest 4 students (1 student from Group A and 3 students from Group B) could not achieve the intended shape.

The colour application on the lathe turned product was graded for its uniformity and accuracy of application. The analysis shows a superior colour application by Group A students compared to Group B students. The surface was smoother, and the colour application was more even for Group A compared to Group B. It was seen that 16 students of Group A and 3 students of Group B could achieve the uniform and accurate colour application. The evaluation of lathe turning of pieces and colour application was done by master artisans.

The Group A students have spent more time on observation colouring compared to Group B students. Group A students also interacted with the artisans while colouring to understand the tacitness of the knowledge involved in colouring process. This was fuelled by the detailed lecture in the pre-workshop stage for Group A. This resulted in better application of colour as reported. The interaction with the Group B revealed that they felt that colouring was easier process to achieve compared to making the component on lathe. Therefore, they did not interact much with the artisans while the colouring process was carried out.

Tacit and explicit knowledge in Channapatna Turn Wood Lacquer craft

The workshop also led to development of the table based on the adaptation and application of framework given by Chennamaneni and Tang for understanding the level of tacitness in the Channapatna craft. This was done by the researcher drawing on their knowledge of the craft verified by the master artisans.

It is reported in literature that high level of tacit knowledge is transferred by direct contact with the people possessing the knowledge through the process of observation, apprenticeship and mentoring (Chennamaneni and Teng, 2011). The possession of tacit knowledge in craft of Channapatna can be classified as given in Table 1.

Table 1: Classification of artefact creation skills in Channapatna craft as per the degree of tacitness

Level of tacitness	Artefact creation skills in Channapatna craft
High level of tacitness	Preparation of lac coloured sticks
	Applying lac on wooden surface
	Creating products with multiple lathes turned wood pieces
	Creating products with small lathe turned components
	Joining wooden pieces on lathe
	Applying multiple colours on the same turned wooden piece
	Creating the samples of new designs
	Incorporating a mechanism in the turned piece
	Creating new colour
Medium level of tacitness	Creating large wood turned pieces
	Creating products with maximum three components
	Applying single colour on the turned wooden piece with a relatively large surface
	Putting shine on the coloured piece with locally sourced leaf
Low level of tacitness	Assisting the master artisans in selecting the correct wood for turning
	Creating the single component of product requiring multiple pieces
	Applying single color on a turned piece with relatively small surface
	Keeping the workspace organised and clean for master artisans
	Keeping the tools in order

It was observed that most of the students could only attempt to learn the techniques with low or medium level of tacitness. Many of them found it hard to learn the lathe operations and ascertain the intended design outcome on lathe. The achievement of intended design outcome which is predesigned on paper, needs to have high tacit learning related to lathe based operations, which needs minimum of 15 days of continuous reflective practice.

During lecture on Day 1, students reported the lathe turned operation to be tougher to learn compared to application of colour. But at the end of the workshop on Day 3, all the students reported the application of colour to be the most difficult operation to be carried out on lathe. They informed that it was difficult to control the application, while the product was turning on lathe as application of lac colour needed the contact of lac with wood on lathe. The students were not able to ascertain the pressure needed to be applied on the stick while applying the colour on wood. This led to uneven coloring.

They also found the finishing process of applied colour using a locally sourced leaf for buffing very tough to achieve.

Taking classroom to the cluster and pluriversal nature of design education

The product making process of craft is such that no one person can claim the entire ownership of the created artefact (Gent, no date; Venkatesan, 2009). The same is true for Channapatna craft as reported by Gent and also observed by the researcher. Multiple artisans come together to create one artefact such as those who understand the wood as material, artisans who turn the pieces on lathe, artisans who create the coloured lac sticks. The design process also hinges on the co-creation process, where the designers first learn the materiality of production and other aspects of production directly or indirectly affecting the craft. The designers also hold active discussion and iterations with the artisans before finalising the design. This needs the designer to accept multiple world views which exist in the cluster. The designer also needs to be prepared to empathise with the model of production and not look it from their own vantage point only, which is also echoed by the pluriversal nature of design education through the need to accept the world-making practices. This made them aware that designers need to collaborate with artisans at a shared level to achieve the best possible results coming from both the worlds, which is the world of designer and the world of artisans. They need not become homogenised but work on each others' strengths. The interconnectedness of different world views while being able to come together as an act of creation was realised by the students.

CONCLUSION

Taking classroom to the cluster helped in making the alternate world visible and learned diverse ways of knowing, which is not written in the textbooks, which is inline with the pluriversal approach of design education. The students reported to be able to appreciate the craft practices and the superiority of skills possessed by the artisans.

The exposure to the tacit and explicit knowledge spheres of the craft before undertaking the product development has positively impacted the workshop outcomes. The craft-based product development is carried out by design students with the skilled artisans in their 7^{th} semester, which is their final semester before the professional project. It was realised at the end of the workshop that the planning of the design needs to take care of the knowledge system embedded in the artisans before the co-creation process. The students also realised the importance of carrying out the product development in the artisan's workshop which is the artisan's natural environment and therefore comfortable for them. Working in the cluster also had an impact on the aesthetics of the final product as they were surrounded by the design and aesthetic vocabulary needed for design development.

In this pedagogy, learning takes place outside the classroom, where students

collaborate directly with artisans in the craft cluster setting. This immersive experience enables students to better understand the complexities of the craft process and develop co-created solutions. The hands-on engagement fosters adaptability and resilience both in the design students and the artisans. The delimitation of this research lies in the fact that this study is done with one craft and one batch of design students. Further research needs to be carried out in this area with multiple crafts.

The interaction with the artisan community and the co-creation process also helps keep the craft sector current and relevant. Through these engagements, artisans experience gradual shifts in attitude, expression, and technological openness, ensuring that both the craft and design entrepreneurs remain adaptable and forward-looking in the future. Findings from this research paper, underscores the importance of learning with the artisans in their cluster, outside the classroom. It also brings in the value of tacit knowledge existing within the artisans, which needs to be verbalised and explicitly explained to the students in detail as part of the pedagogy.

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