Revealing Localised Design Practice in Thai hand weaving

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Abstract

This research project proposes the formation of “Localised Design Practice” as a new framework for working between Thai designers and Thai hand weavers. The overarching principle is that the disciplinary knowledge of design is localised and evolves according to what has been learnt from the local knowledge. This framework is directed to form long-lasting and mutually beneficial development projects for the designers and the weavers. The research project has emerged from a concern with the politics of knowledge in that the disciplinary knowledge of design is considerably more dominant than the local knowledge of hand weaving in current textiles design development projects in Thailand. This state of affairs poses the risk that local knowledge is suppressed and diminished by the act of design development.

This research project was realised through a hybrid methodology utilizing theoretical frameworks of critical ethnography and grounded theory with apprenticeship and making practices. The research activities were divided into two parts. The first part explored apprenticeship and learning Thai hand weaving within its contexts in Thailand. The second part aimed at the integration of the two forms of knowledge, research being conducted both in the UK and Thailand.

The research has identified that, although Thai hand weaving and design are fundamentally different, they share many qualities, hence knowledge integration is actually possible. Further research could test this framework to make changes in real settings, and to study the applicability of this framework in other contexts.

Table of Contents

Table of Illustrations

Chapter one

Chapter four

Chapter five

Appendices

Appendix A

Table of figures, diagrams and tables

Figures

Chapter five

Diagrams

Chapter three

Chapter four

Chapter five

Chapter seven

Chapter eight

Tables

Appendix B

Appendix F

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Author's declaration

During the period of registered study in which this thesis was prepared the author has not been registered for any other academic award or qualification. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.

Signature:

Wuthigrai Siriphon

Date: 28th November 2018

Chapter one

Introduction

This is research '*about, for and through'* design (Frayling, 1993) that focuses on the relationship between local knowledge of Thai hand weaving and disciplinary knowledge of design. It explores how the two forms of knowledge can be integrated successfully. The research involves apprenticeship, weaving and design within the theoretical platform of critical ethnography and grounded theory. It seeks a fruitful and dynamic integration of knowledge and practice of craft and design which can inform and initiate sustainable and dynamic design development projects in the future.

Thai textiles and development initiatives

Traditional hand weaving is an integral part of the cultural heritage of Thailand. Traditional textiles have been used in the royal courts, Buddhist temples, ceremonies and common households. Textiles have been used to express, identify and differentiate races, ethnicities, classes and identities of multiple groups of people in the history of the country (Thomas, 1993; Chudhavipata, 2012; Janpla et al. 2016; Wangyen, 2011; Sisaket Rajabhat University Research Group, 2011).

In more recent times, hand weaving has been commoditized and become a means of income for many families (Wannakit, 2015, Sritares, 2015). It has also been industrialized successfully by private companies, i.e. Jim Thompson. However, Thai hand weaving has faced a decline in demand and production due to the changes in lifestyles, livelihood and the availability of affordable industrially-made textiles and garments (Conway, 1992; Hussadin, 2016; Hintow, 2014).

Thai textiles have been supported, patronized and promoted by various organizations. Members of the Thai royal family have patronized Thai textiles development for many generations. In 1903, the Department of Silk Craftsmen (กรมช่างไหม) was established by King Chulalongkorn (who reigned from 1868-1910) (Silpakorn University, 2000a); this

department was a predecessor of now the Queen Sirikit Department of Sericulture (The Queen Sirikit Department of Sericulture, 2018). The late H.R.H. Princess Srinagarindra[1] founded and patronized the Doitung Development Project in 1988 which promoted many craft productions, including hand weaving, as an alternative to working on opium plantations (Bassett, 2010).

Her Majesty Queen Sirikit is considered the greatest patron of Thai textiles. She founded and has been the patron of the SUPPORT Foundation since 1976 (The SUPPORT Foundation of Her Majesty Queen Sirikit of Thailand, 2017). Handwoven textiles is the primary craft being promoted by the SUPPORT foundation (Paramanusit, 2017; Queen Sirikit Museum of Textiles, 2016). The Queen embodies her passion and dedication for Thai textiles by famously wearing garments made from Thai textiles by Thai and European designers at all public events (SACICT, 2017b).

Her Majesty the Queen has had various honours bestowed upon her in recognition of her life-long support: these include 'The Mother of Thai Silk' (พระมารดาแห่งไหมไทย) (The Prime Minister's Office, 2012a) and 'The Great Artist, Guardian of the Arts' (อัคราภิรักษศิลปิน) (The Prime Minister's Office 2012b; Ministry of Culture, 2016; Paramanusit, 2017). Her achievement has influenced many Thai textiles projects in terms of preservation, promotion and development (Community Development Department, 2017; Department of Cultural Promotion, 2016; The Government Public Relation Department, 2013a; The Office of Contemporary Art and Culture, 2016; 2017; SACICT, 2016).

Moreover, for at least thirty years, many initiatives have also been introduced by government departments and universities to preserve and develop traditional Thai hand weaving (Luangthongkum, 2016). These initiatives take many forms such as development projects (i.e. The Office of Contemporary Art and Culture, 2014; 2015), academic research (i.e. ; The Queen Sirikit Department of Sericulture and Faculty of Fine Arts, Srinakharinwirot University, 2014, 2015) or seminars and workshops

[1] Grandmother of the present king.

(Phayakprakhon, 2015). This has also been strengthened by the government policy to develop the Thai *Creative Economy* (Howkins, 2001; Chantaranamchoo, 2012) which has further been applied to vernacular textiles (Chokbandansuk et al., 2015; Srisuk et al., 2016; Nerngchamnong, 2017). A further list of government initiatives can be seen in Appendix E.

Thai nationals are encouraged to wear garments made of Thai textiles or of a traditional style. The Ministry of Culture promoted a policy whereby civil servants should wear Thai textiles once a week (Sarasuk, 2017; Thairath Online, 2017). For Thais, supporting and buying Thai craft products is seen as having associations with the activities of members of the royal family (Stengs, 2012).

Although several initiatives and projects have been introduced and claimed to be successful, the process by which the development is implemented may not be as intended. An anecdote below helps exemplify the situation.

Development initiative in practice: an anecdote

I was trained as a textile designer in a BFA course and worked for three years in a small-scale textile and fashion industry in Thailand, during which I had various opportunities to be involved in textile design development projects as an assistant instructor, instructor and designer. I firstly noticed at the time that there was a difference in the way that designs, mostly as a visualisation on papers, were interpreted differently by designers and local craftsmen. A similar situation was also noticed by Laistrooglai in her PhD thesis, conducted in Thailand in 2004. After some more projects, I noticed that there was also a difference in the modes of learning between designers, often formally trained to degree level, and local craftsmen, often informally trained by female members within families. The difference in the modes of learning in the formal and informal setting is also discussed by Lave in the research on tailoring apprenticeships in 2011.

In 2013, I was appointed to lead a two-day colour theory and application workshop, as head of a team of 4 instructors, for two groups of around 40 Thai hand weavers in Chaiyaphum province, in the northeast region of Thailand (pic 1). The workshop formed part of a local textile promotion scheme organized by the Department of Intellectual Property. The aim of the colour workshop was to train the weavers how to develop and improve the colour of their textiles for contemporary markets. Providing workshops for traditional weavers, including colour workshops, has been considered important for design development (Phakdeesuwan, 2010; Srisuk et al.,2016)

The one-day workshops followed the colour theory class I studied at BFA level. The participants were presented with the colour wheel (i.e. Carpenter, 1974), exemplified by that of Johannas Itten's (Itten, 2002, P.35; Feisner, 2000, p. 19) on a TV screen (pic. 1). Later, colour principles such as colour temperature and the monochromic scheme (Itten, 2002; Zelanski and Fisher, 1989; Fiesner, 2000) were introduced. The teaching comprised verbal explanation with slides on a screen followed by a painting exercise, where the participants were directed to mix and paint watercolour on paper chips and arrange these either in circles or rows according to the exercise (pic 2).

Picture 1. I gave a lecture on colour theory to a group of hand weavers in Chaiyaphum province, Thailand in 2013. Supawinee Charungkaittikul, 2013.

Picture 2. Works of the participants in colour theory and usage class, showing colour wheels and rows of colour in different schemes. Wuthigrai Siriphon, 2013.

At almost the end of the second day, I noticed that while some participants appeared to be at ease with learning, a considerable proportion of weavers did not appear to be completely comfortable with the tasks. A significant number of them were not quite sure which colours were to be mixed with which, or where to place the colour they had painted to complete the colour wheel; nor were they comfortable with using paint and brush. However, when I showed pictures of textiles, particularly Thai ikat[2] in corresponding colours to the specific scheme I was explaining, the weavers had a higher level of response, talking to each other and discussing how to create the same result.

I suspected that the way that I was explaining the theory was probably not as efficient as I had anticipated. I then decided to improvise a different demonstration. I used clear plastic cups, half-filled with water, and mixed a primary colour in each cup. I then held

[2] A weaving technique in which the yarns are tied and dyed in designated area before weaving. This technique is used in many cultures and countries. Thai ikat however feature a distinctive ornamental character (Chandracharoen, 2004; Conway, 1992, Luangthongkum, 2016).

them high at the front of the class and mixed the colour between the cups and dipped kitchen papers into the mix, to mimic what could have happened in dyeing, where dyes are mixed in vats and cloths dipped in this mixture. The weavers uttered 'ah' softly, and it appeared to me that they understood, better than previously. I continued that with some more similar demonstrations explaining colour schemes until the day ended.

Academic design development projects

The anecdote above, although being a specific experience, is typical of development initiatives where designers, or those who assume the role of designing, play an important role in applying a knowledge of design to improve traditional textiles, whilst local weavers become knowledge recipients (see also Appendix F).

Several academic research projects have been concerned with either developing textiles or products from traditional Thai textiles. These projects may aim at creating textiles through different approaches, such as to create textile arts (Chunthone, 2014) or textiles as materials (The Queen Sirikit Department of Sericulture and Faculty of Fine Arts, Srinakharinwirot University, 2014, 2015; Phakdeesuwan, 2010; Kussalanon, et al. 2014). Some projects develop textile and product prototypes from the textiles that have been developed from different textile techniques, i.e. ikat (Laistrooglai, 2004; Vichasilp, 2017), supplementary weft technique (Butla, 2017; Dawdean, 2010), printing (Saiyakit et al., 2015; Sutthiwong and Suwannawaj, 2016) and batik (resist dyed) (Chandhasa et al., 2010).

Research projects may also be aimed at product development using existing traditional textiles. The products can range from garments (Nopudomphan, 2016; Wangyen, 2011; Soodsung, 2016), bags and other wearable items (Chanhom, 2016; Janpla et al., 2016; Wisapan, 2017), home textiles (Suwakantagul et al., 2009; Sonprom et al., 2016) to souvenirs (Tangchantorn and Soodsang, 2011).

The politics of knowledge and the limited integration

The common thread that links the colour workshop described above and the development research projects is the separation of different types of knowledge and sense that one form of knowledge is of more importance than another (Pascale, 2010; Rata, 2012). It therefore has been argued that the politics of knowledge occurs in traditional textiles practice (Makovicky, 2010).

There have been discussions about the distinctions of the forms of knowledge i.e. between the disciplinary knowledge, scientific knowledge or modern knowledge and local knowledge (Geertz, 1983; Nygren 1999; Rata, 2012; Raymond et al., 2010). Disciplinary knowledge, according to Rata (2012), "is constituted according to its own procedures, systems, principles and codes … giving knowledge its own epistemological structure thereby separating it from social knowledge" (p. 105). Local and indigenous knowledge refers to "the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings" (UNESCO, n.d.). However, Raymond et al. (2010) argue that the division between these types of knowledge is difficult to determine because some elements share the same characteristics: in other words, scientific discovery requires human interpretation.

Having said that, this research project, following Rata (2012), takes the position that there is a clear distinction between local knowledge and disciplinary knowledge. Also, acknowledging the categories of knowledge is an "important first step of knowledge integration" (Raymond et al., 2010, p.1770).

The processes of design development in these design-led development projects are largely similar. The overall project starts with the background study of traditional textile practices. Then, new designs are generated by the research team. These designs may then be materialized by either the research teams, local craftsmen or, in some cases, those local craftsmen who were studied in the early stages of the research. Later, there may be a further stage, where the designs or prototypes are evaluated by experts or selected groups of potential customers (see Chapter three).

In the colour workshop, I, a young designer and lecturer, went to teach colour theory to more mature (minimally forty years old) and presumably experienced weavers. It was a situation when I, who had been thought of as possessing a disciplinary knowledge of design, went to teach what the funder assumed the weavers did not know, or did not know at an equivalent level. It was believed that the disciplinary knowledge of design had more value than local knowledge of hand weaving. Although I was relatively less experienced in weaving than the weavers, the disciplinary knowledge that I possessed had gained me a place as a teacher who was more authoritative, while the weavers were expected to assume the role of subordinate student.

In the research projects described above, the local knowledge of Thai hand weaving is studied by the researchers in the early stage of the research process. But in the later stages, the disciplinary knowledge of design becomes more prominent. At the point of design generation, the use of local knowledge of hand weaving is often limited to visual references to motifs, patterns, weaving technologies and techniques. Design methods in these projects are dominated by the disciplinary knowledge of design. The weavers are arguably in a passive position: informants in the early stage of the research; knowledge and technology recipients; or makers of prototypes and not engaged actively or creatively in innovating.

The weavers and designers are encouraged to work together and learn from each other (Yanpisit, 2013) and, in some cases, the design process has appeared to involved local craftsmen in creating design collaboratively, hence elevating the position of the local knowledge (Chullasthira, 2017; The Queen Sirikit Department of Sericulture and Faculty of Fine Arts, Srinakharinwirot University, 2014; Chanhom, 2016; Worasaeng et al., 2014). Yet, despite this, the separation of roles and knowledge is still distinct in most cases (see Appendix F).

The politics of knowledge and the limited integration of local knowledge may imply that the value of local knowledge of Thai hand weaving is being subverted, that is, the local knowledge may be seen as incompetent.

This research project recognizes the value of local knowledge of Thai hand weaving and the usefulness of knowledge integration (Raymond et al., 2010) within design practice. This research aims to investigate local knowledge and explore the ways in which local knowledge can be made more prominent in design development projects. It will therefore foster a "locally-appropriate sustainable development" (UNESCO, n.d.) in craft and design development initiatives. Rata (2012) contends that local knowledge is beneficial in engaging learners in lessons because they can relate the knowledge presented to their life experience and immediate environment. This means of integrating local knowledge into design practice will encourage engagement and a more equal relationship between designers and hand weavers, which, in turn, will open wider possibilities and raise the value of local knowledge in design contexts.

Research question

How can local knowledge of traditional Thai hand weaving be integrated successfully with the disciplinary knowledge of design practice?

Aims

1. To investigate and document local knowledge and learning of Thai traditional hand weaving
2. To explore how local knowledge of Thai hand weaving be integrated successfully with the disciplinary knowledge of design through a programme of practical activities.

Scope of the research

This is a qualitative design research PhD undertaken by practice, aiming at investigating local knowledge of Thai hand weaving and exploring a way to integrate it into the disciplinary knowledge of design practice. Terms are defined in the Glossary (p. 198) according to their applications within this research project.

The research activity has been divided into two parts. The first part was to learn and understand the local knowledge of Thai hand weaving, applying the ethnographic focus of master weaver Jampee Tamasiri, Ban Na Ta Pho village, Ban Rai district, Uthai Thani province in Thailand, with whom I enrolled as an apprentice between July 2016 and January 2017.

The second part focuses on integrating local knowledge learnt from the fieldwork with the disciplinary knowledge of design practice. This was sub-divided into two stages – a period of practice at the textile workshop at the Royal College of Art (RCA) in the UK, between January and July 2017 and the second period of fieldwork with the master weaver Tamasiri between September and November 2017. The structure of these two periods of fieldwork maximized the research activities in the field whilst also allowing time to reflect on the practice.

This research is concerned only with traditional, vernacular, Thai hand weaving. It excludes textiles traditionally made for, in the style of, and used in the royal courts because those textiles are governed by the rules and regulations set by those courts, which are significantly different from those in ethnic, provincial or vernacular traditions.

The technique of weaving in focus was supplementary weft, sometimes called extra weft (Shenton, 2014). This technique is used world-wide, most recognizably in Southeast Asia including Thailand (Maxwell 1990) (see Appendix C).

As this research has been concerned with two forms of knowledge, two geographical locations and the practices that occur in both places, it appears to present the issues in dual terms, such as: Thai academic research and European textile design method; Thai hand weaving and weaving at the RCA; and local knowledge and disciplinary knowledge. This research recognizes that the situation is more complex than presented. However, it employs generalization for the purpose of discussion. Relating to this, the reason that Thai weavers are positioned as being those associated with local knowledge, but not disciplinary knowledge of design, is not to disrespect Thai weavers - to say that they are not creative, nor that design activities occur only at the RCA. It is that Thai weavers in

general do not associate themselves with design disciplines, that is to say, they normally neither identify themselves as designers nor explain their creative process in relation to design or art theories.

Lastly, the reasons that the practical activities in research did not cover closely related cases, i.e. other hand weaving locations in Thailand, other Thai hand weaving techniques, textile crafts in the UK and the textiles industry in Thailand and the UK, has been in order to devote time and resources to the investigation of one location in great depth.

Outcomes

1. An investigation of local knowledge and learning in Thai hand weaving.
2. Initial thoughts on a way to integrate local knowledge of Thai hand weaving successfully with the disciplinary knowledge of design practice.
3. A collection of textiles made as part of the research activities.

Chapter two

Methodology

This is a qualitative design research PhD undertaken by practice. The research stems from concerns with the politics of knowledge and the lack of integration between local knowledge of Thai hand weaving and the disciplinary knowledge of design as seen in current and recent textile design development projects in Thailand. This research aims to explore how the local knowledge of traditional Thai hand weaving can be integrated with the disciplinary knowledge of design practice.

The structure of this thesis is a result of various iterations, that is to say, the initial plans and processes have been altered and negotiated various times during the research project while some elements have been dropped from the final thesis, for example, the weaving samples which led to initiating fieldwork and a weaving workshop with RCA staff and students that I led. The initial plan anticipated a search for three different sites of fieldwork but was reduced to one in order to dedicate time to investigate in-depth apprenticeship and weaving. The progress in apprenticeship was altered according to the relationship with the master weaver that developed through time. While these are important, they do not significantly contribute to the research findings. However, all the changes instigated were made in consultation with supervisors.

This chapter begins with the location of this research as design research and is then followed by methodology and subsequent practices.

Design research

The research is positioned in the field of design research (Frayling, 1993, Findeli et al., 2008) because the problem, the method of investigation and the aims of the research evolved around design and creative activities including:

- the problem emerged in a textile design development process,

- the investigation was undertaken through learning, apprenticeship and weaving practice,
- and the research outcomes were anticipated to be useful for those involved in future similar design development projects.

Design research has developed and evolved through time. According to Bayazit (2004), the attempts to systematize the process and rationalize design as a scientific discipline emerged as early as in the 1920s and became more prominent in the 1950s and 1960s. In the 1960s, Bruce Archer, who led the Department of Design Research at the RCA, attempted to define design as a scientific process. Later in fact, Archer's vision on design changed through his involvement in design projects, to seeing design as another distinct branch of knowledge equal to science and the humanities (Boyd Davis and Gristwood, 2017). In the 1970s, participatory design, which involved stakeholders giving and forming ideas in the early stage of design, was developed in Scandinavia, while user-centered design, which utilizes information that researchers gained from experienced users, was devised in the US (Sanders and Stappers, 2008; Iversen and Dindler, 2014). These were later developed to become the specialism known as co-design (Sanders, 2002; 2009; Sanders and Westerlund, 2011; Sanders and Stappers, 2008; Cruickshank and Paul Atkinson, 2014). This approach has been applied to many sub-disciplines including product development (Hussain et al, 2012), textile design (Ballie, 2012; 2014) and medical design (Heimdal and Rosenqvist, 2012). Recently, other design approaches have emerged, i.e. "service design" and "transformation design"(Sanders and Stappers, 2008, p. 10).

Design activities informed by the thinking processes of designers form one of the prominent concerns of design research. Cross (2001) proposes that the *Designerly Ways of Knowing* is distinctive from other disciplines such as science or art. Design thinking has been investigated and applied to other disciplines such as business and management. However, the definition of design thinking has not been conclusive (Kimbell, 2011). Philpott and Kane (2016) argue that different design disciplines,

including textiles, employ different ways of working and thinking. Moreover, *Design Thinking for Textiles* has been discussed by Valentine et al. (2017) who considered how the changes in the environment and technology may affect the values of textiles practice.

Among definitions of design research (Boyd Davis and Gristwood, 2017; Bayazit, 2004), Frayling (1993) offered three categories of design research, which is comparable to those contended by Archer (1995). Frayling's (1993) classification has been expanded by Findeli et al. (2008) who gives slightly different but generally compatible definitions.

- Research *into* and *about* design, in Frayling and Findeli et al. respectively, is conducted to understand and investigate designs by views and methods from many disciplines other than design, i.e. history or anthropology, in order to offer theoretical perspectives about design activities or artefacts.
- Research *for* design is to collect information in preparation for creating design works, to assure that the design processes are properly informed. Frayling, however, explains this differently as research "where the thinking is, so to speak, *embodied in the artefact"* (p.5) (italic in the original). That is, the research sees the knowledge embedded in objects rather than deconstructed into written form.
- Research *through* design is to utilize various design processes to offer better solutions, systems, artefacts or understandings. Findeli et al. term this approach "project-grounded research" among others, i.e. "project-based research" or "action research in design" (p.71-71) while Frayling explains this as a degree (MPhil and PhD) by project. Findeli et al. suggest that research through design could achieve both credibility and relevance to the design discipline that the other two approaches offer.

The current research project may be regarded as doing firstly, research *about* design in that it analyses the current state and processes of design activities; research *for* design in that it aims to inform design practice, and thirdly, research *through* design in that it utilizes a set of contextualised design activities in order to gain knowledge. Overall, this

research is design research *about, for and through* the relationship between Thai hand weaving and design practices.

Research methodology

The methodology used in this research are multidisciplinary, as is the nature of art and design research (Niedderer and Reilly, 2010); it is a hybrid of theoretical perspectives from those found in anthropology and design. The methodology is divided into two parts, corresponding to the two parts of the practices. The first part aimed to investigate the local knowledge of Thai hand weaving; the methodology was tailored from those concerned with local culture, craft of weaving, local knowledge and learning. The second part was focused on attempts to integrate the local knowledge with the disciplinary knowledge of design practice; the methodology emerged to correspond with the iterative and responsive nature of the activities.

During the research project, an approximate timeline of the practices was planned. This consisted of two periods of fieldwork with a period of practice at the RCA in between. However, the research programme was iterative and responsive, rather than being strictly predetermined. The exact details of each practice, i.e. the tasks and objectives, were decided on the basis of the progress of the apprenticeship, assessed by the master weaver and depended on the stage of the relationship between the master weaver and myself. For example, at the beginning of the first period of fieldwork, the master weaver was not convinced that I would be able to do, or have enough time to do, very complex weaving such as a full-size tube skirt. It was not until the fourth month that the master weaver agreed that I could do this, after seeing that I had learnt learn weaving quickly. A similar process of negotiation and alteration appeared in most stages of practice.

Also, the original aims and question of this research project have been altered and developed during the research journey. In the beginning, this research project focused on investigating how Thai hand weavers learn and create new motifs and patterns, using conventional ethnographic methods. The project evolved from a mere apprenticeship in

the beginning towards a collaborative approach between the master weaver and myself in creating hand woven textiles in the latter stages of the practice. The research aims and question were therefore reframed in response to such developments. The question then centred on investigating how a textile designer-researcher could learn from and work with a traditional Thai weaving master, hence integrating the disciplinary knowledge of design with the local knowledge of Thai hand weaving.

Practice Part one

The first part of the research aimed to investigate the local knowledge of Thai traditional hand weaving. It determined to deeply understand the weaving practice. The major component of the Practice part one is fieldwork research where traditional Thai hand weaving was learnt from a master weaver in Thailand and where the researcher enrolled as an apprentice.

