



What Got Us Here, Won't Get Us There

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Testing beyond the studio: the workshop of tools and weaving crafts.

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Abstract: The traditional value of textile crafts is present in historical and contemporary culture, heritage and innovation; at the same time, it has gained attention to drive the future design development. Instead of focusing on innovation in materials, techniques, and tools in the weaving process, this study develops a powerful new way to interact with material knowledge. The researcher created an innovative learning approach by developing taxonomy features on the heritage and innovation of textile production. Those tools were tested through the workshop to understand the potential of those materials outside studio. This paper discusses a workshop method used to evaluate a new research tool with the general public. Through recording and analysing the various stakeholder engagement styles and outcomes this study investigates how these could inform the future design while safeguarding traditional knowledge with innovative learning approaches.

Keywords: Doctoral research in and beyond the studio, public engagement, Research through material engagement, extreme making

1. Introduction

The heritage of the weaving crafts reflects the identity, artistic, and historical value of the past and present (Smith, 1999), and displays cultural significance (Rouhi, 2017). It illustrates the intangible and tangible value of transfer of knowledge and skills (2003 Convention for the Safeguarding of the Intangible Cultural Heritage, 2011). Nevertheless, once the times change, some heritage crafts might disappear for various reasons, including industrialisation (Yang et al. 2018) and lack of human resources (Ribašauskien and Šumyle, 2016). Innovation and design could support the development of indigenous techniques (Routh and Vyas, 2015). Traditional technologies are widespread into the present (Edgerton, 2010) through new things and innovation (Taura and Nagai, 2017). This paper reports on research that intends to safeguard the weaving crafts in the contemporary world in order to find out the trajectory of potential innovation that supports heritage value.

1.1 Research background

This paper is derived from a part of PhD project that aims to extend the heritage value of weaving by looking at its heritage and potential for innovation within that. This practice-based research seeks to find a taxonomy of textile production processes underneath the themes of heritage, innovation, and the combination of both. The data collection was selected from multiple methods to develop a comprehensive understanding to create the taxonomy tools and extend the weaving crafts' knowledge to conserve their value. The practice-based approach of weaving, survey and workshop was adopted as a triangulation method for deep understanding (Steinke, 2004). This research started with finding ways of extending heritage crafts with case studies in Scotland and Thailand. In so doing, the researcher explores the significance of traditional weaving herself in order to understand the nature of weaving tools in different cultures. The researcher learned how to weave in Thailand and discovered that some of the tools and techniques differed to those used in Scotland. Hence, the researcher explored the weaving tools such as the ARM Touch 60 handloom, the dobby loom, and the power loom at a Scottish University to weave traditional Thai designs. Apart from the tools, the design methods in Scotland, namely Scotweave software, are more systematic than in Thailand where only grid paper is used (Figure1).

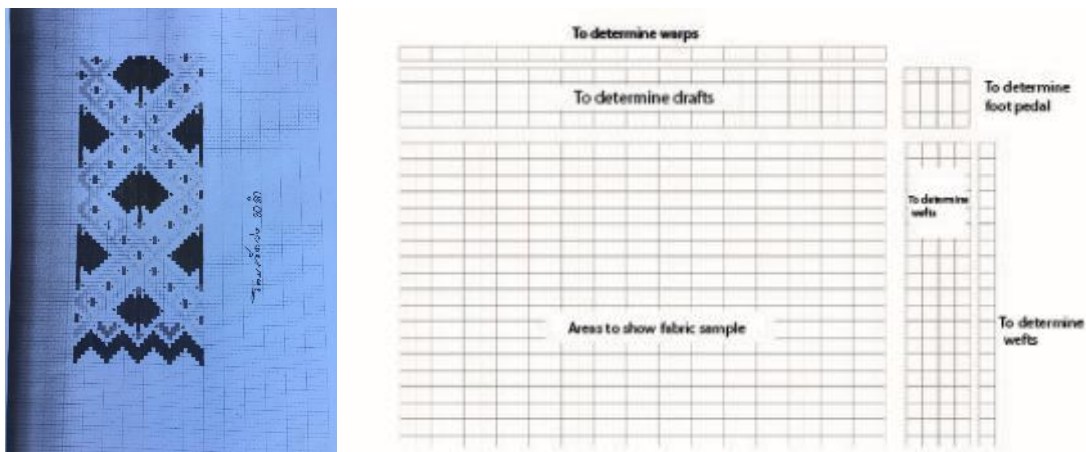


Figure 1. grid paper for design weave pattern and structure

The observation of textile production processes in Scotland and Thailand was adopted to understand the current practice between these two fields, together with the researcher's weaving practice and its reflection. In addition, the practice allowed the researcher to discover herself where heritage value exists in weaving. An experiment of traditional Thai Ikat techniques on the dobby loom was conducted. There are two experiments on weaving. The patterns prepared in Thailand but woven in Scotland (Figure2) and the Ikat patterns created and weave in Scotland (figure3). The findings reveal that the weaving value exists in the skills rather than tools. The processes were therefore transferred to pictography to work as visual communication (Nakamura and Zeng-Treitler, 2012). Images were identified as the easiest way of communication. This study uses a straightforward and clear image design to offer the communication capacity to any stakeholders.