Critical ethnography

Critical ethnography is the main theoretical platform for this stage of practice. Critical ethnography is a form of ethnographic study. “Critical ethnographers describe, analyze, and open to scrutiny otherwise hidden agendas, power centers, and assumptions that inhabit, repress and constrain” (Thomas, 1993 p. 2-3). Critical ethnography asks what the setting being studied could be, rather than describing how it is (Thomas, 1993). The researchers identify themselves as a part of the study and engage with the community and the people. In addition, the role of the researcher in the context in question is inevitably discussed (Madison, 2012), including examining how the identity and positionality of the researcher changes and evolves throughout the process of the research. Critical ethnography may also cover a process where the research recognizes social injustice or oppression (Dutta, 2014) and involves addressing ethical questions regarding gender, race, identity and privacy (Howard et al, 2016).

Critical ethnography is different from conventional ethnography (Thomas, 1993), sometimes called classical ethnography (Button, 2000). The two methods are similar in

that they are studies of culture by means of deep immersion within a particular setting. But the goal of conventional ethnography is only to examine, investigate and represent the culture as is (Dutta, 2014), rather than identify shortcomings. Conventional ethnographic monographs tend to neglect the presence of the researcher.

Critical ethnography may also become forms of action research (Dick, 2014; Stringer, 2014), an approach where the researcher overtly intervenes during the study with the intention of improving the situation of the lives of the participants. Much critical design ethnography (Barab et al, 2004) fits this definition, as the researchers aim to use their findings to inform the process of design interventions in the setting being studied. For this research, the purpose has been to inform the current system to work better, but has not extended to making a change in the context being studied at this moment in time, hence this research cannot be considered action research nor critical design ethnography.

This research project fits into the critical ethnography category because it acknowledges the difference between textile designers and weavers in terms of social status, economic power, political influence and access to bureaucratic hierarchies. Because I am working with weavers as an apprentice, and by adopting their practices in making design decisions, I am implicitly asserting that their practices are of equal value to that of academically trained designers. These differences provide crucial background to the project. The aim of my project has not simply been to understand the contemporary textile production culture in Thailand and for this reason, it cannot be labelled as conventional ethnography but rather, critical ethnography.

To locate the master weaver who would be the main respondent, I sought advice from an expert in the field of Thai textile development, Phraeva Rujinarong, then a civil servant holding the post of a designer in the Queen Sirikit Department of Sericulture. She responded by offering a list of master weavers that fitted the specifications. However, she specifically suggested master Tamasiri, whom she had met before. The master weaver Tamasiri was chosen because she is as much a typical exemplar of

traditional Thai weaver as she is individually excellent, that is, a part of her practice is typical of that of Lao-Khrang (ลาวครั่ง), an ethnic group living in Thailand to a great extent. To a lesser extent, the practice of Lao-Khrang share distinctive characters to that of Tai-Lao, those living in the northeast and parts of central region (see Chapter five). Further, these practices in Lao-Khrang and Tai-Lao also share some fundamental characteristics with those of other ethnicities in Thailand, namely, the types of loom, techniques, materials, use of textiles, motifs and markets (Conway, 1992; The Bank of Thailand Museum, 2015; Silpakorn University, 2000b; 2001).

To support the decisions, pictures and videos of works of the master were sent to me and I was very impressed. I decided it would be beneficial to carry out fieldwork with her and asked Miss Rujinarong to confer with the master if she would welcome me. The master weaver agreed (8th June 2016).

Apprenticeship

Currently, knowledge that is situated within practice and that can only be learnt by bodily experience and the social processes crucial for hand weaving (Venkatesan, 2010) is currently not presented in literature in Thai textiles (see Chapter Three). This state of affairs resonates with the concept of cultural knowledge contended by Dilley (1999 after Ceuppens, 1995) that “much cultural knowledge cannot be verbalized but is mediated though embodied action” (p.35). This is also paralleled in Spradley (1980) who has conceptualised two types of cultural knowledge: one is “explicit cultural knowledge” (p. 11) – a type of knowledge that can be explicitly explained by means of verbal or written form; another is “tacit cultural knowledge” (p. 8) – a type of knowledge that cannot be verbalized or written, covering person-to-person interaction, acts and feelings. Polanyi (1966) explains tacit knowledge as “a knowledge that we cannot tell.” (p .5). However, Ingold (2013), in response to Polanyi (1966), argues that “we *can* tell of what we know though practice and experience” (p.109, italics in the original). Tacit knowledge has been identified as intrinsic to craft practice (Dormer, 1997c; Igoe, 2010), as in art and design research (Niedderer and Reilly, 2010).

In order to access the knowledge of Thai hand weaving fully, direct interaction with the process and the craft practitioners offers a way to access the cultural knowledge of the practice. Dormer (1997c) contends that “in craft, knowledge is also distributed but through people alone” (p. 149) and “the actual business of learning is usually best done by face-to-face teaching or apprenticeship” (p. 147). This is in line with Coy (1989) who contends that “apprenticeship is employed where there is implicit knowledge to be acquired through long-term observation and experience” (p.xi-xii).

Within the theoretical platform of critical ethnography, apprenticeship was a role that I adopted in order to engage with the weavers and understand their local knowledge. Apprentice-style learning (Coy, 1989) has been used to investigate culture and craft practices, i.e. woodwork, ceramics and textiles (Singleton, 1989; Marchand, 2010a; 2010b; Dilley, 1999; Venkatesan, 2010). Coy (1989) has contended that apprentice is a good role to adopt in a workshop as it is at the centre of learning and it causes minimal effects on the environment. Apprenticeship allows the researcher to be in the work environment and study people, cultures and activities from the position of being a member of the place. Lave (2011), who has studied the apprenticeship of tailors, has argued that apprenticeship is as an effective mode of learning as that in the formal educational form.

Although the process of apprenticeship entails being at the center of conversation and learning, the professional position of the apprentice starts from the periphery. From that position, the apprentice needs to improve the skills and ability in order to change position from the periphery to the centre of the “community of practice” (Lave and Wenger, 1991), in this case, the community of weaving practice. This process is explained by Lave and Wenger as “*Legitimate Peripheral Participation (LPP*)” (Lave and Wenger, 1991). The participant, in this case, apprentice, is not only moving position within the community of practice but also learning the “culture of practice” (Lave and Wenger, 1991, p.95), that is, the culture that evolves around and “constitute[s] the practice of the community”.

Apprenticeship and critical ethnography both involve engaging deeply with the other and learning from them, although with different kinds of relationship and purposes, namely, teacher-learner or respondent-researcher. Relating to this, Lave (2011) contends that apprenticeship entails a "long process" and "changing practice" (p. 1) which share a character of critical ethnography. For this research, critical ethnography and apprenticeship are intertwined.

Making

A major learning activity of an apprentice is to make. Making is a way of learning and knowing. Marchand (2010a; 2010b) argues that activities of making can be studied at micro-level to gain understanding. Gordon (2002) has proposed that making is a way to understand textiles inside-out, offering a way to understand the logic of textiles. This is in line with Lehmann (2012) who also argues that making textiles can be a way to connect technical knowledge and theoretical understanding. Mäkelä (2007) offers a supporting view that not only the making activity but also the objects that have been made can create knowledge when analysed through theoretical knowledge.

The intrinsic relationship between making and knowing, in other words, *hand* and *head,* has been discussed by Frayling (1996; 2011) and Sennett (2008), and is paralleled with that between body and mind asserted by Marchand (2008). Sennett (2008) contends that "a dialogue between concrete practices and thinking" (p.9) occurs in every accomplished craft practitioner. Frayling (1996) discusses the importance of making by hand in relation to head, namely, rules and structure, in design education in the late nineteenth century Britain (see Chapter four).

The connection between making, directly interacting with physical textiles, and thinking has been identified as "*textile thinking*" (Pajaczkowska, 2016; Philpott and Kane, 2016). Pajaczkowska (2016) contends that "an embodied relationship with materials, characteristic of making, has the effect of activating specific kinds of thinking" (p. 79) and offers weaving as one of the ways to stimulate thinking and knowing. Philpott and Kane (2016), building on the design thinking, refine *textile thinking* as that which

"revolve[s] around an embodied knowledge of material, suggesting the 'material' component of design, in its broadest sense." (p. 236, emphasis in original).

The main making activity in the fieldwork as an apprentice is weaving, which is mostly the daily activity. Weaving is the centre of the activities where creating complete functional textiles are set as the goal for each stage in the learning process. Apart from weaving, interacting with other members of the weaving space and participating in local festivals and ceremonies are crucial. Venkatesan (2010) contends that learning skill is achieved as a part of learning social knowledge. Hence, learning about the social and cultural value of the local setting is fundamental.

Positionality

Positionality (Madison, 2012) is an integral part of critical ethnography, where the life experience, privileges and perspectives of the researchers must be acknowledged. It is considered that, because the researcher is in the cultural setting, it is inevitable that the researcher is also positioned and becomes a part of the community and plays a role in it. Positionality must be recognized as a part of the research, together with its implications for conducting the research project on Thai hand woven textile and design research knowledge and practices.

My position was a combination of three roles: a researcher, an apprentice and a designer. A researcher in that I conducted the research with an aim to collect, analyse and interpret data, then presented that data to the academic community as a PhD thesis. An apprentice in that I enrolled as an apprentice to the master weaver, committed to learning the craft of Thai hand weaving. A designer in that I was trained and had worked as a designer in the industry before the research project and I assumed a position as a designer in a part of the practice.

There have been similar approaches from research in design and anthropology. Being researcher and designer is often a role in design research (Chunthone, 2014; Hijosa, 2015; Laistrooglai, 2004; Tandler, 2016) while being a researcher and apprentice has

been an established method in anthropology (Makovicky, 2010; Marchand, 2008; 2010a; Venkatesan, 2010). However being a researcher-apprentice-designer placed my position as one in between, which presented certain practical and ethical issues.

One implication was that I, as designer, would be expected to create and innovate products and services, which often appeared as an intervention. Being an apprentice, on the other hand, implied that I should follow the master weaver and what she said and instructed; not to intervene. These contradictory roles presented a challenge in how they could balance and not contradict each other. I, however, managed this by separating the research into different stages, each stage focusing on a different combination of roles and positions.

In relation to the local community, my position in the fieldwork was as "insider and outsider"[3] (Howard et al, 2016 p. 333) in terms of nationality, profession, educational and cultural background. I was an insider in that I am a Thai national who speaks a similar Lao dialect to my respondents. I also had a background that included practical experience in weaving. But at the same time, I was an outsider in that I was not a member of the village and I came from a privileged educational and professional background. I was a university lecturer in textiles and held an MA in Textiles from the RCA. I approached the respondent as a PhD student from the UK, funded by the Thai royal family foundation.

In order to integrate with my respondents, I attempted to reduce the gap of social status as far as possible. For example, I rented accommodation that the master weavers recommended as a way to express respect and a social relation that was less authoritative. However, I was not covert to the community of the weavers. Over the period of the first three months, regular respondents fully knew who I was, why I had come to the village, what I was doing and what I would do with the findings.

[3] The phrase 'insider and outsider' might refer to the role in participant observation where the researcher is participating in the activities (insider) and observes the activities and people participating, including himself (outsider) often simultaneously. (Spradley, 1980, pp. 56-60).

There were, however, indications that in some respects they imbued the status, my difference and privilege. For example, one weaver in the weaving space sometimes called me *achan* (อาจารย์), which in Thai is a respectful term for a teacher. I was asked to accompany the master to an international award ceremony in Bangkok in the first few weeks in the fieldwork because I was used to being in formal events and I could communicate in English. I was also financially independent, unlike the others who worked for the master in exchange for financial return.

In terms of becoming an apprentice, however, I was able to integrate sufficiently to be taken seriously by the master weaver and for her to treat me as she would other pupils.

There was a limitation, however, namely that the knowledge learnt in the fieldwork and apprenticeship would not be exactly identical to what the local weavers understood. Learners of the same craft but for different purposes, e.g. local weavers and developers, can end up with different understanding (Venkatesan, 2010). In addition, before enrolling for weaving with the master weaver, I was already familiar with hand weaving and had a basic knowledge of Thai weaving in general. This prior knowledge would inevitably influence the way I learned and understand weaving. While conducting fieldwork, I must be aware of how certain social and cultural values were preferred and how the experience was interpreted, in other words, whose version of information was presented (Pole and Hillyard, 2016).There was no intention, however, to assume that the observation and data collected was from a naïve perspective (Herbert, 2000; Medawar, 1999).

Practice part two

The aim of the Practice part two was to explore the ways in which the local knowledge of Thai hand weaving could be integrated with the disciplinary knowledge of design. The methods in this part were tailored to using a combination of design practice and weaving from the theoretical platform of grounded theory. Several theoretical perspectives informed this part including Schön's (1983), "reflection-in-action" (p. 49), which contends that the ways professionals think in action create knowledge, as well as the

relationship between making and knowing contended by Marchand (2008; 2010a; 2010b); Gordon (2002); Lehmann (2012) and Mäkelä (2007). This part of the research practice took the position that the process of making can lead to knowledge generation.

The activities in the Practice part two were composed of design process in conjunction with weaving practice which have been reflected, analyzed and interpreted in order to understand the character of the knowledge integration. The design process was constructed through different stages including project outline, research, idea generation, design development and presentation (see Chapter four) while the weaving practice was framed by the approaches and skills that were learnt and practised with the master weaver and from my formal training.

The Practice part two is sub-divided into two stages. The first stage saw a period of weaving practice at the Textiles workshop at the RCA. The location of this stage of practice at the RCA was at the Textiles workshop of the college where facilities and equipment were provided, also with technical support by the dedicated technicians. This was where the knowledge of Thai hand weaving learnt in the first period of fieldwork was reviewed, analysed, selected and integrated with the disciplinary knowledge of design in the process of creating textiles. The process of the research activities were recorded in written, material and photographic forms. The practice produced a collection of textiles artefacts which were also analysed and reflected upon. The design practice at this stage was individually-led, hence the decisions were without consultation with, or supervision of, the master weaver. However, consultation about the process did take place with the research supervisors, tutors and technicians at the college.

The second stage was conceived as the second period of fieldwork conducted at the same weaving space of master weaver Tamasiri. It also aimed at exploring ways to integrate the disciplinary knowledge of design with the local knowledge of design practice. However, at this stage, the practice was located where the local knowledge was dominant, as opposed to the previous stage. This was where the knowledge of the previous practices, apprenticeship and weaving practice at the RCA, culminated to

become the foundation of the weaving activities. These textiles made at the RCA were used as a starting point of conversation with the master weaver to initiate ideas for the creation of another piece of textiles. I myself initiated this second period of fieldwork, instead of following the master's direction, and I directed the design of the textiles while the master weaver supervised and minimally assisted with the making process.

My position in the Practice part two was different from that in the part one. My position in the Practice part two was as an independent designer and as a quasi-weaver. When engaged in weaving practice at the RCA, I conducted the research as a textile designer in a setting that I led and executed the process without being an apprentice to the master weaver. In the second period of fieldwork, working in the weaving space of the master weaver, my position was, however, not as an apprentice but as a quasi-weaver, that is, I was still regarded as her student but the relationship was not one of only following her instruction. At this stage, I initiated and led the project while the master supervised. Also, I had already become familiar with the local setting as the local weavers were with me. The position at this stage was of a more advanced learner than that in the first period of fieldwork.

Grounded theory

The weaving and design activities in the Practice part two are positioned on a theoretical platform of grounded theory, rather than tools and methods. Grounded theory is a way to *generate* theory from data instead of trying to *test* theory by means of applied research. In grounded theory, the researcher uses the process of concurrent data collection and analysis which then informs the theoretical samplings. The data and analysis from the sampling informs the next sampling. The analysis of the data is coded, categorized and theorized. These processes are conducted iteratively and recursively (Birks and Mills, 2015; Mills et al, 2014). The theory generated from the research is 'grounded' in the data collected.

Key texts that have informed this research, particularly the use of ethnography and grounded theory include *Ethnography and Craft Knowledge* by Atkinson (2013) which

examines the use of grounded theory in ethnography and *Ethnography and Grounded Theory* by Pettigrew (2000) which discusses the compatibility of both methods.

The weaving and design practices in the Practice part two have been identified as compatible with grounded theory because each piece of work produced was as a result of the analysis of the previous pieces of work produced. Although, at the beginning of the research project, I had certain plans in mind, the progress from one practice of weaving to another depended almost totally on each stage of practice. The textiles were made, not collected. The practices informed the direction of the projects rather than being significantly predetermined.

In the Practice part two, five pieces of work were produced. The methods that defined the weaving and design activities in each piece are as follows. The first piece aimed to recreate traditional motifs and patterns in a different arrangement and with different colours. The second piece, in consultation with the research supervisor, aimed at creating textiles with the anticipation that the master weaver would appreciate it, that is, creating textiles with traditional patterns and traditional placement, although with different materials and colours. With the third piece, the aim shifted to responding to the technological capability of the loom available in the RCA Textiles workshop which was able to create complex woven structures by computer assistance. The fourth piece, after considering all the previous pieces that had been produced, attempted to improve the quality of the drape and weight of the cloth while utilizing the loom capability to create traditional motifs via a computer-controlled mechanism.

In the second period of fieldwork, the practice was re-located to the weaving space of the master weaver Tamasiri. At this stage, the woven textiles that had been created in the previous practices were presented to the master. One of the works was used to initiate the ideas for weaving that were to be created, in other words, the previous works contained information about how the motifs and patterns could be altered and arranged in a non-traditional approach.

Research tools and evidence

The tools used in the research activity to generate and collect data included hand woven textiles, fieldnotes, and digital photographs. Evidence was collected, including notebooks, photocopies of a visitor book; another visitor book specially written by students who had come to learn with the master weaver; another photocopy of a book that displayed all the awards that the master had received; leaflets, and some textiles made by the master and local weavers.

Research ethics

Location and interaction

Having three roles in one research project brought up some ethical issues. In relation to the traditional craft of Thai hand weaving, much care had been taken in order to ensure that the craft had been respectfully studied and any intervention was carefully evaluated to make sure that the research activity did not negatively affect the local culture and community. Presentation and interpretation of the craft had been done with much care, to offer a fair representation of the craft and people involved. In relation to design, any non-traditional approach was introduced carefully, in consultation with the master weaver. In relation to critical ethnography, I considered, firstly, how my presence affected the context being studied and, secondly, how my position, views, and personal understanding of the context had changed.

This research project involved direct interactions with respondents, namely weavers, in their environment. Master weaver Jampee Tamasiri was the primary respondent in the research fieldwork. The role of the researcher as an apprentice required a close relationship with the master weaver and regular attendance of the weaving space, which was also the master's own house. The relationship between the researcher and master weaver developed through time. Ethics relating to conducting research with another person in a close relationship was considered (Ellis, 2007; Tillmann, 2015). Also, related literature on apprenticeship and craft learning provided examples of how this research

could be approached (Moeran 1984; Lave, 2011; Coy, 1989; Singleton, 1989; Venkatesan, 2010; Makovicky, 2010)

The main respondent has completed a consent form (see Appendix G) and she was fully informed of the purpose and the conduct of the research. Other weavers in the weaving space, in the community of Ban Rai, and other members of the community were occasional respondents in the fieldwork. They were all approached by the master who introduced me to all of them, giving them a sense of trust and explaining through appropriate communication. Relating to this, the master weaver requested that she should be given a copy of the thesis, expecting it to be accessible for the visitors after the completion of study, which has been agreed. Considering that she will see the thesis, and the fact that there are people around her that are able to understand and translate English texts, much care is taken to produce the thesis in a respectful manner.

The research abides by the RCA Code of Practice for Research Ethics and follows Ethical Guidelines for Good Research Practice, published by Association of Social Anthropologists of the UK and the Commonwealth (ASA).

This research is fully-funded by Anandamahidol Foundation, a well-established institution found by the late King Bhumibol Adulyadej and has been patronised by HRH Princess Maha Chakri Sirindhorn of Thailand. The Foundation is well-known among Thais. Its activities that involve attendance of the royal patron are featured in the Thai royal news, which is broadcast daily. The Foundation contributes a dedicated weekly TV program, providing knowledge for the public by the scholarship recipients. Both the royal news and the TV programs are on national channels. It is presumed that the respondents and the locals are aware of the Foundation. The Foundation implicitly expects ethical conduct of the researcher in the broadest sense. Also, presumably, the locals expect good conduct from the researcher, given that the foundation has such a high status.

The master weaver is regularly in contact with academic researchers although her formal education is at primary school level. She used to teach in and has received an Honorary

Bachelor's Degree from Nakhon Sawan Rajabhat University, among many other awards and recognitions from other organizations. She was an informant in Professor Luangthongkum's (2016) research; her works and herself appeared in many pages. She was working with a Thai PhD student before my research. It is reasonable to believe that she is well aware of what academic research entails and is not vulnerable to being exploited.

Payment arrangement

Most Thai weavers learn from female relatives with, as far as related literature concerned, no monetary exchange (see also Chapter three). The fact that I am not related to the master weaver create a responsibility that I should, at very least, cover the apparent cost occurred during the apprenticeship.

In discussion with the primary supervisor, an amount of money was arranged for the master weaver, covering the cost of materials, the use of tools, the use of space and maintenance. However, the master weaver did not insist on receiving monetary exchange for the time spent. She generously suggested that no payment should be made if one had a difficult circumstance; this was the case for one of her apprentices I witnessed in the fieldwork. The master regularly teaches for little or no payment as a form of social and cultural contribution to her community.

Although the exact amount paid was proposed by the master weaver, considering also that I was fully funded, it should be noted that the amount of money was minimal, proportionally much less than the national wage or general salary of a non-specialist. Also, considering the amount of time, materials, and dedication of the master weaver to the research project, it was reasonably justifiable that this arrangement was far from potential monetary exploitation by any party.

Chapter three

Weaving in Thailand: hand weaving, design development research and textile design education

This chapter reviews the relevant knowledge in traditional hand weaving, academic research on design development and formal textiles design education in Thailand, which helps to contextualize the research context.

Teaching and learning hand weaving in Thailand

Teaching and learning hand weaving in Thailand can be seen as a type of cultural transmission (Bloch, 2005; Kline et al, 2013; Jordan and Shennan, 2003), the "ways in which cultural information is transmitted between individuals" (Claidiere and Andre, 2012, p. 12). This may be in a kin-based relationship, leaning from experts or class-based in formal schools.

There have been several publications that examine the cultural importance of learning hand weaving as well as the process of knowledge transfer in Thai hand weaving communities. Conway (1992), Luangthongkum (2016), Pantulee (2017a) and Hongsuwan and Wongkaeo (2016) explain that hand weaving is learnt and taught within families by female relatives, e.g. older members teach the younger. Hand weaving is traditionally a process of socialization (Hussadin, 2016), that is, hand weaving is an activity that forms the value of a person in a society. It has been explained that in the past if a girl did not know how to weave, she would not be considered ready or suitable to be married (Sritares, 2015). In other countries such as Venezuela, Columbia and India, weaving is also strongly related to social position (Watson-Franke, 1974; Venkatesan, 2010). Thasata et al. (2017) explain that weaving skills are learnt through demonstration, practical works and verbal communication, all of which develop through time. Phayakprakhon et al. (2017) further explain that learning stages involve a shift from using weaving simple motifs to developing more complex ones.

As well as learning in a kin-based relationship, learning Thai hand weaving also occurs in other arrangements. Phayakprakhon's study in 2015 contended that the settings for learning hand weaving has shifted from learning from relatives to more formal training e.g. via seminar and workshops. In addition, Sapathong et al.'s study in 2016 uncovered that today, learning is organised in school and weaving centres. Learning and teaching between the master weavers and non-kin students has been encouraged as a way to preserve and continue the craft of hand weaving (Kaewmongkol and Kittilap, 2016; Janjam et al., 2014; Topanurakkun and Paiwithayasiritham, 2016; Hintow, 2014).

Thai weavers generally do not record their processes of working in written forms but in the finished, functional piece of textiles or garments. Conway (1992, p.43) explains that "patterns for weaving are not written down but passed on by example from one generation to the next. If the pattern is complex, then samplers may be kept as a reference." The motifs and patterns are arranged fully as complete and functional textiles, mostly repeated motifs and patterns in a band or all over arrangement. Marchand (2008) finds a similar situation in the building of a minaret in Yemen where masons use direct interaction with "making" (p. 248) to conceptualize form and space.

Exceptionally, however, ethnic Pu-thai (ภูไท) weavers (Boontiang, 2016; Sritares, 2015) and ethnic Tai-Yor (ไทยอ้อ) weavers (Phuphiwkok, 2015), who both live in the northeast region in Thailand, record the motifs in purposefully-woven, dedicated textiles that record their motifs and patterns, called *pa saew* (ผ้าแส่ว). Motifs and pattern displayed on *pa saew* textiles have been deconstructed and arranged as singular units. These textiles served as a specialised memory tool without any direct functional purpose. *Pa saew* are passed down between generations, and they can be newly woven to add new motifs and patterns. The reason why Pu-thai and Tai-Yor weavers create specialised textiles for recording pattern, while all other Thai weaving ethnicities do not, is not clear. Differences in the modes of cultural transmission in adjacent geographical locations has also been observed in other cultural contexts (e.g. Jordan and Shennan, 2002). However, this is an area of research that remains outside this project.

In contrast to general Thai weaving practice, there are some highly successful independent weavers and masters who keep personal records of their creative process in creating new motifs, patterns and visual composition for Thai hand woven textiles (Mala, 2016a; 2016b; Kitsaon, 2015). Master weaver Preechakiat Boonyakiat uses a computer to record and develop new patterns for brocade textiles (Pantulee, 2017b) while master weaver Khamsorn Srathong, a nationally acclaimed artist, claims that she invented the method of recording patterns in the form of dots on graph paper in 1999 and it was later adopted by many other weavers (Kangwan, 2017).

In contrast to Thai weavers, depicting traditional motifs and patterns on graph paper as a notation system[4] is a way that many Thai scholars use to record and translate woven motifs and patterns to graphic representation (for example Boontiang, 2015; Narkphong, 1993; Singin, 2012). Design research projects also use such graphic representation in developing designs intended to communicate with traditional weavers (for example, The Queen Sirikit Department of Sericulture and Faculty of Fine Arts, Srinakharinwirot University, 2014; 2015).

The fact that Thai weavers generally do not record their motifs and patterns or development process has restricted understanding of the creative process of Thai hand weaving. Literature mainly utilizes information from the observable, verbalized processes of weaving and the finished textiles (for example, Wannamat, 1991; Conway, 1992; Luangthongkam, 2016) rather than the authors being directly involved in actually making where the creative process occurs, using embodied (Ignatow, 2007) and tacit knowledge (Polanyi, 1966). Also, Thai hand weavers have not published from a practical or theoretical perspective that could offer knowledge written of the craft “from the inside” (see Frayling, 2011, p. 23). This situation is consistent with an argument that

[4] The notation system commonly used by Thai designers for Thai textiles is different from those used by designers in the textile industry (i.e. Straub, 1997; Shenton, 2014). Thai designers use notation to depict only decorative patterns, with neither specification on structure nor background. In contrast, industrial design in textiles uses a notation system that depicts every single yarn and structure, including decoration and background. However, the similarity is that both use grids and fill the spaces with binary code e.g. filled space and empty space.

there is a great deal written in material culture about the relationship between finished artefacts and humans but not about the process of becoming and making (Hallam and Ingold, 2014). As a result, the creative process and relationship between thinking and making in Thai textiles is not currently investigated at length. However, it is worth noting that Findly (2014) offers a window into the creative process in hand weaving, giving a detailed account of 'design process' (pp. 83-93) in Lao textile which has a strong relationship with the hand weaving of Tai-Lao in Thailand (see Chapter five). This includes abbreviation, abstraction and minimization as well as detailed structures of motifs whereby their meaning is defined.

Design process in development research in Thailand

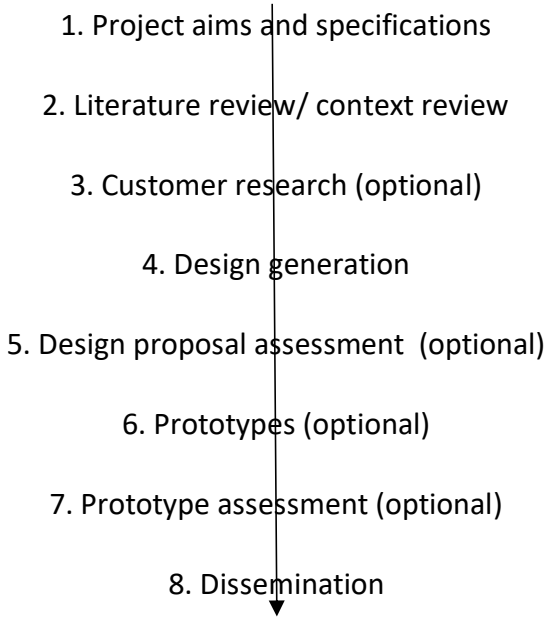


Diagram 1. A summary of the process used in design development research in Thailand. Wuthigrai Siriphon, 2018.

The design processes used in the design development projects in Thailand are varied in their detail, however the general structure of the design processes are similar. The diagram above presents a summary of the design process used in the design development research projects. The diagram structure is derived and simplified from those found in selected literature such as those by Keativipak (2016), Sonprom et al. (2016) and Chandhasa et al., (2010). The list of published research projects with a

summary of the analysis of roles of researchers and local craftsmen as well as research tools can be seen in Appendix F.

The first stage of the design process is to specify the areas to which the research will attend; the scope of the research may focus on one or more weaving techniques, an ethnicity or a geographical area, i.e. district. Then, the aims and the outcomes of the research are specified in terms of design, such as the kinds of design products, fashion items or textiles materials (see Chapter one).

The second stage is to study the context, namely the textile culture of the areas in focus and the related knowledge of design and development. Examples of methods used in these stages are literature review, interview, observation, and participatory observation. In terms of the textile culture, these researchers study textiles, their meanings and cultural significance and the weaving process. They also study motifs and patterns for their visual aesthetic.

While motifs and patterns can be studied as they are within a textile medium (Wangyen, 2011; Butla, 2017), some projects study, deconstruct and transfer them into graphic forms on paper or screen as visual representations i.e. notations. An example of the latter approach is research on designing printed textiles using motifs derived from traditional Thai woven textiles by Sutthiwong and Suwannawaj (2016). The research studies the traditional motifs and patterns and transfers them into computer software in the form of black-and-white graphic representations, which are later used as materials for print designs. Another similar approach can be found from a research project by Dawdean (2010) who deconstructed traditional motifs and patterns first and then produced a set of table cloths and placemats displaying those motifs and patterns.

The third stage is customer research, which is optional, that is, learning about the customers' characters and behavior; the demography, preferred functions of products, total spent per purchase and style preference. An example of this process is from the research by Siyakit et al. (2015) who found that the customers in Khon Kaen province are mainly female, 40-49 years-old, and have obtained at least graduate degrees,

earning a salary between 20,001 and 30,000 THB. They spend at least 1,001 THB per visit and buy products for personal use. Additionally, the products the customers want to see in the shops are garments and textiles.

The fourth stage is design generation. There are two main methods adopted at this stage – firstly, to adopt the theories, e.g. the elements of art, composition and product design process, and secondly, to design products according to the information from the customer research; both of which may also inform each other. The first method of designing is to utilize the theory of elements of art, e.g. point, line, shape and form, colour, space, texture and value, as well as that of composition in visual art, e.g. harmony, balance and unity (Itten, 1964; Ball and Ruben, 2004). Applying the minimalized Thai motifs in textile design is common (Yanpisit, 2013; Laistrooglai, 2004). Tools that are used in this stage are mainly for visualization e.g. drawings, illustrations, and graphic representation of motifs and patterns. One example of applying the theory of the elements of art is a research project by Sarasuk (2017), who has designed bags from scraps of traditional textiles from garment productions. The research adopts colour theory, e.g. colour temperature and saturation, which is used to divide the scrap textiles into groups. Then the sorted textiles are matched with those of other tones in designated ratios. Other examples are garment designs from Thai textiles by Chudhavipata (2012) and ikat textile design by Phakdeesuwan (2010).

An alternative element is to design products or fashion items following the results of market research at an earlier stage. That is, to follow the perspective that designs should answer the needs of the customer according to customer research. One example of this approach is a research project by Srisuk et al. (2016), in which fashion and household items were designed from hand woven textiles. The research has found that the customers demand variety of the products, modern designs and additions of elements that convey local cultural identity in garments and household items. The researchers then designed products to meet those demands. Another body of research that followed a similar approach is by Janpla et al. (2016). There the outcome was that cushions, tissue

paper boxes and women's handbags were found to be the top three products that the potential customers desire.

The fifth, sixth and seventh stages are optional and appeared distinct in each of the projects. This is because some projects present designs as illustrations while others produce both illustration and prototypes. The illustration and/or prototypes may be then assessed by experts. However, sometimes a single project has multiple outcomes, for example, a research project by Butla (2017) has developed illustrations of patterns, actual fabrics, and products from the developed fabrics, all inspired by the flower that represents a Kalasin province. Laistrooglai (2004) has produced ikat textiles and developed garments and home decoration items from them. Others researchers present only illustrations of the designs (Janpla et al., 2016; Srisuk et al., 2016).

In terms of evaluation, the research outputs, e.g. illustration of designs or prototypes, are assessed by either a selected group of potential customers or experts (Chanhom, 2016; Srisuk et al., 2016; Janpla et al., 2016). Alternatively, some research projects evaluate designs in two stages: the plan for designs are presented to a group of experts who choose the appropriate designs to be materialized, then, after the prototypes are made, they are evaluated again (Dawdean, 2010; Soodsung, 2016; Sutthiwong and Suwannawaj, 2016). The methods and results of the evaluations are often quantitative.

The eighth and final process is dissemination. Apart from publishing the outcomes in journals or submitting the research reports to the funders or the institutions, the prototypes may be displayed or exhibited publicly. For example, Laistrooglai (2004) submitted products and textiles from her research in a competition, presented them in a gallery and exhibited them in a trade fair; Sarasuk (2017) exhibited the prototypes in a local trade fair, which served also as a place to conduct a prototype evaluation.

Overall, the design process in development projects in Thailand follow a largely similar set of stages that include studying the local context, design development, prototyping and evaluation. These projects, although acknowledging the differences in the local contexts, are governed by seemingly strict procedures, supported by explicit theoretical

knowledge or data. This illustrates the dominance of formal design practice in these research projects.

Textiles design education in Thailand

The generic curriculum structure presented here is an amalgam of typical Bachelor degrees. The knowledge of weaving including Thai hand weaving and the modular structures learnt from this type of degrees have provided the tools for design and weaving practice of the research.

In Thailand, textiles design is generally not delivered as a dedicated programme. However, it may be paired with, or be a smaller part of, other design disciplines such as fashion design, industrial design or applied arts. An exception is, however, the B.Tech. in Textile Product Design in Rajamangala University of Technology Phra Nakhon (Rajamangala University of Technology Phra Nakhon, 2012a).

The proportion of textiles design classes in these programmes varies. Textiles design may be taught together with fashion design (Rajamangala University of Technology Krungthep, 2013) or be a specialism within a programme, (Thammasat University, 2013a; 2013b; Khon Kaen University, 2012). To a lesser extent, textiles design may be taught in classes in a design programme which is more focused on a broader discipline other than textiles design, or in other related disciplines, such as fashion design (Srinakharinwirot University, 2015), fashion and textile design[5] (Rajamangala University of Technology Phra Nakhon, 2012b), applied arts (Silpakorn University, 2012), or textile science and technology (Kasetsart University, 2013).

The structure of the courses described above are broadly similar. They are four-year courses, two terms per year and credit-based; each class generally runs for a term and the students are assessed for each class at the end of the term. In the first and second years, students study the theories and practice the basic skills and understanding of art

[5] Although the name of the course is Bachelor of Technology Program in Fashion and Textile, the classes in the curriculum are more focused on fashion design.

and design. This has always involved drawing classes which include observational drawing, i.e. still life, or drawing for technical purposes i.e. drawing for product design. Other important aspects are colour study, using Itten's colour theory (see Itten, 2002) among others, which may be tailored to fit the purposes of the programme i.e. colour for fashion and textiles and, in some cases, composition for visual art.

Then, in part of the second and most of the third year, students learn practical and technical skills involved in the area under focus. For the programmes that have a considerably large proportion of textile design study, these are textiles design and making techniques e.g. weaving, knitting, printing, dying and textile product design. Apart from art and design skills, the programmes also provide classes in history, theory and sciences in related subjects. After that, in the final year, students are expected to conduct individual projects, to produce design or development works. Each project is accompanied by a full report.

The study of elements of art and design, each as deconstructed components, in the early years of the course, is similar to the approach developed in the Bauhaus Foundation Course (Itten, 1964) and the South Kensington System (Frayling, 1996). However, it is not clear to what extent there are influences of each of these educational structures on the Thai design curriculum.

Having said that, there is evidence that Thai design education, historically, has been influenced by western design[6] education. Prakitnonthakan (2016) explains that a British architect, Edward Healey[7], was a principal of the Craftsmen Club (สโมสรช่าง) in 1910 which provided architecture among other crafts; the school was later developed to be Poh Chang School in 1913, the first formal school that provided architecture study. The curriculum was structured following a modern and western approach as a response to the rapid changes and need for modern construction in the country. The first Faculty of

[6] The generalization of the term 'western' is used by the cited author, who explains that he is aware of the implications of the generalization of the term.

[7] He also designed some buildings and worked for the Ministry of Defense in Thailand (Noobanjong, 2003)

Architecture in Chulalongkorn University was found in 1939, led by a Thai individual Nat Phoprasart, a graduate from Liverpool who also taught at Poh Chang School prior to setting up the architecture faculty.

Academic art, art training in institutions that seeks perfection in techniques of representing idealistic nature (Goldstein, 1975), has also been influential in the teaching of art practice in Thailand. This was spearheaded by Corrado Feroci, also known as Professor Silp Pirasri, his Thai name, an Italian artist who, in 1923, was initially employed by the Thai royal court to work on sculptures and statues of important figures in Thailand. He established the School of Fine Art in 1933 which was later upgraded to be Silpakorn University in 1943 (Uanomjitkul, 2011). Academic art training has been filtered into design education as evident in drawing classes that emphasize observation and representation of natural forms (i.e. Thammasat University, 2013a).

With the influence of western design education in Thailand, there had been some concerns that Thai art and craft practices might have been undermined, hence, it was decided that Thai art and crafts should be included in the curriculum at degree level. The Faculty of Architecture in Chulalongkorn University was criticized in that it emphasized western knowledge too much, despite its 4 classes on Thai architecture. This led to the formation of the Faculty of Thai Architecture in Silpakorn Univerity in 1955[8] (Prakitnonthakan, 2016). Nowadays, in many design programmes, there are classes that focus on Thai arts and craft practices as well as the history of Thai arts in the curricula. Some programmes indicate that one of their aims is to preserve the traditional art and crafts and develop them for the contemporary market (Thammasat University, 2013a; Khon Kaen University, 2012; Srinakharinwirot University, 2015).

Further, there has been an attempt to integrate the community knowledge of textiles and fashion into formal education. Taechotirote (2013) has stated that one of the aims of the Textiles and Fashion Center in Rajamangala University of Technology Phra Nakhon

[8] In 1966, the name of the Faculty was changed to the Faculty of Architecture. Classes in Thai architecture were still provided but fewer than previously (Prakitnonthakan, 2016).

is to gather and distribute the local knowledge to create inspiration for the learners. However, as far as the cited article is concerned, it has not involved design development process.

Textiles design education in Thailand has had an influenced on this research in that it provides a background of knowledge construction, namely, the design knowledge in formal education has been deconstructed into identifiable parts such as colour, material or visual composition that can be studied and practiced in isolation. I have adopted this way of understanding design and textiles and, in turn, this influences the way the knowledge in this research is constructed.

Chapter four

Knowledge in design practice: foundation of the Practice part two

This chapter reviews and contextualizes the disciplinary knowledge of design in order to frame the research activities, particularly with regard to design practice. This chapter reviews recent discussions on the differences between art, craft and design; a general textile design process; the structure of the textiles workshops at the RCA; and the process of design used in the weaving practice at the RCA.

Craft, art and design

The distinction between the meaning of art, craft and design has been much debated with no general agreement on the meaning of the terms (e.g. Greenlees, 2018; Adamson, 2007; 2013), however, it is "a recognizable and useful category" (Rees, 1997 p.116). Craft and design may be seen differently in different parts of the world (Gale and Kaur, 2002). Dormer (1997a) argues that it is not possible to solidly divide design and craft as the activities involved are similar, for example, making decisions on appearance.

The meaning of craft has been changing through time. Adamson (2007; 2013) and Greenhalgh (1997) both contend that the meaning of craft has changed over the last three centuries while Adamson (2007) adds that it can also change in the future. Greenhalgh (1997) asserts that the word 'craft' had established a clear meaning that implied things made by hand in the late nineteenth century, and as seen in the Art and Craft movement. In the early twentieth century, Bauhaus saw craft as inexplicable from art and design, integrating art and design learning without being attached to rural, preindustrial or vernacular culture which, on the other hand, tended to be valuable for those associated with the Art and Craft Movements. Dormer (1997a) asserts that after the second world war studio craft was widely practiced and meant that individual craftspeople worked in their own dedicated spaces and created limited ranges of

artifacts for limited groups of customers. In the late twentieth century, craft was seen as separate from art and design, when the thinking associated with art was not necessarily expressed through the skills of making of the thinker, and when "having ideas" was separated from "making objects" (Dormer, 1997b, p.18).

A designer is associated with industrial manufacturing, exploiting the process of drawing and using codes and numbers to communicate between people from different professions in an industrial profession while craftspeople prefer having direct control of the making, which is seen as a practical process. It has also been argued that design inclines towards predicting and serving consumer needs while craft has focused more on the needs to express the ideas of the maker (Gale and Kaur, 2002; Rees, 1997; Dormer, 1997c). Despite the distinctions, Dormer (1977d) asserts that there is "a conceptual core to woven textiles based on the physical structure of weaving that holds the elements of craft, art, design and manufacturing together in a unity" (p.171). Gale and Kaur (2002), meanwhile, argue that the character of textile craft practice can appear in both areas of design and art.

In terms of craft, craftmanship and skills, Frayling (2011) asserts that the meaning is distinct for people from different disciplines and backgrounds. In the broadest sense, Sennett (2008) asserts that craftmanship emerges from a "basic human impulse, the desire to do a job well for its own sake" (p.9). While in a more specific way, Adamson (2007) contends that skill is "knowing how to make something" (p.69)[9]. Pye (1968) published *The Nature and Art of Workmanship* in which he discusses the subject in some detail. Workmanship he sees as the ability to control the process of making an artefact. He also contends *workmanship of risk* as in the process of making, errors may happen at any one time: this can be associated with craft and hand making. Then on the other hand, he asserts *workmanship of certaint*y, when the quality of the products are assured and controlled: this is associated with industrial production. Frayling and Snowdon

[9] However, in his The *invention of craft (2013),* Adamson recognized that the definition is too simple to be applied in all cases.

(1982) have responded to Pye's work by pointing out that Pye has not hesitated to separate "manual skill from mental skill (know-how)" (p. 72, brackets in original).

In terms of the relationship between skills and tools used, Frayling and Snowdon (1982) discuss improvements in the technology of looms between the mid-eighteenth and late-nineteenth century and the notion of "de-skilling" (p. 21) from the view of Art and Craft Movement leaders. In relation to this, however, Adamson (2013) asserts that, in broader terms than weaving looms, the invention of machines did not take away skills from the craftsmen but enhanced and utilized specialist skills they already possessed. In the case of textiles, Dormer (1997d) suggests that textiles practitioners, especially weavers, tend to adapt to technological changes better than other craft makers, given that computers were developed from punch card in jacquard looms. Additionally, Dormer (1997c) asserts that working directly with actual materials benefits designers when working on a computer programme, providing a deeper understanding of materials and how they perform.

Craft practice has played an integral part in design education. At the RCA in the 1890s, there was a shift in focus in design training whereby craft and making skills became important for design (Frayling, 1996). The approach to studying design and physical skills was also practised at the Central School, being directly influenced from the Arts and Crafts Movement (Frayling, 1996; Schoeser, 2000). Further, Frayling (1996) asserts that this approach in British design education, in use between the 1890s and 1950s, influenced the curriculum at the Bauhaus. However, Dormer (1997a) contends that the Foundation Course at the Bauhaus also influenced the British art school curriculum. Although the conclusive history of design education is beyond the scope of this research, the literature presented above offers some background for understanding the relationship between craft and design in education, which is important for understanding the practice in this research.

Design process in textiles

Textiles as a discipline and design profession is hard to define as it spans over many areas. Also, creative practitioners in textiles may choose different directions for their careers, for example, as a designer, designer-maker or craftsperson (Gale and Kaur, 2002). Textiles combines knowledges from various disciplines i.e. craft, art, design and technology (Dormer, 1997d). Textile design appears in a wide range of design contexts i.e. wearable to spatial (Steed and Stevenson, 2012). It may adopt, emphasize or develop different approaches in design, for example, visual inspirations and narratives (Selby, 2011; Steed and Stevenson, 2012); co-design (Ballie, 2012; 2014); woven structures (Straub, 1977); textile art (Chunthone, 2014); intervention for craft promotion (Stankard, 2010); emotional durability and sustainability (Seo, 2015); sustainable material development (Hijosa, 2015) or smart material systems (Tandler, 2016). Given that the approaches used in textile design are varied, and that the definition of design as a bigger discipline is debatable (Dormer, 1997a), the attempt to define the conclusive disciplinary knowledge of design in textiles may be impractical.

Though acknowledging this might be the case, the next section makes an attempt to review the design process that is adopted in this research project. Textile design is conceived following Otto and Smith's (2013) assertion that "to design is to conceive of an idea and plan it out… before executing it in the world" (p.1). However, this perspective is taken with the knowledge that the notion of designing occurring before making may not be applicable to all disciplines and practices (Boyd Davis and Gristwood, 2017).

The process used in textiles design is similar to those in other design disciplines but the mediums which this process creates or is mediated through is specific to textiles (Steed and Stevenson, 2012). Weaving means to work within limitations of the parameters set by the production, however, it has been argued that the limitations do not constrain creativity but encourage it (Sutton and Sheehan, 1989).

Wilson (2011) contextualizes the design process for the textiles industry as follows:

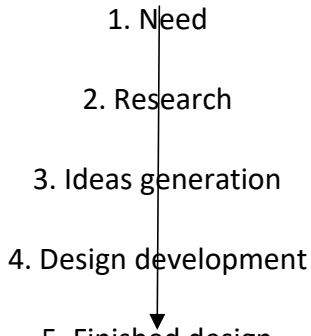


Diagram 2. Design process by Wilson (p.21)

The first stage is to define the need, receive the brief or to choose the project (Held, 1978). The overall aims and outcomes of the design process are given, discussed or developed. The projects may be to produce designs for the company or clients. It could also be set up by the designers in the case of it being a self-initiated project.

The second stage is to research. It is to source and gather information and ideas related to the project which may cover visual and material study. The tools, in terms of visual research, may include drawing, sketchbook, photography, CAD, printed materials, and museum visits (Steed and Stevenson, 2012). This could also cover the research on market and trend forecasting. The quality of textiles to be made may be determined, i.e. drape and weight, and other sustainability and ethical issues are considered where needed (Udale, 2014).

The third stage, idea generation, is the process where the concepts and ideas are refined and focused. Selby (2011), Held (1978), Wilson (2011), Straub (1977), Shenton (2014) and Sutton and Sheehan (1989) have all explained how visual and physical elements used in textiles are selected i.e. materials, colour palettes, yarns, construction, graphic compositions, textures and techniques.

The fourth stage is design development. Designs may be developed on a loom e.g. weave samples, or on CAD, following the ideas that have been developed in the early stage. Wilson (2011) contends it is important that, for design development, physical fabric

samples should be made in many variations for there are qualities that must be tested i.e. handles, draping and touch of the fabric. Similarly, Dormer (1997c; 1997d) asserts that woven samples offer the manufacturers information that can be readily applicable in their production. Samples are series of variations of designs that the designers-weavers create within a parameter of the "variations" (Anger, 2006, p.239), i.e. colour scheme, planned usage, selected materials, manufacturing limitations, visual design guidelines or themes. Some designers prefer designing and discovering ideas on a hand loom rather than on an industrial loom (Shenton, 2014) because the creative freedom is not restricted by the automation of the industrial loom (Dormer, 1997c).