Figure 2. Weave experiment1: Pattern creation in Thailand weave in Scotland



Figure 3. Weave experiment2: Pattern creation and weave in Scotland

All of the fabric production processes were classified into three themes; heritage, innovation, and a combination of the two. In order to create symbols that were recognisable for any stakeholders, the deck of cards (Figure 4) and the website (Figure 5) were adopted as artistic communication devices. These cards can also be a learning tool that offers both image and written context for understanding. In this research it allowed designers and design students to exercise their knowledge of textile production sequences and the opportunity to think outside of the box. The details on the website provided more profound knowledge and let the broader audience realise all stages of creating textiles from fibre to construction. Once more informed, this awareness could influence behaviour and therefore change their approach to be considered sustainable use in the future.

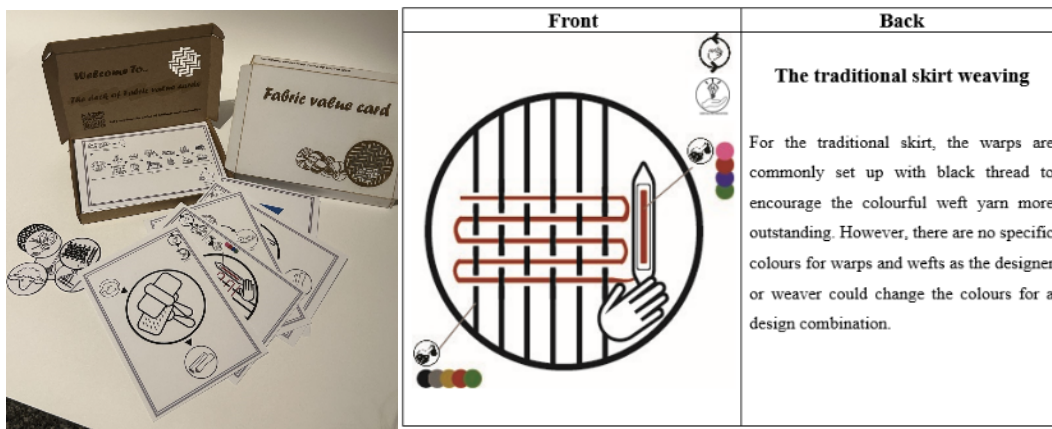
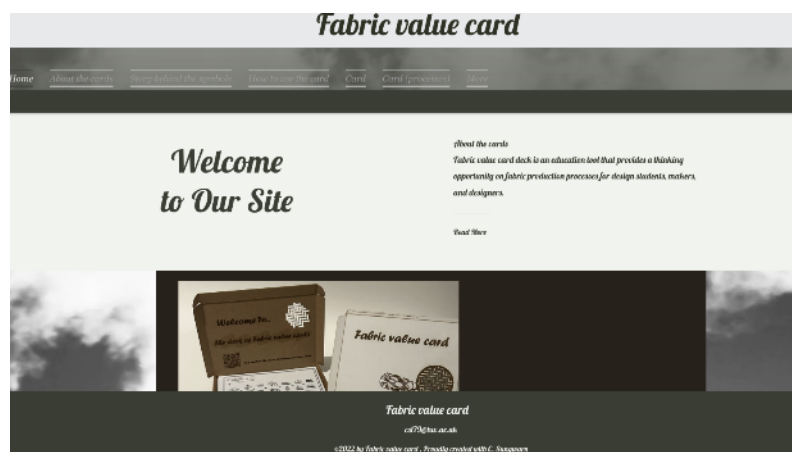
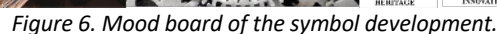


Figure 4. The deck of cards and sample of card





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concentrates on a workshop conducted in the following stage, as it explored design research beyond the studio.