In the fifth and last stage, the designs are chosen. They are presented often as collections of fabrics (Udale, 2014). The designs may be developed as a range of coherent designs in order to offer variety (Wilson, 2011).

Picture 3. A sample made for Practice part two, weaving at the RCA. It shows a variation of combinations of materials, colours and structure. Wuthigrai Siriphon, 2018.

Structure of the textiles workshop at the RCA

This doctoral research is positioned as postgraduate research which consists primarily of independent study. Hence the use of the textiles workshop was initiated and planned by myself. However, the conduct of this research operated within the administrative and technical structure of the Textiles programme and the Technical Services. The textiles workshop has been divided into spaces according to the specialisms taught on the Master's degree programme, which include knit, weave, print, mix media and soft

systems, each equipped with appropriate facilities (Royal College of Art, 2018a, 2018b). The workshops and facilities are managed by the Technical Services and the designated technicians. For this research, the weaving workshop, the yarn store and the dye lab were used for the design practice. In addition, individual textiles tutors gave me advice and guidance in terms of designing textiles.

The workshop for weaving at the RCA is equipped with table looms, computerized dobby hand looms, a computerized jacquard loom and all equipment necessary for weaving and yarn winding. The technicians supported the research by providing access to the workshop, tools and equipment and with advice for weaving and loom operation.

The dye lab provides a dedicated space with various types and sizes of dying vats, fabric steaming, dyestuffs and other necessary chemicals tools and equipment. The technician gives support and instruction for yarn dyeing in different materials and how to achieve certain shades of colours.

The yarn store holds all the yarns used in the practice at the RCA. It houses a large collection of yarns and fibers widely used in the industry. A wide range of dyed yarns are available to students, alternatively yarns can be dyed in the dye lab. A textiles technician is available to give support by providing materials that are requested and also by giving advice on the types of yarns suitable for the project.

Design process in the Practice part two, weaving practice at the RCA

Building on the broad frameworks of design process explained in the previous section, the diagram below shows an extended version of such processes, specifically conceived for the design and weaving process used in the Practice part two, weaving at the RCA. However, this part of the practice also incorporates the creative method learnt from the apprenticeship in the design process, that is to say: weaving for pre-planned size and motif placement; synchronizing bodily movement and weaving structure, and using Thai motifs and patterns.

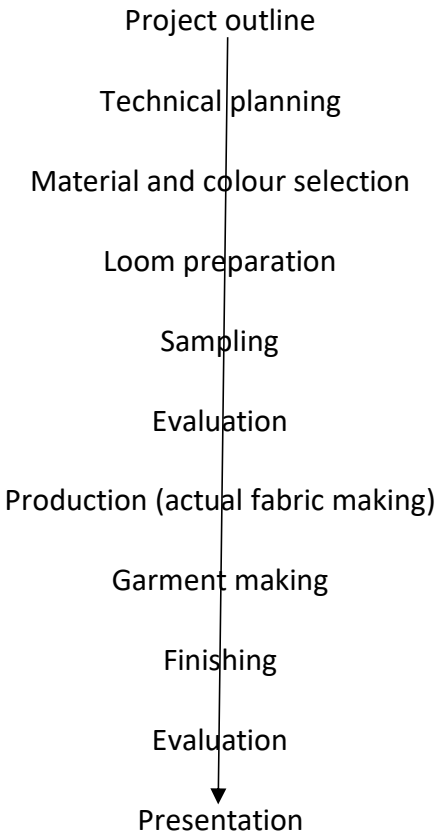


Diagram 3. The design and weaving process used in the Practice part two, weaving practice at the RCA. Wuthigrai Siriphon, 2018

The design and weaving practice at the RCA brought the two forms of knowledge together and merged them into one practice. Hereafter, there are some stages that should be addressed, namely, the process of material and colour selection and the process of sample making.

Material and colour selection

The selection of colour and material were assisted by design tools e.g. the colour palette and material sheets. Picture 4 shows an example of the colour palette that I used for the first piece of textiles made at the RCA. It is composed of a sample of dyed yarns, originally taken from the yarn catalogue of yarn manufacturers, and cut fabrics that I selected from the dyed lab. Taking the chosen colours to form the guideline, I was then able to choose dyed yarns from the yarn resource that matched the colours on the colour palette. Some

yarns needed to be dyed. The dyeing was done in the dye lab by myself with assistance and advice from the technician.

The material selection (pic. 5) aimed at creating a partial connection to Thai textiles while took a slight departure from it. This was achieved by combining materials that were commonly used in Thai textiles and those that were not e.g. linen and wool. Traditional Thai textiles are normally made of natural materials, mostly silk and cotton, which is true in the case of the master weaver who majorly uses cotton. In the fieldwork context, Natural materials have a higher value, aesthetically and commercially, than that of synthetic ones. As I planned to show all the jackets to the master in the second period of fieldwork, I anticipated that using natural materials would make a fair connection to Thai traditional textile practice. This was a parameter that I set for material selection.

As for the traditional Thai colour scheme, which is based on five colours for the patterns and another for the background (see Pic. 6 and Appendix C), I avoided using it. This was because I wanted to create works that were of neutral colours which, as I learnt in colour theory, could be matched with other colours comfortably.

Picture 4. Colour selection. Wuthigrai Siriphon, 2018.

Picture 5. Material selection following the colours selected. Wuthigrai Siriphon, 2018.

Picture 6. Traditional colours. Wuthigrai Siriphon, 2018.

The choices of colours were informed by colour theory. For example, in the first jacket piece I intended to use colours that emphasised harmony. I used a monochromic scheme of indigo in most of the textiles and added a small section of dark green, which was the colour next to blue in the colour wheel. I knew from theoretical knowledge that this combination would create a visually harmonious result.

There were other contributing factors that supported material selection. Availability of materials in the yarn store was of a much wider range than in the market near the weaving space in Thailand. Having such a variety of yarns readily available encouraged me to expand the choice of material used in the textiles for the jackets. Also, being able to choose the materials myself without having to consult the master weaver further encouraged me to do so.

Making samples – combinations of materials, colours and woven structures selection

The process of making samples requires an iterative and responsive interaction between the designer-weaver and the materials, structures and colours that appear on the cloth at the instance of making. Overall design direction might be set or provided earlier in the design process but the stage at which the woven textile designs are produced and realized is in the sample making stage (pic 5.). This is consistent with the phrase “educated guesses” (Makovicky, 2010, p.96) which signify how an experienced practitioner, in the case referenced a lace maker, use knowledge and experience to advance making with a broad guideline but without knowing exactly how this will affect the final designs.

Picture 7. A sample made in Practice part two, weaving practice at the RCA, for the jacket number two. Each strip is a combination of materials, colours and woven structures. Wuthigrai Siriphon, 2018.

In this process, colours and materials are tested, selected, neglected or reselected. When enough samples are produced, one or more might be selected. In the weaving project at the RCA, after the samples were made, I chose one that I thought appeared to be the most successful combination. The selected sample helped me decide which materials and colours would be used for the actual textiles made for the jackets.

The process of sample making is not normal in Thai hand weaving. The parameters for Thai weavers are largely predetermined, e.g. a specific type of loom, materials and colours which should be strictly followed.

In the production of the actual textiles for the jackets, I not only followed the combinations that appeared in the sample but also made some decisions regarding the placement of motifs that would appear on the jackets when cut and sewn and, sometimes, further refined colours and materials. The stage of creating actual textiles in this project at the RCA was also iterative, however, to a much lesser extent than in the sample making process.

Chapter five

Fieldwork background

This Chapter provides the context for the project fieldwork research in Thailand including apprenticeship. It provides information on the location of the fieldwork by describing the geographical, cultural, ethnographic and practical background.

Background

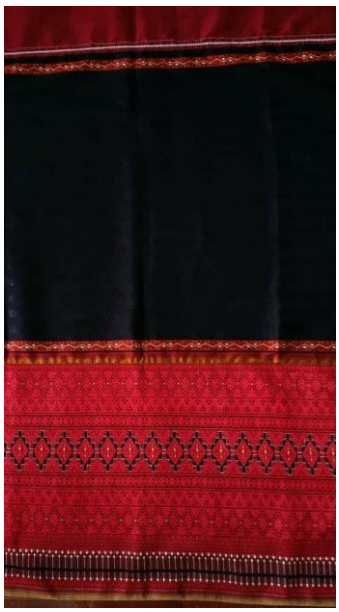
The location of the fieldwork was at the weaving space of the master weaver Jampee Tamasiri, Na Ta Pho village, Ban Rai district, Uthai Thani province in Thailand. Adopting '*thick description*' (Geertz, 1994) and taking a similar approach to Moeran's (1984) description of local context, this chapter reviews the weaving culture in the location where the fieldwork was located, but additionally, how it is related to a larger scene of hand weaving in Ban Rai district and in Thailand in general. The information in this chapter is derived from related literature and ethnographic fieldwork research.

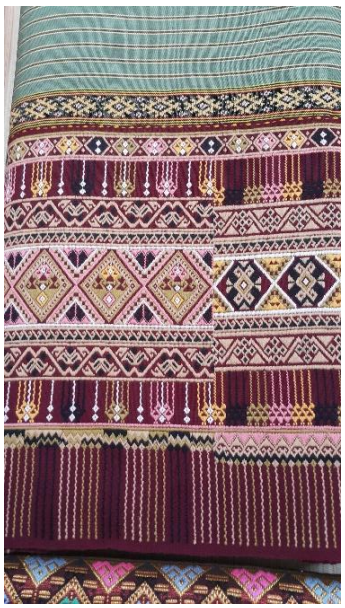
A precursor for an aspect of the fieldwork research is Professor Luangthongkum's book, written in Thai and published in 2016. This work investigates textiles and languages in Ban Rai district, the same location as this project fieldwork. The master weaver Tamasiri was one of at least nineteen informants. Luangthongkum's research involved a literature review, interviews, observations, and data gathered by heads of selected groups of weavers. However this research project employs different methodology, including ethnography, apprenticeship and long-term weaving practice. This provides a different and complementary viewpoint.

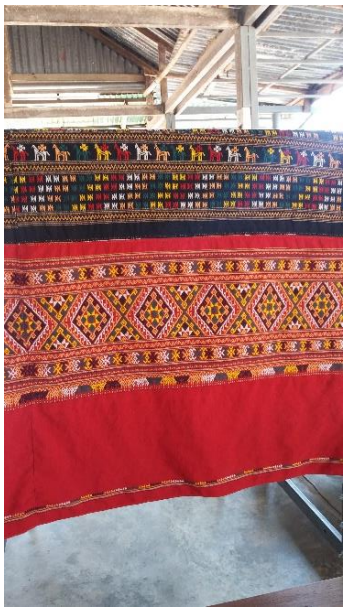
The fieldwork research was divided into two periods. The first period of fieldwork aimed to understand the local knowledge of Thai hand weaving by means of ethnographic fieldwork, apprenticeship and weaving practice. The second period of fieldwork, which was conducted after a period of practice at the textiles workshop at the RCA, aimed to explore how the disciplinary knowledge of design can be integrated with the local

knowledge of Thai hand weaving in the environment of the weaving space of and with the master weaver to whom I was apprenticed in the first period of fieldwork.

Textile culture in Thailand as a shared culture







Picture 8 (top left). Tai-Yuan textile. Vitawan Chunthone, 2018.

Picture 9 (top right). Tai-Lue textile. Pathitta Nirunpornputta, 2018

Picture 10 (bottom left). Tai-Phuan or Lao-Phuan textile. Vitawan Chunthone, 2018.

Picture 11 (bottom right). Lao-Khrang textiles of the master weaver Jumpee Thamasiri. Wuthigrai Siriphon, 2018.

Thai textiles, although displaying distinctive cultural and aesthetic values, is practised as a shared culture with other countries in Asia, particularly Southeast Asia. The majority of people in Thailand belong to the Tai-Kadai (ไต-กะได, ไท-กะได) speaking group, which is a branch of the Austro-Tai language family (Bellwood, 1991; Ostapirat, 2013). Tai-Kadai speakers live in mainland Southeast Asia including Thailand, Myanmar, Lao P.D.R. and Vietnam as well as the west of India and the south of China (Bellwood, 1991, Conway, 1992). Tai (ไต, ไท) people share the root of language and culture such as planting and eating rice, building houses on high pillars and worshipping ancestor spirits (The Bank of Thailand museum, 2015). There are several Tai subgroups in the country such as Tai-Lue (ไทลื้อ), Tai-Yuan (ไทยวน) and those among Tai-Lao (ไท-ลาว) such as Lao-Khrang (ลาวครั่ง), Lao-Phuan (ลาวพวน), Lao-Wiang (ลาวเวียง) (Panin, 2012), each with their own cultural distinctions.

In terms of textiles culture, there are shared characteristics across the Tai communities, for example, weaving is the duty of the female who produces textiles for the family (Conway, 1992). Tai women wear tube skirts or *pha sin* (ผ้าซิ่น), in Thai, comprised of three parts (The Bank of Thailand museum, 2015). Many decorative techniques are commonly used among Tai weavers such as Ikat (Chancharoen, 2004) and supplementary weft (Findly, 2014). Some motifs can be seen across the communities such as hooks, rhomb shapes and the serpent (Findly, 2014; Luangthongkum, 2016; Conway; 1992).

Previous academic research in Thai textiles has taken various approaches. These include focusing on weaving techniques (Janjam et al., 2014; Hongsuwan and Wongkaeo, 2016), ethnicities (Phanurat et al., 1993; Topanurakkun and Paiwithayasiritham, 2016) or geographical locations i.e. regions (Conway, 1993; Thomas, 1993), provinces (Silpakorn University, 2000a; 2000b; Phayakprakhon, 2015; Phayakprakhon et al., 2017) or districts (Wannakit, 2015; Phosuya et al, 2016). There are multiple cross-overs between these layers of geographical locations, ethnicities and weaving techniques, for example, people of one ethnicity may live in many provinces in different regions (Wangyen, 2011; Thomas, 1993) while there may be more than two ethnicities in a province

(Phayakprakhon, 2015). In addition, many ethnicities share similar weaving techniques (Yukimatsu et al., 2008; Chudhavipata, 2012). Due to the interaction of these features, surveys of Thai textiles can be, and have been, undertaken from the point of view of the whole country, with some detail of certain areas (Conway, 1992), or they can be very specific, e.g. focusing on ikat weaving in a village where the majority of people are of a specific ethnicity (Phosuya et al, 2016).

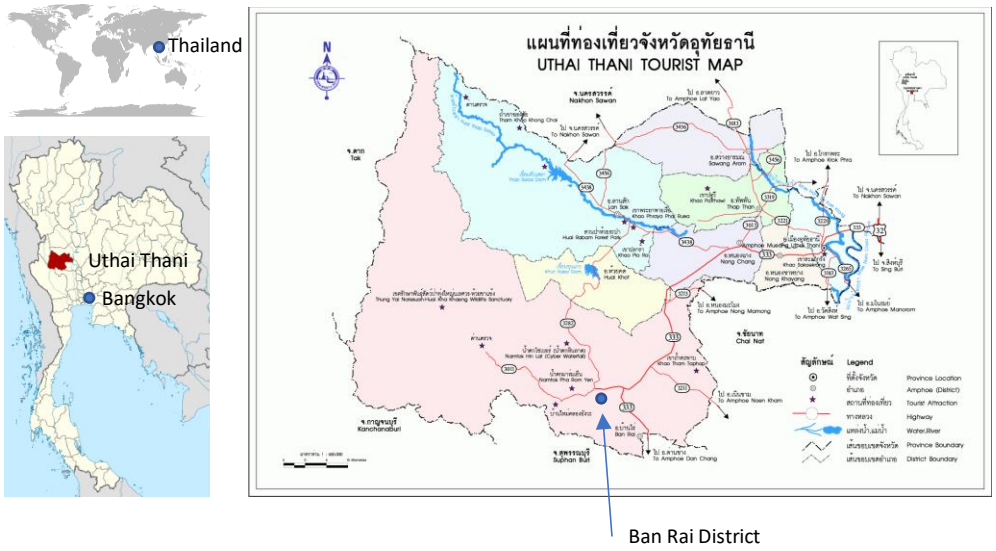
Overview of the location of the fieldwork

The location of the fieldwork is in Thailand, a country in mainland Southeast Asia. Thailand borders to Myanmar to the west, Lao People's Democratic Republic (Lao PDR) in the north, Cambodia in the east, and Malaysia in the south. The most economically significant sectors are the manufacturing industry, agriculture and tourism. Thailand covers a total land space of 510,890 sq.km (The World Bank, 2017), and has a population of 67,959,000 (United Nations, 2015).

The fieldwork was located in Uthai Thani Province in the central-north region of the country. Uthai Thani is described by the Tourism Authority of Thailand as "a land with a long history and great ethnic diversity, Uthai Thani features unspoiled wilderness that provides refuge for Thailand's endangered wildlife species" (Tourism Authority of Thailand, 2017). The province has a 3,000 year history (Sansorawisut et al., 2015) as a settlement for various ethnicities including Thai, Chinese-Thai, Lao and Karen hill tribes. It was a frontier for kingdoms in the central region and a place of commerce along the river (Uthai Thani Province, 2017). The province has a population of 330,299 and covers 6,730 sq.km, of which 4,525 sq.km is dedicated to nine National Forest Reserves, 2 National Parks, a Wildlife Reserve, and a Non-Hunting Area. The most renowned, Huai Kha Khaeng Wildlife Reserve, was awarded the title of Natural World Heritage Site in 1991 (TAT Uthai Thani Office, 2010).

The province comprises 8 districts including Ban Rai, where the fieldwork was located. Ban Rai is the biggest district in the province with a total area of 3,621 sq.km. This district covers more than half of the province, most of which belongs to National Parks and a

Wildlife Reserve. The district is also the most remote from the province's centre (Luangthongkum, 2016), around 80 km away, and 226 km from Bangkok, the capital. The main economy is agriculture - sugar cane, cassava, corn and banana, and commerce (Uthai Thani Province, 2017).



Picture 12. The maps show the location of the fieldwork.
Sourced from: Wikipedia Commons (top and bottom left) and the Tourism Authority of Thailand (right)

Ban Rai Town Centre

The town is in a valley surrounded by chains of mountains. These mountains expand in size and height westwards into the national parks. With a population of a few thousands in the municipality (Tombon Banrai Local Government Office, 2017), this is a small and quiet town. It has a good connection of paved roads which lead to Uthai Thani provincial centre and to other provinces. It takes around 3 hours to drive to Bangkok and 4.5 by public transport.

The centre of the town is around 2 km. away from the master weaver's house. The town centre has most things one may need: a market, cycling shops, a hospital, a post office, a police station, convenience stores, restaurants for example

Picture 13 (left) the highway connects Ban Rai with other districts. Wuthigrai Siriphon, 2016.

Picture 14 (right) the town center in the morning when villagers are seen offering foods to female monks from a nearby monastery. Wuthigrai Siriphon, 2016.

Ethnicities in Ban Rai district

Weavers in Ban Rai district largely define themselves as Lao-Khrang ethnicity (Laungthongkam, 2016). Lao-Khrang is one of the subgroups of Tai-Lao speaking communities while Tai-Lao is a branch in Tai language. Textiles from Ban Rai District or Uthai Thani province are also commonly considered to be of Lao-Khrang in other literature (Chintapatee, 2016; Silpakorn University, 2000b; 2001; Smanchat, 1997).

The term Lao-Khrang is used interchangeably with Tai-Lao PhuKang/Krang/Klang (Samantarath, 2011). The word Lao refers to a Tai-Lao speaking community and their people. Khrang (ครั่ง) or Khang (คั่ง) may refer to lac, an insect resin giving red colour. This offer two references, one was a place called Phu Khang (ภูคัง: Khang Mountain) which may mean a mountain full of the insect while another refers to red colour on textiles dyed by lac (Samantarath, 2011) which are a part of traditional attire (Luangthongkum, 2016).

Whereabouts exactly Lao-Khrang originated from is still debatable (Samantarath, 2011; Luangthongkum, 2016; Hintow and Iamsa-art, 2016; Panin, 2012). However, according to Luangthongkum (2016), the Lao Krang people were moved from the region around

Muang Khang (เมืองคัง) and Phu Khang near what is now between Luang Phra Bang and Xiangkhouang in the northern part of the present Lao PDR. In that region, there were different ethnicities, using different languages, such as Tai and Khmuic[10]. In many episodes of warfare between Siam[11] and Lan Xang[12] in the period between Thonburi Kingdom (1767 - 1782) and King Rama IV (who reigned from 1851 - 1868), Siam troops moved people from Lan Xang to many parts of the kingdom, mostly the central plain area near Bangkok. Those who lived around Kang Mountain were moved to Nakorn Chaisri, also near Bangkok. Luangthongkum (2016) further explains that, later, Laos from Kang Moutain in Nakorn Chaisri and possibly Lao from other towns were commanded to move to what is now Ban Rai district. Some of these migrants later settled in the area. Although there are now a few different ethnicities in Ban Rai District, Tai-Lao form the majority.

Nowadays, Lao-Khrang have settled in many provinces in the central plain of Thailand including Uthai Thani, Chai Nat, Suphan Buri, Phichit and Kamphaeng Phet (Narkphong, 1993; Luangthongkum, 2016). For the Tai-Lao speaking community in the Ban Rai district, the Lao language is used to communicate between members in the community and Thai is used for visitors from elsewhere such as Bangkok (Luangthongkum, 2016).

Comparative studies of Lao-Khrang in Thailand and that in Laung Prabang in Lao PDR, identified as the place where Lao-Khrang migrated from, have been conducted, including those of vernacular houses and textile culture (Hintow and Iamsa-art, 2016; Panin, 2012). Panin (2012) asserts that changes in the physical geography, i.e. from mountainous to plains, has influenced the culture, including the way houses are built and how textiles are commoditized and used to construct the community identities. Hintow and Iamsa-art (2016) contend that textile culture across the two communities are similar, however, the Lao-Khrang community studied in Lao PDR had a more integrated relationship with traditional textile than in Thailand, i.e. more strict

[10] A branch of Austroasiatic languages.
[11] The previous name of the kingdom centrally located in where it is now Thailand.
[12] A past kingdom which was largely located in what is now Lao PDR.

regulations that women must wear traditional textiles in formal situations, which have created higher demand for locally woven textiles, thus, supporting local weavers.

The weaving space

The master weaver

The master weaver Jampee Tamasiri, 70 years old, is a highly respected master weaver, as seen by members of the community and beyond. Her practice covers traditional textiles of Lao-Krang and her own innovative approach to weaving.

Jampee Tamasiri is a rather small lady, praised by many as beautiful considering her age. She is lively, talkative, strong-minded, quick and smart. She wears traditional style clothing every day, while most weavers wear these only on special occasions. She typically wear tube skirts with simple pattern-cut tops, while her dark grey hair is arranged in a bun. She claims, and is referred to as strictly traditional, being the one who maintains the discipline of wearing traditional dress and has continued to do so for decades.

She seems to fear nothing. In the weaving space, she is the one in command. That said, she is also very kind and giving. She loves teaching and talking about textiles and culture for anyone interested including scholars who come to seek her expertise. If one comes to visit, she would happily offer one of her rooms for the guest to stay in overnight, as happened to me when I first met her.

The master weaver Jampee Tamasiri produces two types of textiles: one is traditional textiles which are similar to other weavers in Ban Rai district and Lao-Khrang in general. Another is her distinctively innovative textiles, made only for display and not for sale. They display an extremely high quality of individuality, creative and technical skills. The motifs and weaving techniques are, as described by the master weaver, derived from those of tradition but arranged in her own ways. Some of these works received an

international Innovative Craft Award in 2016 by SACICT[13] (I accompanied her to the award ceremony).

Picture 15. The master weaver Jampee Tamasiri. Wuthigrai Siriphon, 2016.

[13] The Support Arts and Crafts International Centre of Thailand (Public Organisation)

Picture 16 (left). Master weaver is explaining her innovative work. Wuthigrai Siriphon, 2016.

Picture 17 (middle). A master weaver's innovative textile depicting a seascape. Wuthigrai Siriphon, 2016.

Picture 18 (right). A master weaver's innovative textile depicting bird's-eye view of an island. Wuthigrai Siriphon, 2016.

The weaving space's location

The weaving space is on the edge of a cluster of houses around the town centre. It sits on the side of a small road in the village. Next to the weaving space is a very small public primary school with less than 100 students and a big weaving cooperative on the other side.

There are three houses in the master weaver's private space. One building is rented by a wildlife protector, another is dedicated to her own private museum in order to present a selection of the archive collection of traditional textiles that have been passed down from her ancestors. Another is the master weaver's house. There are two areas for the weaving looms, in the master weaver's house and under the museum.

The area of the weaving space is at the front of the house, just on the side next to a small concrete-paved road of the village. Most of the members of the village know or relate to each other. Most of the time the master weaver, other weavers and the passers-by greet each other, asking simple questions such as where they are going to or coming from. The weaving area is a place for social connection. In other houses in the village, many looms are seen in a shed at the front of the house.

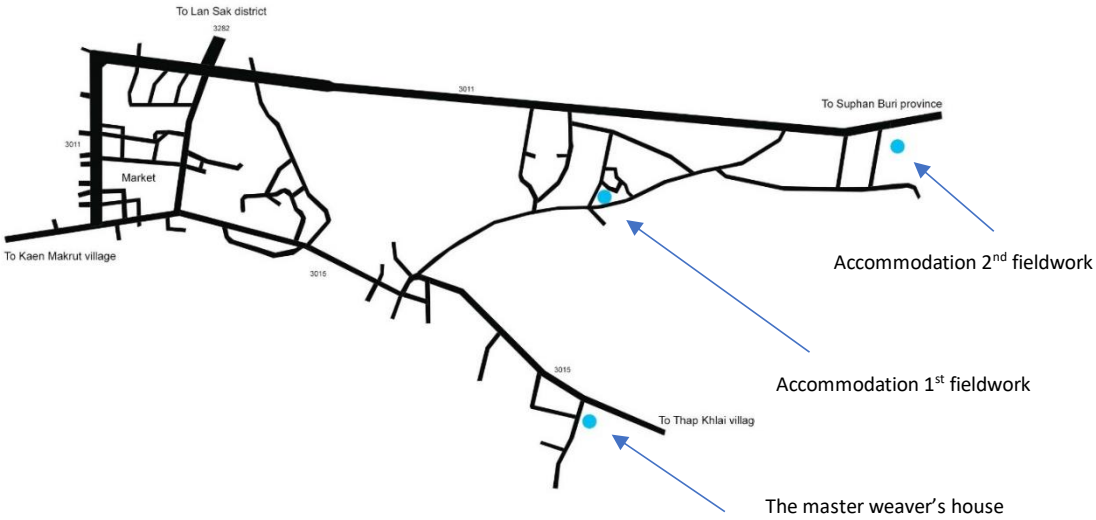


Figure 1. A map of Ban Rai town centre and the master weaver's weaving space. Wuthigrai Siriphon, 2018

Picture 19. Front view of the master weaver's house and weaving space. Wuthigrai Siriphon, 2016.

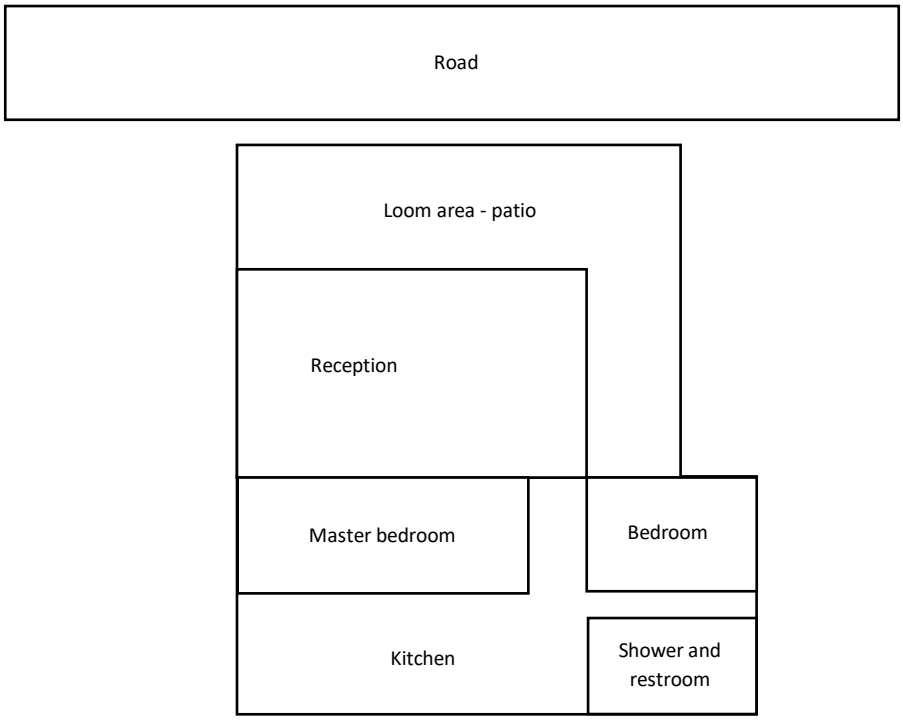


Figure 2. The layout of the master weaver's house with weaving space at the front. Wuthigrai Siriphon, 2018.

In the first period of fieldwork, the looms were placed under the shed extension of the house. It was a recycled tin-roof that required occasional hole-fixing. The space was in an L-shape at the corner of the house, with a flat concrete-paved floor and a section connected to the house interior that was tiled, and with a slight elevation. The looms were placed around in an arrangement that maximized the space, natural light and the individual weaver's preference. Rearrangement might happen as often as once a week. The weavers shared the master weaver's restroom and kitchen which could be accessed through the house to the back. (For the second period of fieldwork, there was a change of the weaving space, see Chapter seven)

The activities in the weaving space

This weaving space is not operating like a business where the master employs a group of weavers to work for her, nor strictly is it a place for training. Rather, it is a house of a highly skilled weavers, where there is a large space for looms, and where a variety of people with different reasons to visit, learn and work are all welcomed.

At the time that I was conducting research in the weaving space, there was a weaver who worked for the master on a commissions basis. She wove pieces that the master weaver designed and received a proportion of the selling price. The others weavers working or learning in the weaving space at the time of my fieldwork were five part-time mature learners who used the weaving space at different times. In the second half of my first period of fieldwork, I was the only apprentice.

When this ethnographic fieldwork was conducted, the working hours for weaving were not strict. The weavers normally worked every day including weekends. Generally, the work commenced at around 8 am, around the time that the school next door started. The work continued to around noon or a little later then it was lunch break. The weavers gathered and shared a meal. Each member normally contributed some food, while the master weaver always provided rice and some other food items. It was acceptable not to bring food everyday because there was already enough food for everyone, and if not, someone cooked in the master weaver's kitchen. The group often had a little chat while having dessert after lunch, then we all went back to work. Work continued until around 5 pm when the natural light was fading. Though it was possible to work late in the evening with electrical light, this rarely happened in the weaving space.

The weavers' role in the weaving space was decided by the master weaver. Most of the time, this meant each weaver was responsible for finishing pieces of woven textiles. Everyone was expected to weave and to have the skills to work on other tasks in the weaving process. If there was a stage that could not be done by just one person, others would come to assist. The master weaver expected everyone to work up to her standard, preferably by her method. The master weaver said that it was easier to work with

someone who had no prior skill than with a skilled weaver because, with the non-skilled, it was easier to direct and teach. The master weaver controlled the quality, the motifs and pattern arrangement and the marketing. She also provided all materials and equipment.

The textiles made in the weaving space would be paid for by the master weaver. In one case, the master weaver took a portion of the price of a tube skirt, which was under commission and which a weaver had made under her direction. The payment to the weaver was given after the master weaver received the cash from the customer. In the cases when the master bought textiles from other weavers who were not from her weaving space, the master weaver would pay at the point of purchase.

The master weaver approached selling in a very relaxed manner. The master weaver did not exhibit her works in any trade fair either locally or nationally, as otherwise done by other weavers, but instead she sold all the textiles at her house. She had enough customers to sustain the weaving activity. At one time, the master weaver might have only around 10 pieces of tube skirts available.

Textiles products

The weaving space of the master weaver, apart from the master's own innovative textiles, produces works that are traditional of Lao-Khrang culture, that is, the motifs, patterns, arrangements, colours, other elements and their use are common to Lao-Khrang culture in general.

The weavers in Ban Rai district produce many types of textiles. The tube skirt is the most common and is the main product. Other wearable items are also produced such as men's sleeved shirts, blouses, traditional bags and scarfs. Some textiles are made into products of a modern style, for example ladies' bags and dolls. Home textiles are not so common but are still made, including blankets and pillows. Textiles for religious purposes are still made, but not so often, including flag-like panels and monks' robes. Some textiles are not made anymore, as far as I witnessed, such as mosquito nets; this is because industrially-made mosquito nets are widely available and affordable.

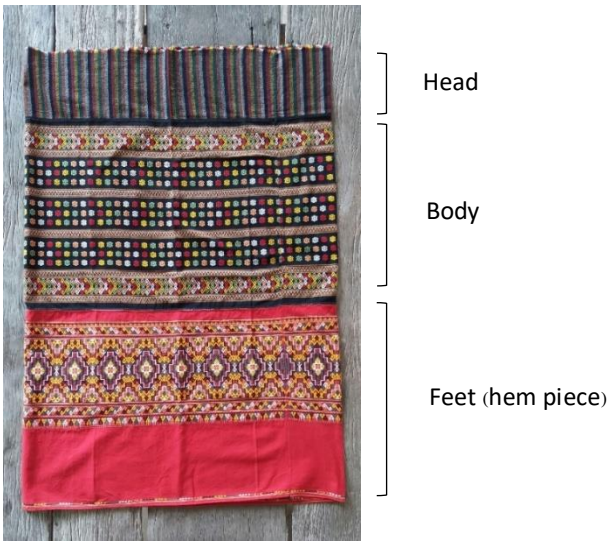
Tube skirt

Like other weavers in the community, the tube skirt is the main product that the master weaver produces. It is a form of traditional garment that most Thai women use to wrap around the lower part of the body. It can be a loose tubular piece of textiles or tailored to be ready-to-wear. The traditional tube skirt of Ban Rai is not tailored so it can be worn by those of various sizes. The way of wearing it is to put the lower body in the tube skirt, which is much bigger than the body. Then the excess part is contacted, folded and placed close to the waist at the front. The fold line is supposed to be at a quarter of the front body from either the left or right (pic. 20).

Picture 20. Ladies in the villages in Ban Rai district wear traditional tube skirts with tailored tops, often made of lace, while attending the yearly offering ceremony after the end of the three-month Buddhist lent at Wat Ban Rai (Ban Rai Temple). This style of modest clothing is common among Thai ladies. Wuthigrai Siriphon, 2017.

A tube skirt is comprised of three parts, the head, the body and the feet. This three-part tube skirt is common among Tai-Lao speaking communities (The Bank of Thailand Museum, 2015). The size of a tube skirt, when already sewn, varies between 80 and 100 cm. wide, and 100-130 cm. long. The back and the front of a tube skirt are identical. In case of a tube skirt made from all supplementary weft technique, two separate panels, one for the front and another for the back, are sewn vertically together on the selvedge.

Each panel has three parts sewn horizontally (pic. 21). It is however possible to weave all three parts as one piece. Luangthongkum (2016) and Silpakorn University (2000b) explain that this is an innovative type of making. In case of the tube skirt made of ikat body and supplementary weft hem piece, the ikat body is sewn with one selvedge and the hem is sewn with two. Then the two parts are sewn together (pic. 22).



Picture 21. Tube skirt made by master Tamasiri with decoration of supplementary weft technique. Wuthigrai Siriphon, 2016.

Picture 22. Tube skirts on display at the master weaver's house. They are made of ikat body and have a supplementary weft decorated hem. Wuthigrai Siriphon, 2017.

The price of a tube skirt varies. To put this into perspective, a month's salary for a degree graduate starts from 15,000 THB. In the market, a tube skirt with all supplementary weft decoration is commonly priced between 12,000 and 25,000 THB and an ikat body tube

skirt with supplementary weft woven hem is priced between 6,000 and 15,000 THB.[14] The price of a finished tube skirt in the master weaver's weaving space is 6,000 Baht for an ikat body and supplementary weft decorated hem, 12,000 Baht for a fully supplementary weft decorated piece that she combines with parts from other weavers who do not necessarily work in the weaving space, and 15,000 baht for a fully supplementary weft decorated piece that is specially commissioned and made in the weaving space. The price of the tube skirt from this community is very high, possibly the highest, compared to those from other communities in Thailand (Luangthongkum, 2016). Some exceptional works from certain master weavers might fetch higher prices. Silk normally fetches a higher price than cotton due to the cost of material and the extra care needed while weaving. The weavers are paid for the pieces that they make and not by the hours spent.

However, external circumstances can affect day-to-day prices. For example, in October 2016, His Majesty King Bhumibol Adulyadej of Thailand passed away and the nation went into a year of mourning when wearing black was preferred. The traditional tube skirt with its vivid colour had a dramatic drop-off in demand at least in the early months after the king's passing. The prices of the parts of tube skirts dropped because the buyers were not sure about the situation.

Where textiles are sold

The master weaver's textiles are available only at her house, which is also the weaving space. For other weavers in Ban Rai, however, there are several places where the customers can buy their textiles. Customers could visit the village and buy textiles from local shops, cooperative buildings or from the weavers directly in their houses. Occasionally there are markets or festivals in the town centre or temples that includes stalls selling textiles. In local festivals, the textiles are presented as either finished pieces

[14] I was exposed to the price of cotton more than silk because the master and most weavers in the village use mostly cotton.

or as parts to be assembled. However, textiles that are sold to the users are normally sold as finished pieces.

There are also exhibitions and trade fairs where textiles are presented outside the village, normally as cooperatives. These trade fairs are virtually all organized by governmental organizations. One of the most recognized is OTOP, organized by The Community Development Department. The fair is the biggest fair nationally for locally made products and textiles is a considerably large section. OTOP Fair is where textiles from the village are thought to be traded most and the cooperatives all prepare for this event. Shop spaces provided by the organizations are also available, for example SACICT and OTOP run a few shops in international airports in Bangkok.

Picture 23. Textile stalls in the World Heritage Fair in Ban Rai town centre. Wuthigrai Siriphon, 2016.

Weaving process

The weaving process explained here is based on the activities in the weaving space of master Tamasiri. One stage not presented here is dyeing because all the textiles that I have made in the fieldwork are made from pre-dyed, industrially made yarns. A weaver is expected to be able to carry out all the stages in the master weaver's view. However, it is possible to commission local specialists to complete some stages. Technical

information on the weaving tools, materials and colours can be seen in the Appendix C. The weaving process can be mapped below:

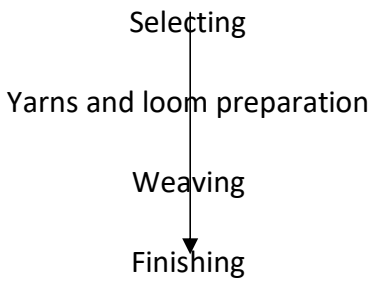


Diagram 4. Weaving process in the fieldwork. Wuthigrai Siriphon, 2018

Selection process

The first stage in the weaving process is selection. It is when a weaver needs to decide what is the type of textiles to make, i.e. tube skirt or scarf, in what colours and materials. Factors that constitute the selection process can be varied, for example, whether the textiles are to be sold at a craft fair, to be made as a gift, to be offered to temples, to be displayed, or to fulfill a commission. The selection process is very important because it determines every stage that follows, for example, the size of the reed, the warp width and the number of materials.

The patterns are selected in this process. Motifs and patterns are from the repository in forms of either woven textiles, or photography, either printed or on a screen,[15] which can be from their own archive or other weavers'.[16] Each main pattern has a certain size and must be arranged with complementary patterns (Luangthongkum, 2016). The patterns may be chosen for many reasons, for example, if it is the weaver's opinion that the patterns are rare and forgotten, then the weavers might want to revive them; if the patterns fit the level of skills, or if the patterns may look appealing to the market.

It is not common to weave many small samples first to experiment with different pattern arrangements, with the exception of an innovative weaver in another district in the

[15] Many weavers use smart phones and tablets.
[16] Some weavers are more secretive and less welcoming than others.

province (Kitsaon, 2015). Virtually every weaving aims towards making a final product. Making all textiles as products to certain sizes require the weavers to carry out proper planning.

Warp and weft preparation

The yarns can be bought from shops in the market. They are already dyed in a variety of colours, usually all the traditional colours and more besides. The yarns come in the form of hanks. It is possible to by only a hank; no purchase in bulk is necessary.

Weft preparation

The hanks of weft yarns must be wound into small bobbins. The master weaver would wind the bobbins only for the amount needed for the pieces to be made. The size of the bobbins should not be too big otherwise there will be a problem fitting in the shuttle, nor should they be too small meaning that the yarn will run out quickly and the weaver must change the bobbin too often. There must be bobbins of the yarns for the ground cloth and those for the patterns.

Warp preparation

The warp preparation is a lengthy process so weavers usually make a long length of warp for many pieces of works to minimize the time spent. Weavers normally know how many hanks of yarns are needed for the required warp. Often just enough yarns are bought for that amount.

The warp might be wound from hanks into spools first, then from each spool onto the warping board. It could also be used as hanks wound directly onto the warping board, as the master weaver prefers. The latter however requires more precaution to prevent mistakes e.g. tangled yarns. Then the warp is taken out of the warping board and braided to prevent tangling. Then it needs to be tied into the old warp on the heddle and beater.

The warp being ready (with the heddles and beater), it is set on the loom frame. The loom has no warp beam. The warp is passed to the back of the loom, up on the upper

back beam and knotted on the upper front beam over the head of the weaver. To tighten the warp, the weaver must pull the warp bunches and secure it with a special knot. If the warp is wide, there must be two bunches of warp to reduce the size of the warp bunch and make them manageable. The two warp bunches must be tensioned equally. Then the heddles and beater are hung and levelled with cotton cords. The treadles are then placed and tied under the heddles.

Picture 24. I was winding warp yarn onto the warping board in the weaving space. Khun Kob, 2016

Picture 25. The master weaver is knotting new warp ends to those already on the warp set. Wuthigrai Siriphon, 2016

Weaving

To start weaving, the weaver must arrange all the tools in place: the warp should be tensioned and leveled; all the picking swards should be in the bucket; the bobbins basket should be on the seat, and the shuttles are filled with bobbins and arranged on the seat in the correct order.

Weaving is the process of interlacing warp yarn and weft yarn in an orderly sequence to create fabric. Most Thai looms have two heddles hence plain weave is the most common. There are some rules that must be followed in the process in the weaving space. These are:

1) The shuttles must always be placed on the right-hand side. They must be arranged in the correct order all the time.[17]
2) The shuttle must be held with the palm face up. The master weaver explains that this makes the angle of shuttle insertion less likely to pick up the warp and break it.
3) The weaving sequence starts by passing the shuttles from right to left, then left to right. The sequence must always stop on the right-hand side.[18]
4) The side that the treadle is pressed is the same side that the active shuttle is passed from, e.g. if the shuttle is passed from right to left, the right treadle is pressed, and vice versa.
5) The foot must not rest on both treadles at the same time. The foot should only rest on the treadle that must be pressed.

[17] The order of colours that would appear in the colour strips must be strictly followed. Having all shuttles in the corresponding order helps the weaver arrange the colours in the textiles correctly.
[18] When the weaver creates patterns with the supplementary weft technique, the weaving sequence helps them to remember the rows of the pattern, that is, each mark of pattern has two picks that correspond to the sequence of weaving. Having the shuttle on the right-hand side means the marks in the pattern have either finished, or not yet started. This eliminates the confusion that the mark in the pattern is half-finished.

6) If the warp is narrow, the weaver can beat the beater with one hand. If the warp is wide, one must use two hands.[19]
7) The cloth should be advanced and wound on the cloth beam often. This helps the woven cloth to be beaten equally and evenly.

The weaving pattern is created on the reverse side, whilst the source pattern is studied from the front (obverse) side. To replicate or recreate patterns, the weaver must have the source of the pattern to be transferred at hand. When creating pattern on the weaving, the weaver refers to the exact orientation of the motifs from the source and copies that with hand picking technique.

Picture 26. The source of pattern, namely a scarf, (on the left) is examined and copied on the loom (on the right). The scarf is made by the master weaver and the piece being woven is by myself. Wuthigrai Siriphon, 2016.

If the loom already has the pattern shaft added (see Appendix C), the weaver might not need the source of pattern at hand. If the weaver needs to create two identical panels, she might cut the first panel off the loom so that she can see it and copy. If she does not cut it off, she must write down or photograph the arrangement of colour so as to see it later.

[19] The beater is hung with cotton cords. It can swing as a result. That makes it easy to weave the cloth with a different pressure on either side. The weaver must make sure that both sides of the woven part advance equally.

Finishing

When the fabrics are woven and cut from the loom, they are then either stitched, hemmed or have the fray twisted, depending on the type of products. Stitching and hemming can be done by either hand or machine, or both. Hand stitch is preferred because it is seen as a more proper way of joining parts together. If it is hand stitched, this would be proudly mentioned. In the case of both hand and machine stitch being used, the machine stitching is for strength but would be relatively invisible while hand stitch is always visible and made with colourful yarns that are the same as those in the patterns.

After stitching or fray twisting, the fabrics are washed and conditioned. The cloth is first soaked in water with alum dissolved then washed. The master weaver prefers using a washing machine that is not automatically operated so she can control every stage of the washing. She does not wash fabrics for long, probably only 5 minutes for each washing with detergent, before draining and rinsing with water until the fabrics are clean. Then they are spin-dried and ironed while damp and hung to dry under the shed. This whole washing and ironing process might be repeated two or three times until the textiles look a little misty in terms of colour. This paler tone of colour is also preferred by another master weaver, Ms. Bansit, the national artist specializing in weaving (Jun-ngern, 2002).

The preference for certain shades and surface texture, however subtle, might be read as provoking a sense of time and of being antique. This aesthetic is relevant to the notion of originality and authenticity (Charpy, 2013; Naji, 2013). After the finishing process, the textiles are ready to be sold.

Picture 27. The master weaver is sewing panels of textiles with a peddled sewing machine. Wuthigrai Siriphon, 2016.

Picture 28. The master weaver sits on a bench in the front of the weaving space stitching the tube skirt that I made. Wuthigrai Siriphon, 2016.

This chapter explains the context of the weaving space of the master weaver Tamasiri, where the research activities, including the whole of Practice part one and a section of Practice part two were both located.

Chapter six

Practice part one: apprenticeship

The aim of the Practice part one, which was conducted in the first period of fieldwork, was to understand traditional Thai hand weaving in the local setting as an apprentice to master weaver Jampee Tamasiri, as well from the point of view as an ethnographic researcher.

This chapter provides explanations of the stages of practice in the apprenticeship including the processes of making the works and the properties of actual pieces of textiles. Later, the chapter offers an analytical reflection on the apprenticeship as a whole.

Before weaving practice

The first lesson with the master weaver

When I first visited the master weaver at her weaving space to discuss the plan of the fieldwork which was majorly comprised of studying weaving from her, the master weaver offered me a chance to try weaving on the loom she prepared for pupils from a primary school located next door to the master's weaving space. I walked to the loom with confidence; I was thinking that I knew about weaving and had practiced the craft for many years already. I started weaving by treadling and passing a shuttle from right to left. At that exact moment, the master weaver and a few other weavers in the weaving space were looking at me and calling out loud that I was doing it wrongly. I was stunned and did not know what to do. A weaver tried to tell me from a distance how to operate the loom correctly. I tried but I was still doing it wrongly, as she told me. Soon the master weaver came to the loom and taught me how to do it. She verbalized the correct bodily posture that I should have and demonstrated how to hold the shuttle and how to press the treadle (see Chapter five). Then I followed her advice and I was able to do it correctly but not so comfortably. It took me a while to be able to weave with a regular rhythm

and feel comfortable with the bodily movements and posture. This first lesson, as it appeared to me, gave impression to the master weaver that I did not know much about traditional Thai hand weaving in practical level.