2. Methods

The research initially explored the heritage value and the fabric maker in the diverse cultures of the studio practice. Regarding that stage, we explored what weaving heritage value exists in the skills, thus concentrating on the question of how we can provide weaving skills and knowledge. The researcher then approached stakeholders through a workshop which could also be seen as public engagement. The study was conducted as a participatory design workshop to understand the user experiences and gather their reflection (Kaner, 2021; Greru and Kalkreuter, 2017). The observation of physical interaction and interpersonal exchange was the most crucial aspect of the study (Ciesielska et al., 2018) to examine how the tools (cards and labels) work. Testing of the tools in the workshop encourages emerging 'thinking' from the 'craft and practice' as a 'fork in the road' that pointed to a possible future design and development (Norman, 2016). Moreover, the activities in the workshop support the users in gaining a deep understanding of materials knowledge that remarked the potential of innovation (Gordon et al., 2019). The visual data was gathered through photographs, note-taking, and observing the live engagements with participants weaving as the triangulation of data collection.

Direct and indirect observation was a critical method of observing behaviours and surroundings with all aspects of the activities and collecting information (Ciesielska et al., 2018). To gain insight from data, all visual documentation of verbal and non-verbal communication, participants' weaving, and emerging expressions before, during, and after the activities were used for analysis. The workshop mapping was selected as a data visualisation to connect all of these varied outcomes. It also pointed to the key visual synthesis in each stage of activities (Kernbach and Svetina, 2018). This stage aimed to document and described what happened in the workshop. A visual memory from the point of view of the activities was stated on the post-it notes as the conceptual framework for synthesising the result (Figure8).

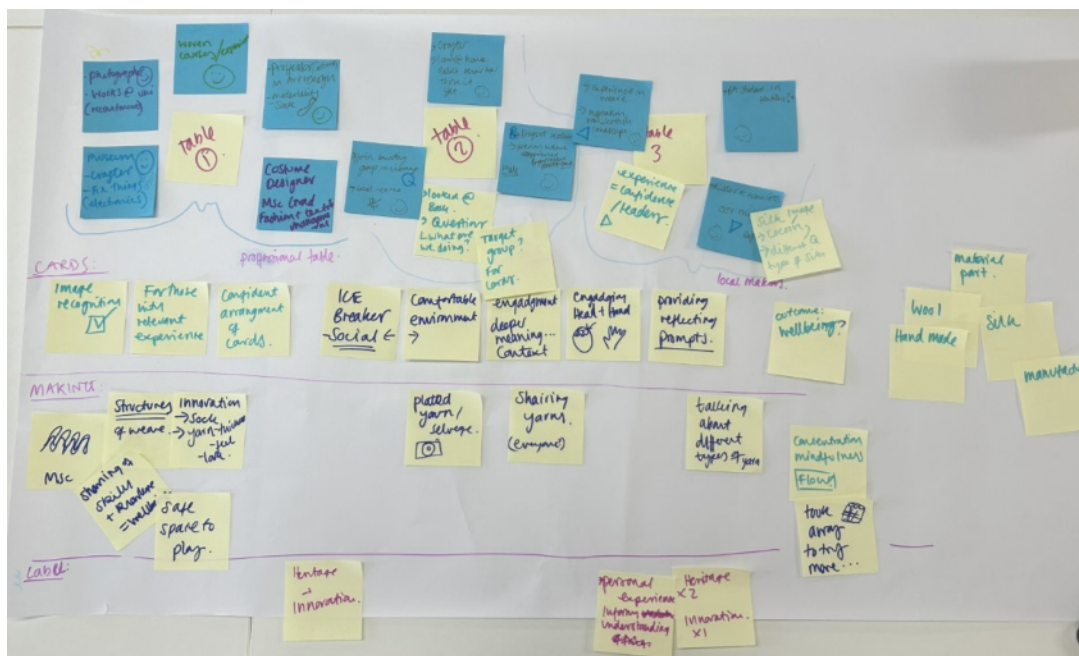


Figure 8. the workshop mapping

3. Workshop

The workshop was held under the banner “re-make: waste to use” at the Great tapestry museum, Galashiels, Scotland and lasted for two hours. It was planned as an interactive workshop that allows participants to be part of activities to encourage engagement. The participatory design aims to gather opinions on the physical interaction with tools and the engagement of participants in textile crafts. This workshop framework was planned around three main sessions: discuss the deck of cards, weave, then label activity outcomes (table 1). This structure enhances the learning experience as it brings together perspectives on real-life learning from educational tools, namely the cards produced by the researcher, the weaving creation, and the labels aimed at consumers.