A ritual to respect the ancestors

In the first week of my apprenticeship, after a few days of learning, the master weaver conducted an informal ritual. This was to accept me as a student and gain permission to study from her late teachers. These teachers were her ancestors, her grand-mother-in-law and mother-in-law, whose framed pictures were hung in the master weaver's private museum alongside the textiles that they had made and which the master weaver later inherited. This ritual was intended to make the process of being an apprentice proper and blissful.

Picture 29 (left). The view inside the master weaver's private museum. Wuthigrai Siriphon, 2016.

Picture 30 (right). The master weaver was paying respect to one of her ancestors. Wuthigrai Siriphon, 2016.

The ritual was simple. I bought some fruit on Thursday morning as the master instructed; Thursday is generally believed to be the day of the teacher (Srisamut, 1987). We went up into the master's museum. The fruit was laid in a basket container. One was cut in half, to symbolize that it was ready to be eaten. I was on my knees and paid respect to the ancestors by bowing with my hands together at the front of my chest, the same way that Thai people generally pay respect. The master talked to her ancestors out loud,

asking for permission that I come to learn weaving and for a blessing from them for my successful learning and the career beyond. On this occasion, another weaver who worked for the master joined me because she had never gone through the ritual before although she had worked there for a few months. This was possibly because she was already a weaver and had come to work, not to be trained. Then we lit a candle and joss sticks, made an entreaty, then put the candle and sticks on the ground outside the building (instead of inside due to the risk of fire).

Learners also pay respect to their teachers before and between learning sessions in other professions, such as Thai traditional medical practice (Santos, 2018, after Guenon, 1945; 2004) and Thai traditional music (Juywong and Binson, 2017; Srisamut, 1987). Santos (2018), after Guenon (1945; 2004) explains that traditional knowledge transmission includes the process of "initiation" that involves "spiritual influence" (p.78) which is beyond the ability of living people. However, these rituals are often far more elaborate than what the master weaver conducted for me.

After the rituals, I was accepted as an apprentice, not only by the master but also by her ancestors. Their knowledge that had been passed down from three generations, could now be taught to me. Being accepted as an apprentice of the late and the living teachers also comes with an obligation. This is that I should follow the master, trust her and believe in what she teaches. Moreover, it suggests that I should represent her well in other social situations outside the weaving space.

The weaving practice

Here I explain in chronological order the weaving practice and woven textiles that I made during the apprenticeship. This is divided into three groups, according to the sets of skills needed for making such pieces and the level of involvement in decision-making that I was allowed to have. Textiles, in the first group, were made with a focus on learning basic manual skills of weaving. The second group comprised tasks I was given by the master that focused on learning traditional motifs and patterns in largely traditional arrangements and colour schemes. For the textiles in the third group, I was allowed to

introduce my ideas. The motifs and patterns were chosen after conversations between the master weaver and myself. The colour schemes used in motifs and patterns were my sole selection. For the whole period of the apprenticeship, tools and materials used were provided by the master weaver, unless stated otherwise.

Presenting the textiles that I made into groups is only for the purpose of explaining. The actual activities in the apprenticeship were part of an iterative process and continuous, without any indication of stages of learning.

The first group – learning loom operation

Aims

Learn basic bodily movements and postures in weaving, also basic woven structures, namely plain weave and *kep phai hu tho muk* (เก็บไพฮูทอมูก) (see Appendix C).

Exercise

1. To weave a cloth with plain weave
2. To weave a table cloth with *kep phai hu tho muk* structure

Textile works

Both textiles pieces were woven in a plain colour, mainly purple. The first piece was not made entirely by myself but also by pupils from a primary school because the looms were set up primarily for them, or visitors, to learn weaving and I was told by the master weaver to weave on the same loom. The colours were not deliberately chosen because the main purpose was to learn and try out weaving in action, not to produce a beautiful piece of cloth, nor was a particular function intended. The second piece, and the rest, were made by myself with some support from the master weaver. The colour on the second piece was intentionally designed to be plain purple with a function as a table cloth.

The first piece was cut off the loom and had no finishing, possibly because it did not have any particular intended function. The second piece was finished on both ends with twisted fringes.

Weaving action

When I was making the first piece, I focused on practising bodily control in order to create a nicely woven piece of textile. There were many parts of the body with which I had to be careful when operating the loom: the eyes, the hands, the feet and the whole body posture. The loom and the tools were to be operated and controlled in designated ways, and supervised closely by the master weaver. The first piece I made was a continuation from the first lesson I had when I first met the master weaver. The second piece was made with a higher level of care because of an added complexity in the woven structure.

Picture 31. Students from a university visited the master weaver's weaving space. They were given a chance to try weaving in the same way I was. Wuthigrai Siriphon: 2016.

Picture 32 (left). The piece of plain cloth I first made in apprenticeship. Wuthigrai Siriphon, 2016.

Picture 33 (right). The table cloth I made with *kep phai hu tho muk* structure.
Wuthigrai Siriphon: 2018.

<u>The second group – learning to weave motifs and patterns</u>

Aims

This stage of apprenticeship focused on learning how to weave with different motifs and patterns into textiles. The complexity of motifs and patterns increased as the apprenticeship progressed.

Exercise

3. To weave a table cloth with patterns composed of a repeated single motif
4. To weave a table cloth with small patterns composed of a small selection of motifs
5. To weave a scarf with large patterns and
6. To weave a jacket with a selection of large, medium and small patterns

Textile works

The textiles made from this stage of apprenticeship had patterns and motifs decorated in the pieces. The third piece was the first one that I made where the master started introducing decoration in textiles. The fourth and the fifth pieces had increasingly larger patterns with larger numbers of motifs. These three pieces were woven in a traditional colour scheme. The sixth piece had a selection of different sizes of patterns and a larger selection of motifs than the previous pieces. It was woven with a non-traditional colour (see Appendix C) that the master selected for me to use. Although the colour schemes were chosen by the master, the exact arrangement of these colours in the patterns were made by me.

Weaving action

The weaving of these pieces started with the same process; the master initiated what I should weave in terms of function of the finished piece, namely table cloth, scarf or jacket. She would also choose what patterns and motifs that I should use. An exception was the sixth piece that the master consulted me about, regarding whether I liked the patterns that she had suggested and if I had any preference. The colours of the yarns were chosen. Then I started weaving.

To start weaving patterns, the master weaver gave me fragments of woven textile bearing chosen patterns. It could be that the patterns were to be copied exactly as they were displayed in the fragments or that some parts of the patterns in the fragments would be used while other parts would not. To copy a pattern or a part of a pattern, I would look at the fragments and count the warp yarns to see where the patterns and the background appeared, then I would replicate that in the piece that I was weaving (see Chapter five).

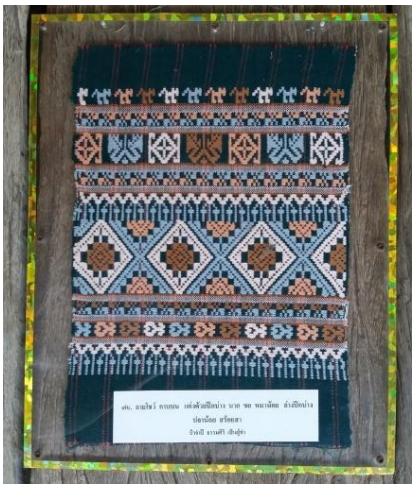
There was another way to know how to create motifs and patterns. In the third piece and some parts of the fourth piece, the master weaver would tell me while she was sitting on her loom the order of picking the warp in series of numbers in order for the

picking swards to move above or below the warp. Then I would have to do exactly as I was told. However in some parts of the fourth, all of the fifth and sixth pieces, the master weaver allowed me to examine and replicate the patterns without telling me the picking order, in other words, she allowed me to work on it myself.

I finished all the pieces myself by twisting the fringes, except for the sixth piece that the master weaver sewed for me. The sixth piece was a jacket that was sewn by treadle sewing machine. To the sides of the jacket were added fragments of handwoven textiles that the master made and kept. She cut them into small pieces and sewed them onto the jacket as she thought that it appeared too empty without them.

Picture 34 (left). The fraction of textiles bearing a fish pattern that the master weaver gave me to replicate. Wuthigrai Siriphon, 2016.

Picture 35 (right). The third piece, the table cloth I made featuring the fish pattern on both ends. Wuthigrai Siriphon, 2016.

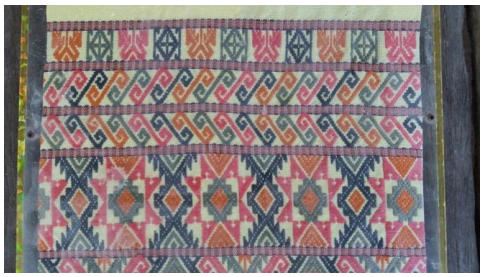


Picture 36 (left). A small panel of patterns in the master weaver's archive. Wuthigrai Siriphon, 2016.

Picture 37 (right). The fourth piece that I made using the patterns from the panel on the left. Wuthigrai Siriphon, 2016.

Picture 38 (left). The master weaver and myself in front of the master weaver's display of textiles when I accompanied the master weaver to receive an award in Bangkok. I was wearing a scarf that the master weaver made recently. This scarf was later given to me so I could copy the patterns. Wuthigrai Siriphon, 2016.

Picture 39 (right). The fifth piece, a scarf that I made following the patterns that the master weaver offered. Wuthigrai Siriphon, 2016.



Picture 40 (top left). The panel of sample that the master weaver gave me to copy patterns from, to weave the sixth piece. Wuthigrai Siriphon, 2016.

Picture 41 (bottom left). Master weaver's panel of hand woven sample. Wuthigrai Siriphon, 2016.

Picture 42 (right). Master weaver's panel of hand woven sample. Wuthigrai Siriphon, 2016.

Picture 43. The sixth piece, a jacket that I made. Wuthigrai Siriphon, 2016.

The third group – having my own input

Aims

The aims of this stage were to create textiles that exhibited the complexity of motifs and patterns while including my creative input in terms of the choice of colour schemes.

Exercise

3. To weave a scarf with motifs, patterns and colours that I chose from the master weaver's archive
4. To weave a tube skirt with a very large and complex pattern with the colours that I chose

Textile works

The seventh and eighth piece of textiles were made with patterns that I chose from the master weaver's archive, in consultation with the master weaver. The colour scheme used on both pieces of textiles were chosen by me. I bought some materials from the market in the town centre. The seventh piece was made with the same warp as all previous pieces while for the eighth piece, a new loom was set up to gain a wider width and with a new warp. The eighth piece was decorated with two groups of shades of colours, a traditional colour scheme and a set of paler colours that corresponded to that of the traditional.

Weaving action

The process of weaving the seventh and eight pieces was similar to that in the second group except that I had opportunities to choose the patterns and colour. The arrangement of colours on the eight piece was in gradation. To achieve the gradation of colour, a different shade of colours in the motifs was gradually replaced until all the motifs were in a paler colour scheme. For the eighth piece, I had to learn and practise setting up a warp and a loom for preparation. After weaving this piece, the master weaver and I joined and hand stitched the selvedge to complete it as wearable piece.

Picture 44 (top left). a fraction of textile from the master weaver's archive. Wuthigrai Siriphon, 2016.

Picture 45 (bottom left). a fraction of textiles from the master weaver's archive. Wuthigrai Siriphon, 2016.

Picture 46 (right). The seventh piece, a piece of scarf that I made. The patterns came from the two fragments on the left. Wuthigrai Siriphon, 2016.

Picture 47 (left). The master weaver's tube skirt from which I used as the source of pattern. Wuthigrai Siriphon, 2016.

Picture 48 (right). The master weaver wore the eighth piece, the tube skirt that I made, showing what it would be like when worn properly. Wuthigrai Siriphon, 2016.

After apprenticeship: tying the thread and blessing

At the end of my apprenticeship, there was another informal ritual that the master conducted with me and another friend of mine, who had studied with her for a few days. It was to bless us before departure.

Picture 49 (left). The master weaver was tying the thread around my wrist while blessing. Sabine Roth, 2016.

Picture 50 (right). The thread tied on my wrist. Wuthigrai Siriphon, 2017.

The ritual was simple. The master took out a skein of hand-spun cotton and cut a length of yarn out of it. She then asked me to present her with my wrist. She stretched the cut yarn over my wrist and slid it back and forth lightly on my skin. While she was doing this, she spoke and blessed me with kind words – to have good health and a successful life. Once she had finished that, she tied the yarn loosely around my wrist. This completed the ritual.

The yarn embodies the wishes and connects people who bless and are blessed. The yarn symbolizes connection. And it stays with the blessed person. The yarn becomes a part of that person's body. It is neither accessory nor cloth. The yarn itself is temporary, the person cuts it away after a few days.

This ritual of tying thread is also practised on other occasions, and in other places in Thailand, such as times of welcoming or bidding farewell; when a person has recovered after a period of poor health, or to make wishes for someone (Chantanapalin, 2010;

Kraisonrat, 2012). The ritual can be made more casual or more formal, and they exist for everyone, whether commoners or royals (Chantanapalin, 2010), taking place any time that is convenient. However, there must be a significant reason to do it.

Reflection

The purpose of the first period of fieldwork was to learn traditional Thai hand weaving practice. To do so, I enrolled as an apprentice to master weaver, Jampee Tamasiri. Adopting related theoretical frameworks from craft studies and ethnography, the fieldwork and the apprenticeship enabled me to learn the following:

- Manual skills
- Mental skills
- Local culture
- Legitimate Peripheral Participation

Manual skill (see Chapter four) in this case refers to: the ability to control the tools used in weaving process; the ability to control the body of the weaver to perform weaving efficiently and appropriately, and the ability to notice, correct and prevent possible mistakes that may occur or have occurred in the process.

Hand weaving fits into Pye's category of workmanship of risk (see Chapter four). The training in the first period of fieldwork built a foundation of manual skill in order to reduce the 'risk' of something unforeseen happening in the weaving process. Since the first day of training with the master weaver, in the early stage of the apprenticeship, the training of manual skill emphasized two matters, namely, how to control the body and how to operate the tools with the controlled body; this is also broadly discussed by Mauss (1973) in *Techniques of the body*. Training the posture and the bodily movement, i.e. how to hold and pass the shuttles, was at the centre of these activities. It can be said that the practice turns tools into an extension of the body, that is, the weaver can control and feel the tool as if it were a part of the body (Marchand, 2008).

At this stage, a relationship between the loom and the weaver, myself, was formed, that is to say, the construction and operation of the loom affect how the weaver interacts with it (Frayling and Snowdon, 1982). The bodily movement and posture were substantially framed by the loom. Also, conversely, the loom must be altered to fit the body of the weaver: a totally new loom frame was constructed for me because the existing loom had an overhead bar that was too low, touching my forehead which made sitting down uncomfortable.

The repetition of such activities and the corrections that may occur, by the master and by the apprentice her/himself (Lave, 2011) turn the bodily action, verbal and non-verbal conversation into embodied knowledge and skill, situated in the apprentice (Dilley, 1999; Ignatow, 2007; Eastop, 2014; Johnson, 1989) . This form of knowledge also remains tacit (Polanyi, 1966) (see also Chapter two).

When the apprentice, myself in this case, has shown a certain level of control in the weaving process and performs comfortably, the next stage of training can be commenced. At this stage, the fundamental manual skills that become embodied will hardly need to be mentioned, corrected or be concerning. These become unspoken rules, being tacit and embodied, that are mutually understood.

Although the manual skills would scarcely be mentioned, the learning of them does not terminate at the early stage of apprenticeship. At the more advanced level of complexity of motifs and patterns, different set of manual skills are introduced, depending on what is required in those particular tasks. Although different manual skills can be learnt at every stage of apprenticeship, the more complex the motifs and patterns in the textiles to be made, the fewer new manual skills will be learnt. This is because most of the manual skills necessary for making at advanced level should have been acquired already at the lower level.

Mental Skill (see Chapter four) learnt in this research refers to the conscious understanding of the interconnection of construction and operation of materials, body and tools, e.g. how textiles are constructed and how to achieve them with a manually

operated loom; specific weaving techniques that are necessary, and the principles and differences of those techniques. This necessitates a conscious understanding of both specific types of textiles and the process in which such textiles are made.

In the first period of fieldwork, mental skill was taught and learnt through practice. Adamson (2007) and Venkatesan (2010) contend that learning can be achieved by doing. The learning process occurs through physical activities of weaving, with little abstract theoretical explanation, while there is virtually none in written form (see Chapter three). Much of the communication in the teaching process, verbal and non-verbal, is focused on how to do certain tasks, without explanation as to how and why. Hence, to gain the know-how, the apprentices must rely on their own ability to resolve practical and abstract issues. It can be said that one of the aims of my apprenticeship was to achieve "a coordinated integration of mind, body and tool" (Marchand, 2008 p. 260).

My apprenticeship was a combination of master-directed and self-led modes of learning. This more or less coincides with Venkatesan (2010) who contends that learning weaving "is a combination of directed learning and picking up skills through watching, imitation, and 'having a go'" (p. S169, emphasise in original), which in turn is similar to the concept of mimesis articulated by Dilley (1999). These explanations are true to the situation encountered in the apprenticeship where the master directed the learning and I watched, imitated, and tried to do it on my loom. This performance by the apprentice of learning by watching and imitating was as active a process as that of direct teaching by the master weaver. A concept of "microworld" explained by Lave (2011, p.71, after Burton, Brown and Fischer, 1984) in her research of tailors' apprenticeships, lends a theoretical tool to expand the understanding of an apprentice-led part of learning. In the microworld, that is, the teacher or mentor creates a space for an apprentice to work and learn from solving problems largely by themselves through the process of observation and repeated correction while the teacher or mentor acts as a coach. In the case of my own apprenticeship, I was given the loom, tool, space and time to learn from observing others in the weaving space and to self-correct while practising under the master weaver acting as a coach who gave advice. The learner's ability to learn by using their own

initiative in the microworld, while under the teacher's general direction, is crucial to the learning process both for manual and mental skill. This apprentice-led process is not obvious, not performed externally by the teacher to student, but is more internally absorbed by the student in relation to the environment, and it is difficult to observe.

Another mental skill that I was expected to learn was to understand and memorize the structure of motifs and patterns in the sequence of making correctly. This was referred to by the master weaver as *the key to motifs and patterns (kun chae lai: กุญแจลาย)*. *The key to motifs and patterns* is the ability to understand and memorize the structure, construction, logic and possible variations of traditional motifs and patterns in weaving (see also Appendix B). This ability comes from repeated making, not simply looking and remembering. There can be as many *keys* as there are motifs; one key refers to the ability to understand and memorize one motif. The more motifs one can remember, the better. Having the *key to motifs and patterns* is the special skill that the master is proud of: she can weave, mix and alter these motifs to create new patterns as she wishes without referring to any sample of textiles, hence innovating, not copying. At the end of the first period of fieldwork, the master assessed whether I could collect any *key* by simply asking about small motifs: I could do two out of around twenty.

The modes of learning explained above stand in opposition to a formal mode of learning in education. In formal training, tutors are expected to explain and articulate theoretical or abstract explanations of activities involved in the classes either before or after the practical activities concerned. Tutors are also expected to lead the class and directly teach. On the other hand, in the first period of fieldwork, learning was through making, not conscious theoretical understanding. The learner also took responsibility to lead the process of learning as much as being under the guidance of the teacher.

Culture is described by Spradley (1980) as *'the acquired knowledge people use to interpret experience and generate behaviour'* (p. 6, Italic in original: see also Chapter two). He advocates that there are three components of culture: cultural behaviour, cultural knowledge and cultural artefacts. In terms of this current research, the

understanding of culture stems from the weaving activities in the weaving space where cultural knowledge and cultural artefacts are most relevant.

The nature of cultural artefacts, namely textiles, are learned by two means, examining the objects and constructing them. Textiles are always presented in the surroundings in the weaving space. These can be seen, examined and learnt from. These textiles are studied deeply only when selected pieces are examined and to be copied from. The selection can be by the master to the apprentice particularly in the early stage of apprenticeship; by negotiation between both, or by the apprentice if the master weaver allowed, which may happen in the later stage. Engaging with the same piece of textile for days, weeks or months, an apprentice gains an understanding of the motifs, the patterns, their names and meaning, their arrangements, the variations of details, the colours and the construction of the materials and visual forms. Constructing textiles, namely weaving, offers a different but complementary way to learn. To weave and copy the motifs and patterns entails four stages of thinking: examining the already woven piece; decoding the construction of the motifs and patterns; transferring and constructing the latter into the interlacing of warp and weft on the loom, and lastly, verifying whether the transfer is accurate. Then the process starts all over again with another row in the pattern and later, another piece of textile. Constructing, or reconstructing, textiles therefore encourages manual skill, mental skill, and the cultural knowledge that needs to be learnt.

Knowledge about culture that is related to Thai textiles extends to the relationship between textiles, weaving and life. Textiles are a part of life (Conway, 1992; Chudhavipata, 2012). They are useful artefacts, to be worn or used. They are commodities which provide a means of income. They are parts of traditional attire that represent identities and communities. Weaving is integrated with life activities on an everyday basis (Venkatesan, 2010), i.e. looking after the household and rearing children. Weaving is not a job with strict office hours but the weavers work on the loom when there is time to spare from other tasks. Textiles and weaving also play a significant part in religious ceremonies with the traditional textiles worn when locals attend religious

events in order to represent modesty. Understanding the role of textiles and weaving as a part of the culture is fundamental for an apprentice.

Practice weaving in apprenticeship has enabled me to access and understand the tacit and embodied, unspoken and unwritten parts of knowledge. From the fieldwork perspective, the cultural knowledge gained from the weaving practice also helps communication between the master and the apprentice to become possible.

Finally, in the first week and on the last day, the master weaver performed the tying thread rituals. These rituals reinforced relationship and connection. These are the relationships between the teachers and students, both in terms of actual day-to-day interaction, and spiritual, conceptual, and social relationships. They are also connections between entities and people, and between people and weaving knowledge. These rituals suggest that the relationship and connection should continue. People who have undertaken these rituals have already embodied the concept of an ongoing relationship and become a member of the weaving community, whether a crafts community or the social community in the broader sense.

Legitimate Peripheral Participation. The apprenticeship can be explained as *Legitimate Peripheral Participation* (Lave and Wenger, 1991) (See Chapter two). For this research, I entered an apprenticeship following the same process. It started with learning the basics of weaving: the training was arranged for me in the same way as the master would arrange it for primary school students who presumably had no prior experience in weaving. Later in the apprenticeship, my position slowly moved towards the centre of the community of practice of the weavers. After a period of participation, the position of the apprentice, myself, in the community of practice and the community in the village had shifted. The identity of that person (myself) changed from my personal point of view and from the others' too. This runs parallel to the idea that the participant is "being made native" by the others, as argued by Coy (1989, p. 132).

My position within the community changed as a result of the ability to learn and perform the manual skill, mental skill and cultural knowledge explained above. In the later stage,

the position changed from my being a relatively passive learner, that is, I did everything as I was told, to being a more active participant, that is, I was asked and allowed to present my opinions and ideas about weaving although my ideas might not strictly follow the weaving tradition. For example, in the seventh and eighth piece, I was encouraged to choose the motifs and patterns, types of textiles and colours to be employed. The eighth piece consisted of more than ten colours, which was not a traditional way of using colour. However, with some hesitation expressed by the master, I was allowed to carry on.

In addition to learning directly from the master weaver, being in a community also framed my weaving practice. For example, one day while I was weaving in the weaving space, a well-known weaver who used to be the master weaver's apprentice visited the weaving space. The master weaver showed her all of my works up to that point in time. The visiting weaver told me that everything I produced was good except that the fringes of the textiles I made were too big and loose. She further commented that they did not meet her standards and would not be good enough to be on display in her own shop. So with the next pieces, I intentionally made the fringe much finer and tighter to meet that expectation.

Chapter seven

Practice part two: knowledge integration

The aim of Practice part two is to investigate how the knowledge of traditional Thai hand weaving that was learnt and recorded in the Practice part one can be integrated with the disciplinary knowledge of design practice. The investigation is by means of design and weaving practice.