Table 1. workshop framework

Time	Activities
1:00 pm – 1:30 pm	Opening and Cards session
1:30 pm – 2:30 pm	Weaving session
2:30 pm – 3:00 pm	Labels session and closing

The workshop was open to anyone who registered through Eventbrite, in order to observe general stakeholders' behaviours. The workshop framework was sent out to participants prior to the workshop, together with the information on research ethics with the consent form presented on arrival. The data collected in this research was conducted with ethical approval by Heriot-Watt University.

There were 14 participants involved in the workshop, yet there were 3 participants who missed the cards session as they arrived late. During the session, the participants were separated into three tables with groups largely of their own choosing. The members at each table had mixed backgrounds with textile interests. Many of the participants came with textile prior experience. Five members at the first table had more professional knowledge, including a costume designer, a retired professor in arts and design, a local with weaving experience, a photographer who now works in recruitment at the university, and a crafter who works as a receptionist at the museum. The second and the third table were largely local makers, with some being retired recreational makers, some owning a weaving loom without knowing how to use it, and some being knitters in a community group.

The deck of cards

To begin with, a brief explanation of the research background was proposed, including information that the consent form was required due to research ethics. Some participants seemed not happy initially but everyone eventually agreed to take part in the research. After that, a deck of cards was provided on each table to encourage the members to work together to arrange cards regarding the textile production processes. The results showed that the deck of cards enabled clear image recognition. The participants immediately understood the symbols on the cards without looking at the written context on the back. Only one participant looked at the back of the cards. The relevant experience supported the participants' confidence in card arrangement, with those from textiles backgrounds taking charge of arranging the cards. During this session, the cards allowed all participants to discuss and share ideas about the cards as an icebreaking activity of this workshop. Participants started talking and sharing knowledge from this stage onwards.

All participants arranged the cards into the correct order. Every group started by separating cards into piles related to material, to hand making and industrialised production. The members at the first table manipulated the deck of cards fastest and with only one minor error (Figure 9). The second group (Figure

10) arranged the cards slower and did not completely group some cards. However, the members could group the cards with the help of the wording on the back of the cards once the time was up. The third group separated the cards into categories by grouping similar processes together (Figure 11). They understood the difference between hand and industrial production. Different ways of breeding silkworms became a discussion topic during the card arrangement at this table, focusing on the different silkworm breeds that allow the moth to go out from the cocoon before the boiling process. The cards were found to encourage participants to share their own knowledge and prompt their inquisitiveness about those materials, engaging with one another and the researcher in the process.



Figure 9. Cards activity table1



Figure 10. Cards activity table2



Figure 11. Cards activity table3

After the end of the card sorting session, one group asked questions about who the deck of cards was aimed at. Once the researcher informed the workshop group that the cards were intended for university students, makers, and designers, the answer was accepted as making sense, with no further questions asked. The purpose of the cards was disseminated to all later, and this led to some participants scanning the QR code on the box to find out more information on the deck of cards. The researcher clarified the right positioning of the production processes to lead to the next session of practical weaving.

Weaving

The next activity was a weaving session that granted participants the opportunity to be part of textile creation. The session aimed to allow participants to encounter a deeper appreciation of and engagement with the heritage of weaving, by allowing head and hand to work together. The re-make workshop provided selvedge and yarns, and many participants brought their own materials. Freeform hands-on exploration was advocated. It created a comfortable environment that allowed people to explore various materials and weaving structures. Each piece of weaving in the workshop illustrated the participant's background and interests. The MSc graduated student wove with a twill structure and added texture to the weaving by tassels (Figure 12). She used her own flax fibre, from her own research, as a part of her creation. The skills were shared and encouraged other members' inventions. Figure 13 displays the tapestry technique produced by a retired local who has weaving experience. The retired professor in arts and design brought a discarded sock and transformed it into weave material. She was the only one in this workshop who brought post-consumer textile waste and used them in weaving (Figure 14). The activity brought out a tendency to pair the new workshop making experience with previous learning. With one male participant amongst 13 females participating in the workshop, there was some indication of remaining gender imbalances in woven textiles (Figure 15).



Figure 12. weaving from costume designer



Figure 13. participant's weaving: tapestry



Figure 14. participant's weaving: socks



Figure 15. participant's weaving: seldge

This workshop created a community of practice environment that encouraged social connections between people (Nevay et al., 2019). Group members actively shared their skills and ideas. Different styles of working could be observed at each table, with members who had prior weaving experiences teaching different weave structures to those in the group who had never woven before at the first table. Members enjoyed discussing and sharing ideas about the materials and their sources in the third table. In contrast, the second table members concentrated and enjoyed weaving independently.

The final stage comprised the activity of assigning labels.