Practice part two consists of two stages of weaving practices in two locations. The first stage of research was conducted at the Textiles workshop at the Royal College of Art in London. The second stage, conceived as the second period of fieldwork, was conducted in Thailand at the weaving space of master weaver Jampee Tamasiri, the same location as that of the first period of fieldwork.

Practice part two, weaving project at the Royal College of Art

The weaving project conducted at the RCA workshop aimed at creating woven textiles that were combinations of the knowledge I gained from my apprenticeship and from formal design training. The textiles made in this later project materialized the relationship, connection and disconnection between the knowledge from the two sources. Each piece of work was produced as a result of analysis of the previous pieces that were produced (see Chapter two). After finishing these pieces, I planned to show the works to the master weaver when I went back to conduct a second period of fieldwork. I anticipated a review from her in terms of the quality of the textiles and the relationship between the works I made at the RCA and the Thai textiles.

A previous PhD research project that aimed at integrating art, design and traditional textiles had investigated this at length (Chunthone, 2014). However, her research emphasized creating textile art and it did not specifically include learning deeply and working closely with a local weaver which was, in contrast, a core activity of this research.

There were four pieces of textiles that I produced. All of the textiles were constructed into simple jackets made of rectangular panels of textiles. The shape and construction of the jackets were influenced by a top garment for men in Lua (ลัวะ) ethnicity who dwelled in the north of Thailand (pic. 51). The shape of the jackets was intended to be a link to a weaving practice in the first period of fieldwork, namely, a sleeveless jacket; this was to ensure the continuation of the weaving practices in both locations. Moreover, the simplicity of the shape allowed the motifs in the textiles to be displayed clearly. This shape of garment also required minimal cutting into shapes that fitted the curvature of the wearer's body, hence minimal waste was produced; this is consistent with the "no waste" approach (Briggs-Goode et al., 2010, no pagination). As I intended to focus on the textiles rather than the shape of the garment, having all the four pieces made in the same shape helped to amplify that focus.

The fact that the motifs, the shape of the garments, the materials and woven construction were from different cultural and technical background origins reflects the multiplicity of influences on the works. Reflecting on the process I used in this RCA weaving project, the multiplicity of the influences turned out to be a basis from which I could analyse and understand the creative process and underlying principle of each influence and approach. Further, the relationship between each approach to creative practice could be examined. The process of designing textiles can be read in Chapter four.

Picture 51. A piece of top garment for men of Lua (ลัวะ) ethnicity. This informed the structure of the jackets made at the RCA. Wuthigrai Siriphon, 2018.

Brief descriptions of each of the jackets

The first jacket

The first jacket displays decorations of traditional motifs on the back, *nak* (นาค) the serpent and *pla noi* (ปลาน้อย) small fish, derived from the weaves made in Practice part one (see Appendix B). The motifs are arranged to create random and asymmetrical placements. The materials are cotton and linen. The ground cloths are woven from yarns in indigo and white. The motifs use the same colours except for dark green that is added in small sections. Ground cloth is woven in twill structure while the motifs are woven by free-hand manipulation.

Picture 52. The first jacket (back side) showing *nak* the serpent and fish motifs in assymetrical arrangement. Wuthigrai Siriphon, 2017.

Picture 53. A fragment of woven textile in the master's archive showing a set of double headed *nak* the serpent motifs. Wuthigrai Siriphon, 2017.

The second jacket

The second jacket is decorated with a flower motif *dok kaew* (ดอกแก้ว), derived from weaves made in Practice part one (see Appendix B). The textile is woven with linen warp and a combination of wool, cashmere and silk for the weft. The structure of the ground cloth is twill. The structure of the motifs is computerized in a way that gives the appearance of traditional motifs although the actual structure is not identical to that in Thai textiles.

Picture 54. the second jacket with flower motifs. Wuthigrai Siriphon, 2017.

Picture 55 (left). A close-up view of a master's own tube skirt displaying the flower motif in the middle. Wuthigrai Siriphon, 2017.

Picture 56 (right). Flower motifs in the jacket. Wuthigrai Siriphon, 2017.

The third jacket

The third jacket displays motifs derived from Thai traditional textiles learnt in Practice part one, diagonal lines *ia* (เอี้ย), in random placement. The ground cloth is linen and the motifs are cotton. The ground cloth is woven with a combination of fishbone twill and chevron. The ground cloth structures are controlled totally by the computerized program while the motifs are created by hand manipulation.

Picture 57. the third jacket with diagonal lines motifs *ia.* Wuthigrai Siriphon, 2017.

Picture 58. A fragment of textile in the master's archive which shows a variation of the use of diagonal lines. Wuthigrai Siriphon, 2017.

The fourth jacket

The fourth jacket displays one of the simplest elements of traditional pattern - *dok lot* (ดอกลอด; rhomb shape), which comes from the master weaver's own tube skirt. The ground cloth is woven with wool and the motifs are woven with Lurex[20], silk, wool and cashmere. The ground cloth structure is twill. The structure of ground cloth and the motifs are programmed and controlled totally by computer software that drives the loom

Picture 59. the fourth jacket with *dok lod* motifs. Wuthigrai Siriphon, 2017.

Picture 60 (left). A close-up view of the master's own tube skirt showing *dok lod* motifs. Wuthigrai Siriphon, 2017.

Picture 61 (right). The motifs on the fourth jacket. Wuthigrai Siriphon, 2017.

[20] A trademark of reflective yarns, often resembling metallic threads.

Practice part two: the second period of fieldwork

The second period of fieldwork was conducted with the aim of integrating the disciplinary knowledge of design with the local knowledge of Thai hand weaving in the context where the local knowledge was prominent, which was seemingly the opposite way around to the practice at the RCA where the disciplinary knowledge was more distinct. This was to build up from previous practices. In the first period of fieldwork, I learnt and practiced traditional Thai hand weaving from a basic to an intermediate level. Following that, I conducted my own weaving practice at the RCA textile workshop where I reviewed, selected and integrated the knowledge in Thai textiles with my own design practice. The length of the second period of fieldwork was six weeks.

The location

The location of the second period of fieldwork was the same place as the first, the weaving space of master weaver Jampee Tamasiri. The reason that I continued working in the same location and with the same respondent was that I saw the importance of developing and deepening the understanding of the research focus. Being in the same place, I had an opportunity to continue observing, participating, practising, making, and recording a more advanced stage of weaving practice, the stage of creating new motifs and patterns, not only copying them from previously made pieces. Having already developed a good relationship with the master weaver, I saw this as a propitious opportunity to further enrich the experience and further create a new textile work.

Change of the weaving space

When I revisited the master weaver in the second period of fieldwork, from September 2018, the weaving space was under reconstruction, near completion. The change was so substantial that it barely showed the previous structure experienced in the first period of fieldwork. The building had been turned from a house with a weaving area to a purpose-built weaving space with a house included. The size of the weaving space had been doubled. The plan, the surfaces and the roof had been changed. There was now a purpose-built weaving area that would allow a larger number of looms to be installed,

also a front space that could be a reception for visitors or exhibition space for the work of the master. The weaving space was now visually much more open and welcoming to visitors and students to visit or learn about weaving.

Picture 62. The front view of the house and weaving space after its renovation. Wuthigrai Siriphon, 2017.

The master weaver explained that the reconstruction of the house and weaving space was to improve the building so that it would be more tolerant of the elements, including potential flooding. Also, it was to create more space for looms for students and to create a welcoming area for visitors.

I would argue that this change of the weaving space reflected the way the master has seen herself differently from that I had experienced earlier. The master had been, in the previous year increasingly, recognised at national level. She had received some national awards and recognitions, and frequently met some nationally important figures who appreciated her works (former ministers, national artists). She also had a project with the Community College to offer weaving classes for the college students, which had the potential to be developed into a diploma programme. Although the master weaver had been known for excellence in her weaving knowledge, skills and creativity for decades, it was only in recent years that the intensity and level of recognition seemed to be

particularly high. This observation was also expressly told by the master weaver. The master weaver was the main person to supervise the construction and wholly funded the construction project.

The change in the weaving space did not importantly affect my fieldwork. I knew the master weaver and had studied with her before. Prior to the second period of fieldwork, the master weaver and I had discussed the research plan so the master was aware of my research and had been prepared. The master contributed to the research, as expected.

Picture 63. A view inside the reconstructed weaving area of the master weaver.
Wuthigrai Siriphon, 2017.

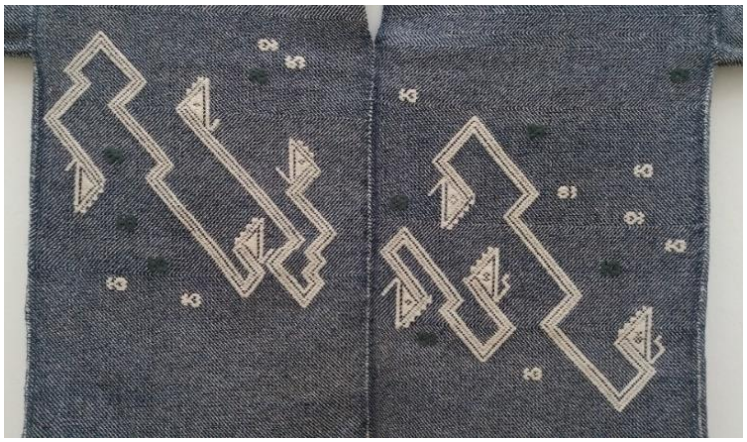
Practice

The main practice in the second period of fieldwork was to make a piece of textile that originated from my own idea with the master advising and supervising the making process.

The process started with a conversation between the master and I. This happened at lunch time at the master's house. She asked me what I wanted to make this time and I said a blanket. She promptly gave me a few ideas of the patterns that I could make, largely based on traditional pattern arrangement. As this was not resonating with my

ideas, I did not give much of a response to the master weaver. After a moment of silence, the master asked me again what kind of patterns I wanted to weave. I then told her about my idea that I wanted very big motifs arranged in an asymmetrical position horizontally or vertically. I used verbal and hand movements to explain my idea while we were eating and discussing. The master's facial expression, to me, was that she was not quite sure what I meant. She asked if I could draw the patterns I had in mind and show her on paper. I said I could but, better still, I had some pieces of works that I made during the time in the UK after I had left her in the first period of fieldwork, which might illustrate my explanation. The reason that I did not draw was that Thai weavers normally depict motifs and patterns on textiles while using no drawing (see Chapter three), I reasoned that showing her textiles was a more appropriate way than drawing what I had in mind for her.

I took out all of the four weaves that I had made while at the RCA. One of the pieces was the first jacket in indigo with motifs of *nak* the serpents, on the back. The motifs were irregular and asymmetrical which closely represented the idea that I had earlier tried to explain to the master weaver.



Picture 64. The back of the first jacket I made in the weaving project at the RCA.
Wuthigrai Siriphon, 2017.

Picture 65. A panel made by master Tamasiri displaying symmetrically mirrored patterns with *nak* the serpent, *mang kon* the dragons and other motifs. Wuthigrai Siriphon, 2017.

Further, I mentioned one of her works that had big and dominant motifs of *nak* the serpent and *mang kon* (มังกร) the dragons. I told the master that these bold and solid forms of the creatures inspired me so much that I wanted to use some of the elements from the panel, but I wanted to arranged motifs and patterns irregularly and asymmetrically, as exampled in my own work. The master's face suddenly changed, I noticed. It suggested that she understood my idea. She then gave me a continuous chain of ideas about how this work should be done, including the making stages that I should take. The conversations regarding how I should make this piece of textile continued in all the stage of the making for all six weeks. This included questioning, directing, negotiations and alterations in the designs.

It was agreed that my work would display big bodies of the serpents as the main motifs, then there would be other much smaller motifs that filled the space of the background.

This method of composing visual element, showing one dominant object, is influenced by academic art training (Goldstein, 1975). Also, using enlarged traditional motifs in design has been explored by Singin (2012) in her local textiles development research.

After we had agreed with the idea, the master weaver walked, and I followed, to her tools storage. Then, one-by-one, the master weaver took out all the tools needed for the making. I was lucky enough that she offered me a set of tools to use, one that she had already prepared for her own weaving, so I could save almost a week of loom preparation and I could start weaving almost straightaway.

Making and creative process

The weaving process was similar to those in the first period of fieldwork, except that there was no sample of work to be copied. For this piece of work, I used a piece of the master's panel as guidance. The starting point was to study the form of a motif, then alter that motif to fit the scale and direction of my work. I aimed for this piece of work to be distinctive from that of the master weaver in terms of scale, proportion, details, movements, colours and the arrangements.

Picture 66. The master regularly came to the loom that I was working on to inspect and advise the weaving process. Saiporn Singhanon, 2017.

I was responsible for making almost the whole of the work. There was a minimal part with which the master assisted. Her contribution was mostly to show me how to make

in certain areas, or to help guide in some challenging parts of the motifs. Her making interventions, however, occurred mostly in the early days of the making. At the later stage, she allowed me to take control of the whole weaving process.

The colours were selected in two stages. The colours of the motifs were first chosen from a collection of dyed yarns that the master already had. I chose the set of colours that I felt worked well together, supported by the colour theory that I had learnt. Later, I chose the background colour from a limited range of yarns in a shop in the village market. I chose green because I thought it could be suitably matched with other colours that I had chosen, creating harmony, while being visually different from other pieces of works that I had made and from traditional colours, mainly red, black or indigo.

The weaving and motif creation started from the bottom of the panel. The position of the first and second serpents were decided on at the point of making, and it depended on how I and the master felt at the time as to whether there should be a change in the design. Where possible, I would add complementary motifs to fill in the gaps between the lines. When the weaving was finished, the piece of textile was cut and the finishing, the fringe ends, was made by the master and myself.

The work

The piece of hand woven textile displays two bodies of *nak* the serpent that fold, twist, turn and dominate the width and length of the panel. Between the serpents bodies, flowers and seeds motifs scatter around the space. The background is in the colour green, the motifs are in pale blue, dark blue, pale green, yellow-brown and orange-brown. The function of the panel is either blanket or wall panel.

Picture 67. The final piece of textiles made in the second period of fieldwork. Wuthigrai Siriphon, 2017.

Picture 68. The master Tamasiri and I were standing with all the works that I had produced in her weaving space from both the first and second period of fieldwork. Saiporn Singhanon, 2017.

Reflection

Weaving practice at the RCA

The weaving practice at the RCA was a juxtaposition of the local knowledge of Thai hand weaving learnt in the first period of fieldwork with the disciplinary knowledge of design practice. At this stage of research, the weaving practice offered the opportunity to learn in several ways including;

- to further reflect and analyse the knowledge learnt from the first period of fieldwork through practice in a different context,
- to explore how the local knowledge can be integrated into design practice and, lastly,
- to prepare works that would initiate the weaving practice in the second period of fieldwork.

Conducting this practice, which had resulted in four pieces of jackets, allowed me to learn and reflect on the skills and knowledge in relation to those learnt in the first period of fieldwork, that is, the manual skill, mental skill and cultural knowledge.

Manual and mental skill

Manual skill used in the weaving project at the RCA was different from that learnt during my apprenticeship. One fundamental difference that laid the foundation for the practice was the loom, hence, different manual skills were used.

There are two types of loom that I used for producing textiles at the RCA, a four-shaft Finnish countermarch loom, and a 24 shaft Arm computer dobby loom (see Appendix D). A countermarch loom is one manually operated by the weaver's body. Although the loom has a different configuration that requires the weaver to interact with it in a slightly different way to that of Thai loom, the weaver needs to rely largely on embodied skill to operate the loom efficiently. Details of the body movements and posture might be different from one type of loom to another, and may differ in each cultural context, but

the premise that to operate a loom well, one needs to have embodied knowledge of hand weaving, is still applicable.

An Arm computer dobby loom, on the other hand, requires embodied manual skill to a lesser extent than the other two types of looms. Although this is a handloom, the shaft lifting system of the Arm loom is controlled by computer into which the weaver/designer inputs the structure desired. The weaver still needs to treadle, just to weigh the shafts up or down, but does not choose which shafts are to be lifted, as that is assisted by the computer system. Given that the Arm loom is semi-automatic, it has taken away the need for the weaver to use their body to fully control the loom. The embodied manual skill is not as fully mandatory as that for operating Thai looms. However, I do not see that the computerized Arm loom has de-skilled (see Chapter four) the weaver, rather, there is a need for another set of mental skill needed to operate this loom, that is computer skill and the understanding of software operation

The *mental skill* required to operate the RCA looms was based on their configurations and control systems. In terms of the countermarch loom, the principle of hand weaving on a Thai loom is largely applicable although the weaver needs to understand the different parts of the loom function and how to use them. For example, in this countermarch loom, parts that are different from that of Thai loom are: a warp beam, more shafts, more treadle, more solid beater hanger, lamm and a less deep proportion of the loom. This loom has the advantage of having parts that help to control and reduce 'risk' (see Chapter four) on the warp tension and balancing the beating pressure. However, it also comes with the disadvantage that the loom's depth is not enough to accommodate bamboo sticks that are used on Thai loom to assist creating patterns on the cloth. Nevertheless, I believe it is still comprehensible using the mental skill gained from learning to use the Thai loom as a basis.

On the Arm computer dobby loom, on the other hand, the weaver must acquire a totally different set of mental skills and knowledge in order to operate it: these are computer skills; the knowledge of woven structure in abstract form, and how these two can work

together to support the weaving activities. Computer skills are clearly fundamental for anyone who wants to use a computer, however, to operate the loom specifically, a weaver may need training in order to understand the software and how the information inputs in the software control the mechanical parts of the loom to assist weaving. Additionally, a weaver must understand woven structures, not only in a practical sense but also in abstract form, in the notation system.

For Thai weavers who work directly with the looms and yarns, the understanding of weaving and structure is situated within the bodily action of constructing the cloth. On the other hand, for those who design woven textiles with computers, particularly in this research case, the understanding of weaving and structure is realized in two steps: one is an abstract and graphic method of depicting woven textiles in the notation system, and the second is how the structure input in the abstract forms could turn into real cloth as the weaving begins. Designers who work with a computerized hand loom still have bodily interaction with weaving but the requirement that the woven structure must be coded and translated in the computer first suggests that the understanding of weaving and woven textiles may be different for Thai weavers, at least in terms of structure and construction.

Motifs and cultural knowledge

The motifs selected to be used in these four jackets were derived from those in Thai textiles that I learnt during my apprenticeship. These motifs appeared in all four jackets and were minimalised and used as individual motifs: this is unlike the arrangement seen in traditional textiles in which individual motifs are arranged closely to create patterns.

Using motifs in isolation implies that they are decontextualized - detached from their original surroundings and environment. Although individual motifs in Thai textiles had names and could be meaningful in themselves, separating them from their surroundings might affect their cultural value. For this project, I intended to produce works in response to what I had learnt in my apprenticeship. I chose motifs that appeared in Thai

textiles to create different types of textiles in a different geographical and cultural context.

Relating to these design projects, Parkin (2001) argues a case of *paradox of cultural creativity,* that is, in order to meet the expectations that the locals think customers will like, the craftsmen decide to display certain elements they think are attractive while suppressing others. Hence the works produced might not follow the rules or tradition from the location that these works represent. Parkin's argument reflects my practice to a certain extent.

When I went to conduct the second period of fieldwork, I showed the master weaver the jackets that I had made and she recognized all of the motifs I had used. The fact that the master recognized the motifs to be that of Thai textiles suggests a type of cultural knowledge within the weavers' community, in other words, the weaver's own cultural knowledge. We may learn that these motifs display a form of cultural knowledge of Thai hand weaving that two people who share the knowledge can understand. Without appreciating the cultural knowledge, one can hardly make associations of such motifs with the cultural contexts. In short, Thai textiles employs separated motifs as an important element of its culture and its meaning (see also Appendix B).

The second period of fieldwork

The practice in the second period of fieldwork was a continuation of weaving practice that I had already done previously. By initiating the dynamic that I would lead the creative process while the master supervised, the practice aimed at bringing the views from the design knowledge into the local context of her weaving space and Thai traditional practice.

This piece of weaving practice was a development of my position in the weaving space, from following the master's designs and direction to initiating ideas and being able to realize them. The fact that I majorly designed my own work showed that I had acquired enough skills and understanding to do so and that the master trusted me enough to

allow me to do it. This level of self-initiation would not have been possible in the first period of fieldwork.

In terms of skills, there were some additional ones that were crucial for this stage of practice of imagining and altering structures of the motifs and patterns. In order to create new motifs and pattern structures and their arrangements, I used existing motifs and then altered them to create new forms. These were some insights to be noted.

1. The weaver should have gained substantial skills in weaving before attempting to create new motifs.
2. The traditional motifs were chosen from the repository, normally from other pieces of textiles.
3. The selected forms were altered to create new forms. The alteration could be by extension, shortening, simplification (excluding certain details), multiplication, enlarging or minimizing.
4. The new motifs created should maintain their fundamental components that could help the viewer to identify what they represented i.e. a serpent should have a long and narrow body, head(s) in triangle shape, and crests on its head.
5. Improvisation occurred all the time, that is, the direction in which the motifs were going to end up depended on how the weaving progressed and what idea appeared at the time. This was not entirely pre-planned and the process had to be flexible. However, it was informed improvisation, supported by knowledge and skill acquired in the previous stages.
6. The alteration of the motifs, the ideation and planning, and the material construction, all happened at the same time; in other words, as creation-in-action.

The creative process used in the second period of fieldwork, adapted from the design process used in the weaving practice at the RCA (see Chapter Four) can be mapped in diagram 5. The diagram emphasizes that the process of thinking and creating new motifs is indivisible from the construction process. The iteration of weaving-alteration-

evaluation happens at every moment of weaving, from start to finish. In the fieldwork, the master weaver and I had discussions, made decisions and alterations on the construction of the motifs on a daily basis.

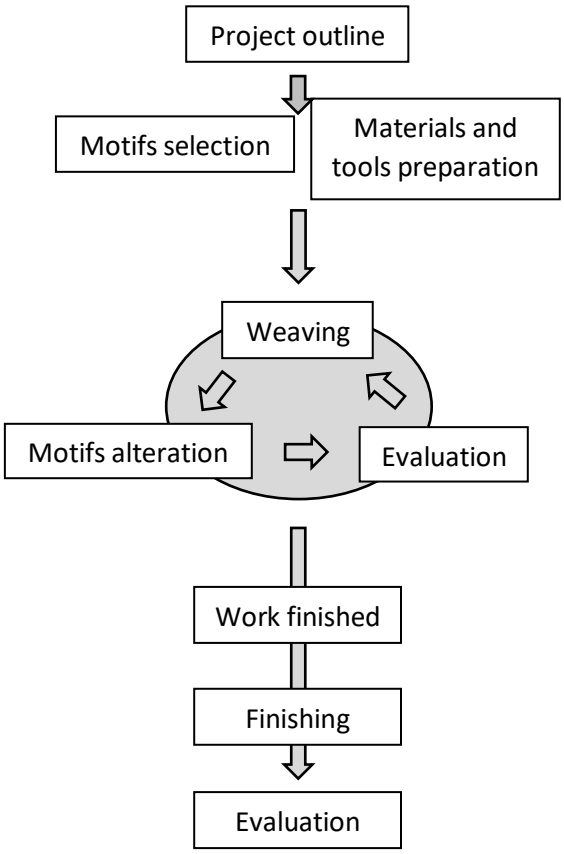


Diagram 5. The creative process in the Practice part two, the second period of fieldwork. Wuthigrai Siriphon, 2018.

The planning and ideation was based on conversation. To convey a successful conversation, the master and I had to have gained a certain level of trust between each other. It was trust from both sides. I had to trust that the master weaver understood the ideas and could advise and guide the construction process while I was weaving. The master weaver, on the other hand, had to trust that I had embodied the manual and mental skills as well as the cultural knowledge of Thai hand weaving enough to fulfil the task.

The embodiment of skills and knowledge was fundamental. In the weaving process, the manual and mental skills as well as the cultural knowledge had to be properly learnt and embodied within me. This knowledge would not be discussed or corrected. It was only the provisional alteration and manipulation that was talked about. The body of the weaver, in this case myself, was the locus of physical and creative activities. The knowledge was expressed and performed tacitly while a mutual understanding and relationship between the master and myself enabled the weaving to be achievable.