Labels

In order to test the labels, participants were given a set and were asked to select the appropriate group of weaving activity under the theme of heritage, innovation, and the merger of inheritance and innovation. One side of the labels shows the symbol in each theme, and the other side displays the QR code that allows any stakeholders to access the website. The finding illustrated that most of the participants (no. 11) agreed in the same way that the activity was grouped into the combination between heritage and innovation: "hand weaving is heritage, but innovation is about technique and tools", "weave is heritage, innovation is in the laser cut frame, and people working in their unique ways" (anonymous, workshop, 2023). One participant responded that this activity was set as an innovation group as "I never weaved before; this activity is new for me". Two participants indicated that this activity was heritage. One of them is a knitter who contributes to public artwork in the museum, they stated "this is heritage for me as the weave is an old traditional way of creating fabric. It has no change for the century, all basic principles are still the same" (anonymous, workshop, 2023). Another participant chose heritage as she focused on inspiration from the Scottish landscape.



Figure 15. labels

At this point, there was no definitive right or wrong approach in this activity as it relies on individual participants' viewpoints. The objective of the labels activity section aims to examine and experiment with the symbols featured on the labels. These symbols serve as the means to guide participants towards the website for educational purposes.

4. Finding

The activities of the cards sequence, weaving practice, and label outcomes demonstrated how participants can be educated through materials' knowledge. The deck of cards supported communication and brainstorming on textile processes. The weaving encouraged participants to independently explore the materials and techniques, together with the enquiry of the label's theme, which allowed participants to realise the value of activities and production itself. They independently experimented on different materials, discussed the source and types of materials, and shared knowledge. New learning and social skills were gained during this time. In addition, the activities showed how the taxonomy was received by stakeholders and pointed out the insightful value of the taxonomies on the cards. The findings also stated the success of activities and served to the aims of safeguarding the textile value through these tools that educate and evoke participants' interest. These tools also provide an innovative approach for makers, designers, and consumers to understand the materials used in products. The deck of cards may primarily benefit makers and designers, while labels are directed towards consumers. Therefore, it showed its effectiveness in extending the traditional value of weaving to a broader group of people in this way (Greru & Kalkreuter, 2017). Such non specialist stakeholder engagement is relevant to safeguarding the cultural heritage of weaving and preserving heritage in the contemporary world more broadly.

In addition, research outside the studio led to a new direction of this doctoral research into design. In this case, upon completion of the workshop, the outcomes revealed the novel and significant aspect of well-being (Kenning, 2015). During the feedback at the end of the workshop, all participants responded with 100% Satisfaction. There is evidence that the activities may help to release stress as even members who seemed not happy at the beginning became really appreciative. One participant appeared to be particularly apprehensive at the beginning of the workshop; in contrast, she mentioned at the end of the workshop, "The activity was very creative, and I really enjoyed it. I thought that this workshop could be something related to well-being. As it helps me to relax and focus on the weaving process. I wish to

join any future workshop" (Anonymous, workshop, 2023). This workshop had a clear positive impact on increasing participants' well-being. With support by Nevay et al (2019) also highlighted their craft activities in textile-based workshop produced benefit of wellbeing. This indicated the challenges of design research beyond the studio, especially in the community, but also showed ways to overcome hesitancy in public engagement participants to formally commit to research. Beyond the immediate research remit, this public engagement created a social community that encourages them to concentrate and practice mindfulness.

In conclusion, this paper analysed participants' verbal and physical interaction in a weaving craft workshop outside of the studio and in public engagement, with elements of a design thinking approach to creation paired with human interaction. The 're-make' workshop was advertised as a weaving workshop and all participants had a textile interest. This recruitment has aspects of self-selected as participants brought relevant interests to the study. While only a small part of the workshop was about safeguarding heritage value in terms of practice, the research created various tools to approach a broader group of people, in this case, including consumers, with research into this academic field.

All activities became material-driven and allowed the participants, individuals and groups to explore the value through thinking and design in a novel way of innovative learning about the traditional value of fabric making. In order to test the deck of cards and cloth tags, the positive result of involving taxonomy tools and the value of practical craft making helped achieve a high level of public engagement around safeguarding of heritage value of weaving craft. Furthermore, the exploration outside of the studio provided broader opportunity outcomes, or thinking out of the box, as some new perspectives of how this study may lead to mindfulness and well-being improvement were garnered. Hence, this study illuminated both the benefits to extending the traditional value for learning about heritage futures as well as promoting well-being via deep, research tool-supported engagement with heritage. The longitudinal effects of the COVID-19 pandemic may be considered as a limitation as the workshop attracted relatively small numbers and was conducted just the once; as a result, this research cannot be considered conclusive but rather it offers a glimpse into the capabilities of PhD research taken beyond the studio.

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