Lastly, apart from myself learning from the master weaver, the master weaver gained some useful insights from teaching and supervising me. The master saw the process of my learning as an example of how she could teach other students. As the master was engaged in a taught project with the Community College, she often told the college administrators that, in three-year's time, if at least five of their students could achieve the level of skill I had gained from learning with her, she would be very pleased. She invited a tutor from the college to come and see all of my works, to see examples of what she might plan to teach. Although the master had extensive experience of teaching, I was certain that I was the first student/apprentice who had a qualification and had spent an extensive period of time learning and practising the craft. I am fairly confident to suggest that my learning while conducting my research has given her some food for thought about teaching and learning; about what she could teach and how a student could learn the craft from her. When this practice was finished, the master weaver was very pleased with herself. She was also pleased with my achievement as a whole, as her apprentice. On various occasions, she would tell visitors in her way that I was a good student and she would be pleased to show them my works.

Chapter eight

Discussion

Design research in Thailand, particularly in the field of hand woven textiles, has been considerably active, with around 40 individual research projects identified as operating during the last decade (see appendix F). In terms of impact, there has been little evidence to demonstrate how local weavers would be using the designs developed by the designers beyond the lifetime of the project. While the researchers are claiming achievements in the reports, this does not include explanations of how the local weavers can adopt the designs that have been developed. In my opinion, this state of affairs is problematic in that the design researchers have taken advantage of the power imbalance in the current structure of research projects, which means that that the local weavers are being taken advantage of and possibly even exploited.

I believe that designers currently focus too much on objects, to the exclusion of the people that make them. The local knowledge seems to have been potentially diminished and suppressed by the act of current design development and this can be dangerous for the future of the craft. Limited integration of local knowledge in the current structure of the design development process can contribute to the future degeneration of Thai hand weaving.

Considering this problem, this research project readdresses the relationship of the two forms of knowledge and explores alternative ways for design practice to engage with local practices. This research project provides an equitable way to situate current design research in the field of Thai hand woven textile design development. It provides a model for Thai textile design researchers to engage more directly with the Thai weavers which ensures mutual respect for design and local practices.

Learning traditional practice as a designer in Thailand

In this research project, local knowledge in Thai hand weaving was framed predominantly by the knowledge of Thai weavers while the disciplinary knowledge of design was defined by Thai designers. Being an accomplished designer myself, one who could already weave well before undertaking an apprenticeship with a Thai master weaver had advantages and limitations.

One advantage was that I could understand what non-professional practitioners might not see clearly. That is to say that the knowledge involved was embodied, tacit or necessitating technical understanding. Having prior knowledge, skill and understanding of weaving as a method of making cloth promptly allowed me to see, understand, observe, learn, conduct and document data, where possible. The lesson learnt in the apprenticeship was, therefore, arguably at a deeper level of understanding than for those who have no prior knowledge and skill. This has effectively helped to accelerate the process of learning and conducting research, and more data was able to be collected in a shorter time as a result. Another advantage was that the prior knowledge, skills and insights in the related field had offered a way to see the knowledge learnt in relation to a wider context. This was particularly important for this research project where the knowledge from a particular place was to be understood in relation to that of other disciplines.

On the other hand, the prior knowledge of weaving and design practice can create a complex situation mentally, practically and possibly socially. The interpretation and conceptualisation of data, such as that collected, can be problematic. Such prior knowledge adds a certain kind of filter through which the knowledge learnt in apprenticeship is perceived. This can create a delusion and obstruction to the researcher. Another issue is that Thai hand weaving and design practice utilize different approaches, for example, Thai weavers are concerned with the continuation of tradition and create variations of textiles from existing traditional elements while Thai designers tend to strive to present newness without being restricted to specific cultures. Being

familiar with different approaches to creativity can interfere with the learning and the research process.

This research signifies that, surprisingly, designers do not understand weaving in the same way as local weavers do. Hence Thai designers, without knowing, often pose certain assumptions that may not be suitable for the local context. This relates directly to the anecdote given in Chapter one when I assumed that the weavers would understand colour theory easily. However, having conducted the research, it has become evident that there are various types of knowledge in design and weaving practices, such as disciplinary knowledge, local knowledge, explicit knowledge, tacit knowledge and embodied knowledge. There are also many ways that those types of knowledge can be perceived and constructed. As designers are always involved more or less in communicating how to do, make and improve things, being aware of the multiple modes of learning and knowing will certainly be beneficial for the designers and the weavers alike.

There was a collective view towards innovation and tradition in the village where I conducted apprenticeship. An observation that struck me was that no weaver ever mentioned that they needed designers to come and help develop their works. What the weavers needed was in fact more weavers as they could not produce enough traditional textiles to meet the market demand. New design was not seen as instrumental as a designer might assume. The fact that the textiles from this village could already reach the highest price among vernacular textiles (see Chapter five) supported this point.

There was indeed a different view of innovation and tradition in terms of values, culturally and commercially when comparing Thai designers and local weavers. Innovation and new designs had been introduced to the weavers in the past (see Appendix F) but I would argue that in general, the impact did not last long. The cause might be that innovation would require investment in time and resources which made it unappealing to the weavers while there was already a commercial value in tradition. Having said that, it does not mean that the weavers did not create new things; they did

but in a subtle way, and they preferred things that fitted well with a traditional approach, i.e. a tube skirt with newly arranged motifs that were derived from those of traditional ones.

However, there are merits from learning traditional craft as a designer. One aspect is that I have become aware of many different ways of creating textiles that also entail their contextual understanding. My design practice that uses elements from traditional craft can become more holistic. A holistic approach in this case means that a design process that incorporates a thinking process plus visual and technical elements from both local and design knowledge comprehensively. This is opposed to a current design approach in development projects in Thailand that only make use of motifs, patterns and technology from Thai textiles and then alter and apply them in design artefacts, which is shallow and not holistic.

Moreover, I have become more aware of bodily movement, posture, sounds, pressure, weight and repetition in hand weaving which help to improve the quality of textiles, consequently representing better materialisation of designs. This does not only relate to manual skill but also to the intellectual development from which the understanding of the relationship between the maker, tools, materials and products developed.

Aesthetic choices, inner conflicts and tensions

The aesthetic choices made in the weaving practice varied according to each stage of the research project. The choices made largely depended on the relationship between myself and the master weaver. During the first period of fieldwork, the aesthetic choices made in the early stage were decided by the master weaver, following what she considered to be the traditional aesthetic of woven textiles. In the later stage of the first period of fieldwork, however, I was allowed to choose the colour myself while the arrangement of motifs and patterns were decided by the master weaver. For the choice of colour, I followed colour theory, using different tones and values to create harmony and contrast (see Chapter four). An example of this can be seen in piece eight from practice part one.

For practice at the RCA, the aesthetic choices for colour and material were influenced by various sources. Whilst the motifs and patterns that I learnt as an apprentice were derived directly from Thai traditional textiles, the placement of these motifs and patterns was influenced by my academic art training, having a composition of dominant figures on a plain background. I chose to use various grey tones as the main colours scheme with chromatic colours in small propotions to create contrast. The overall appearance of this can be seen in Appendix A page 148.

In the second period of fieldwork, the master weaver described the works that I was making to a visitor as "modern design but using traditional motifs (ลายสมัยใหม่แต่ใช้ลายโบราณ)" (fieldnote 22nd September 2017). The aesthetic choices, colour and having a dominant figure, were all partially similar to my practice at the RCA. Nevertheless, the exact arrangement and size of the motifs were a result of negotiation between the master weaver and myself through conversations that occurred on a daily basis. Hence the aesthetic was a result of negotiation between the master weaver's traditional practice and my own formal design training.

However, certain conflicts and tensions occurred, such as how to balance my urge to create textiles that were individual and recognizably different. This is a quality that designers in art colleges prefer, whilst the obligation as an apprentice is to follow the master weaver's tradition. There were occasions where I did not totally agree with the master weaver's idea but I decided to follow her as a way to express respect. However, whenever possible, I tried to introduce my ideas in the process of weaving with her. There were, in this way, various points of negotiation between the master weaver and myself.

Thai hand weaving: skills, cultural knowledge and creative thinking

Linking all the research activities – ethnographic fieldwork, apprenticeship, weaving and design practices – and reflections on them has revealed an understanding of the nature of learning and culture of practice in Thai textiles. This section puts forward the relationship between skills, creative thinking and cultural knowledge in Thai hand

weaving in order to learn how these elements can be approached from design perspectives.

In terms of skills learning, the insights from conducting the research are shown in Diagram 6 below which explains the level of skills that are required at each stage from being a beginner to a master weaver. The level of skills becomes more complicated as the learning progresses. At the basic level at the bottom, the weaver learns how to copy motifs and patterns in textiles as they are, with slight variations in colour placement from the provided colour scheme. After that, at higher levels, the weaver develops the skills to change the combinations of the elements i.e. colours and placements. Another more complicated level of skill is to alter existing motifs and patterns.

At the end of the research project, I could achieve at the level of altering motifs and patterns (the dashes line in the Diagram 6). There are, however, two higher levels of skills that I witnessed from the master weaver's practice. This highly advanced level of skills comprise the creating of new motifs and patterns as well as creating new narratives or new ways of creating textiles. The top two levels of skills and knowledge in the diagram above indicate the master weaver level.

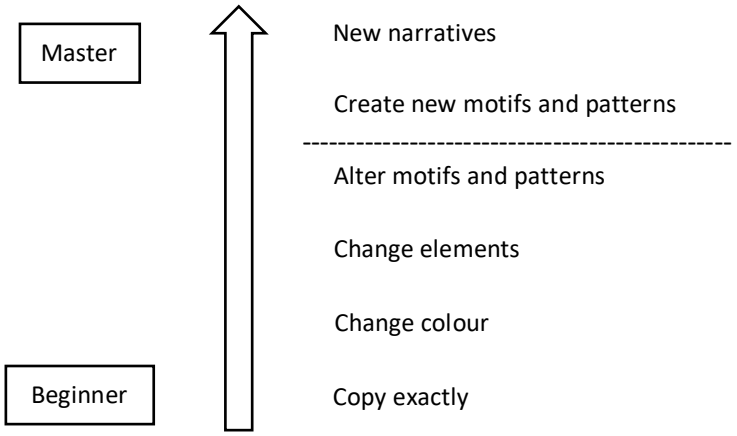


Diagram 6. Levels of weaving and creative skills. Wuthigrai Siriphon, 2018

It was not the purpose of the research to try to be a master weaver in my own right. While being a learner, attempting to achieve a master weaver level myself might have suggested ambition and possibly competition, which would have compromised the aim

and objectives of this research project and indicate lack of respect. Also, being a master weaver is a way of life and implies a social position which entails having established one's own space and creative independence. Being a master weaver is not a technical project that someone from outside the community, including designers, may consider a challenge to achieve.

Skills can be seen in relation to creative thinking and cultural knowledge. Diagram 7 below offers a simplified explanation of the relationship between the three elements, according to my understanding from this research. This research project reveals that, through practice, making and the creative process are linked inextricably. The relationship between skills, creative thinking and cultural knowledge is inseparable. The creative thinking led the weaving while weaving actions also led the thinking, on the grounds of cultural knowledge. It was not possible to think clearly without weaving, nor weaving without thinking because in Thai hand weaving, thinking is inseparable from making. Thai hand weavers tend not to use a separate process of creative thinking , e.g. drawing, before weaving, therefore they execute creative ideas while weaving.

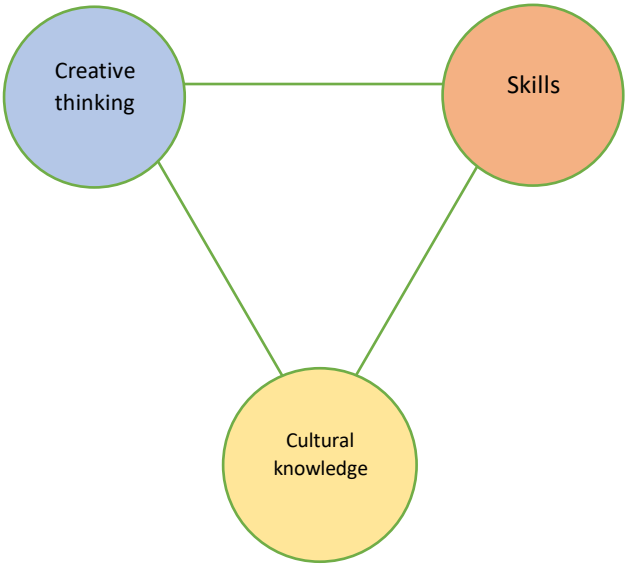


Diagram 7. Relationship between creative thinking, cultural knowledge and skills.
Wuthigrai Siriphon, 2018.

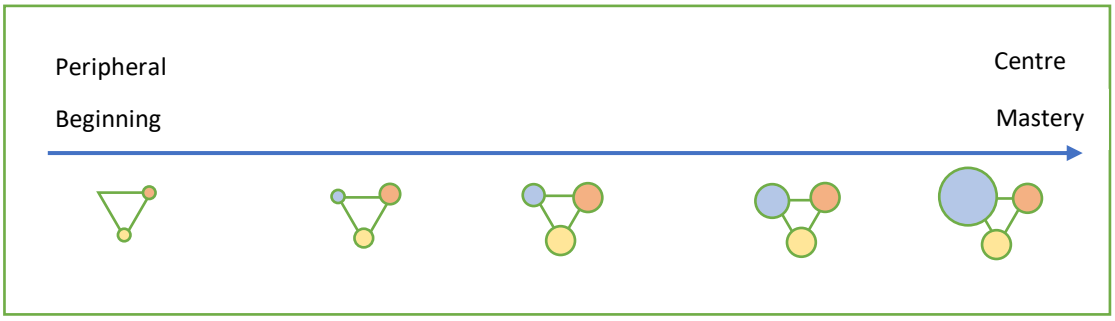


Diagram 8. Development of creative thinking in relation to the Legitimate Peripheral Participation and the level of mastery. Wuthigrai Siriphon, 2018

Diagram 8 represents the relationship between the three elements explained above with the concept of Legitimate Peripheral Participation (see Chapter two). It shows that at different times, each element in learning Thai hand weaving is engaged with differently. The skills and cultural knowledge were at the focus of learning in early stage, while creative thinking became more prominent later. The diagram shows the area of creative thinking (in blue) beginning at zero, then developing and enlarging as the learning progresses. It also shows the trajectory of my own positions in the community of practice - from the peripheral to the centre of the community. Although at the end of the research, my position in the community of practice is not at the centre of the community of practice, it is fair to say that my position has changed; it has moved toward the centre through making and apprenticeship.

This insight can inform and improve design practice. Creative thinking in Thai hand weaving is not a separate concept but an embodied practice, which is materialized through weaving. This is different from design practice that assumes that designers are creative thinkers who can manifest creativity in any media and through any means. Moreover, for a designer who wants to encourage the weavers to think creatively beyond their usual habits, e.g. create new design for textiles, it is useful to exercise creative thinking with making that they are familiar with, rather than engage with thinking in an abstract manner. This relates to my colour workshop in Chapter one and

explains why the weavers did not quite understand the lesson; in the exercise, I removed colours from the embodied activity (e.g. weaving and dying) and transform it into abstraction, which made the lesson difficult to comprehend by the weavers.

There are merits for Thai designers to learn local knowledge of their craft in its context which includes domestic, political and cultural parameters. The benefits are that the designers can eventually approach weaving and design in a more holistic way. That means that the approaches and boundaries associated with design and weaving, in this case Thai hand weaving, become blurred and unified through making. One can move between or beyond these realms and explore creative practice regardless of where it is originated from. Apprenticeship can be a worthwhile experience for a designer to take, to learn how creativity operates within a different context, to understand the system where creativity is situated and to understand that there are many factors that contribute to whether the designs can make an impact or not, or in which ways.

Knowledge integration

This research is conducted on the basis that there is a distinction between the local knowledge of Thai hand weaving and disciplinary knowledge of design practice. Having said that, the practice of this research has demonstrated that the knowledge of Thai hand weaving and textiles design are not totally separable because both types of knowledge are involved in the process of initiating ideas and materializing them through the medium of weaving. They are both composed of the process of ideation, element selection, fabrication and presentation. Hence knowledge integration, through apprenticeship as presented in this research project, is possible.

There are some issues that should be noted with regards to the aim for knowledge integration. Firstly, the geographical locations and their cultures of practice have become unavoidably influential. This influence plays a role in framing the creative activity and how the practice is conveyed. Secondly, the relationship between the local knowledge and design knowledge is dynamic and changing all the time. That is, the relationship of the two forms of knowledge changes according to the influences that

occur at the time i.e. the stage of learning, the technical skills and the time frame. The apprentice or designer should be able to adapt and evolve accordingly.

Considering that the two parts of the research practices have been completed - the local knowledge has been deeply learnt and then integrated with design knowledge - I can now argue that the whole research activity is about localising design practice, that is, localising the design knowledge to make it appropriate for the local practices, culture and environment.

Localized Design Practice

Localised Design Practice is the key contribution to knowledge of this research. The principle of this proposal is that the disciplinary knowledge of design is localised, that is, the design practice is selected and integrated with the local practice. This framework is primarily aimed at design practitioners who are working with or who will work with local practices. The purpose of this framework is to offer locally appropriate and appreciated design activities and processes that draw out a balanced quality between both forms of knowledge and practices. A goal of this practice is a sustainable and healthy development that is based on a mutually respectful relationship between the local craftspeople and the designers. The distinction between the two forms of knowledge of practice is blurred. Localised Design Practice is proposed as a new framework, emergent from this research project. The term is a derivation from the concept of localised knowledge, discussed in Chapter One.

For design practitioners, the core process to achieve the Localised Design Practice is to first immerse themselves and learn the local craft concerned while trying to achieve the knowledge, skills and understanding of the culture of practice. Then it is a matter of applying that knowledge with the design practice that one may already possess. This process is flexible and mouldable to fit with any local practices and cultures. It involves deep learning, evaluating, selecting, negotiating and integrating.

This Localised Design Practice holds the view of mutual respect; the local practitioners and the designers are both experts in their own right. This proposal prefers a dynamic

relationship between the design practitioners and the local practitioners, e.g. the relationships are generally equal but may differ from one stage of working to another. This is further rooted in the view that the local practitioners are not only the ones who need help, as against the view that the design practitioners are the ones who come with knowledge and the ones who give a hand.

This framework is situated inbetween other prevalent models. It is a combination of design practice (see Chapter Four), local textile practice (see Chapter three) and apprenticeship (see Chapter Two). It can also be seen as related to Critical Design Ethnography (see Chapter Two). There are differences between these two methods. Firstly, Localised Design Practice has not covered the stage of making a change to the context being studied, which is otherwise important in Critical Design Ethnography. Secondly, Localised Design Practice emphasizes apprenticeship in the process of ethnographic learning which is not the case in the other method. It is also closely related to Chunthone's (2014) research programme for the integration of art, design and craft ,conducted in 2014 (although it should be said that her research was aimed at creating textile artworks which was not the focus of my research and it did not feature apprenticeship).

One positive character of Localised Design Practice is the increased level of engagement which is also the value of localised knowledge. That is, localising the design practice and relating it to the knowledge and understanding of creative activities as understood by the locals, means that the locals will better understand the design activities, methods and tools. By increasing engagement, it is more likely that the design activities engage the locals, which is a contributing factor in securing a sustainable relationship and creative practices.

Localised Design Practice can be applied to educational settings in the future, in order to honour, preserve and advance the traditional craft by means of integrating it into the design curriculum at university level. This is to give students the opportunity to be exposed to the practices in traditional culture that incorporate both visual, material and

embodied experience. It can encourage the students to be aware of multiple ways of approaching design, the textiles making method and the creative process, moving further from the overloading discourse of traditional practices as being cultural heritage and part of national identity that must be preserved. There are lessons that students can benefit from through this framework, both practical and intellectual ones, for example: the cooperation between bodily skill and quality of making; sustainability in using materials; and value of craft skills in design.

A pressing fact is that most Thai weavers are ageing, with the majority aged over 50 years old, while very few young people take hand weaving seriously as a viable job, mainly for financial reason. This will inevitably lead to a sudden decline in the number of weavers in the near future. Effective and well-executed design development projects, informed by Localised Design Practice, can contribute to create assurance and better prospects for the handweaving profession.

The ethical concern of this framework is complex and context-dependent. On the one hand, one needs to respect the rights of the locals, and it can be seen that ethnography has highly developed mechanisms to deal with this issue. On the other hand, one attempts to incorporate the knowledge learnt with another form of practice, hence changing the pre-established local traditional practices. However, this kind of limitation offers a good counterbalance, ensuring that the design practice will be based on mutual respect and aim at a sustainable relationship.

Another limitation of this Local Design Practice is that it may take a long time to learn the local knowledge. This is necessary, however, to ensure that a deep understanding of the local knowledge of the local practice and the relationship with the locals has been developed and trust has been gained. It is difficult to determine what will be a good amount of time to spend in one location because it depends on many factors from both sides i.e. the nature of the crafts, the designers, the locals, the level of skills needed, dedication from both sides, as well as the social, cultural and financial relationships in relation to who funds the project.

It can also be argued that too much localising of the design practice limits the ability of the locals to move beyond their own territory of creative practice. This is because the localised knowledge gains its full potential only when it is within the space and environment for which it is designed, hence the term ‘localised’. However, to tackle this, one needs to properly maintain the balance of the combinations of knowledge and keep the practice dynamic and flexible enough to change whenever different needs occur. What this research has signified is that the balance between two forms of knowledge can be achieved through continuous relationship or investment in maintaining the collaboration between designers and local weavers.

One implication of this framework is that it is questioning both forms of knowledge, including their authorities and the validity of their own spaces. That is, it implies that the traditional practice is not adequately up-to-date and not able to respond to the ever-changing environment. On the other hand, the disciplinary design knowledge can be questioned from the point of view of its knowledge not being universal and not perfectly suitable for all specific situations and cultures. The complete authority and validity of each form of knowledge is no more. Although both forms of knowledge are proven to be useful, neither one possesses perfect tools but rather needs to be adaptable and flexible.

Chapter nine

Conclusion

This research project explored a way to integrate local knowledge of traditional Thai hand weaving with the disciplinary knowledge of design practice. Through tailored methodology, including critical ethnography, grounded theory, apprenticeship and weaving, this research project investigated the relationship between the local knowledge of Thai hand weaving and the disciplinary knowledge of design.

To understand both forms of knowledge, this research has shown that one needs to learn through physically, mentally and intellectually engaging with the design and weaving practice. The knowledge can be gained only through engagement with both theory and practice. This research project suggests that the future design development projects in Thailand should allow more time and resources to learn local practices as part of the project. Another point of learning the two forms of knowledge is that it is fundamental to have undertaken both forms of practices, namely Thai hand weaving and design. This allows a space to reflect on the practices, using practice in conjunction with thinking as a way to generate understanding. Besides, seeing the same activity in different contexts has been a key element of the research, providing comparison and clarification.

The research project has found that the local knowledge of Thai hand weaving and the disciplinary knowledge of design is fundamentally different. The differences are not only the contexts but also modes of learning, characters, values, approaches and reasons behind the justifications, for example: the nature of design is generally concerned with creating something novel but Thai hand weaving is more focused on the continuation of tradition; further, design learning is a combination of abstraction and skills while Thai hand weaving is more focused on bodily practice with little on abstraction.

Having said that, this PhD project has revealed that there are common qualities. They are both composed of the process of selection and materializing ideas by textiles

techniques. They are both concerned with market, productivity and aesthetic. Hence, they are compatible once the elements from both forms of knowledge are carefully selected.

What this research project signifies is that it is essential to recognize the value of local knowledge and the recognition of it in creative practice conducted by people from outside the community, e.g. designer and researcher. Although in the current situation, the local knowledge is currently studied, it is not sufficiently integrated into design practices. It is not only that this process can initiate locally appropriate creative practice but also a sustainable relationship and conversation between design and local craft practices. This approach challenges a common method in a considerably active area of research, particularly design development in Thailand, with many individuals and organizations involved. This research outcome can be applied to future development projects, potentially contributing to a shift in the paradigm of design research that can result in a meaningful change in the value of design in contextual settings.

The research therefore contributes a means of integrating the process of thinking and making between the Thai hand weaving and the design practice. More specifically, this research has shown that integration entails deep learning through apprenticeship and making. It also necessitates a holistic integration of knowledge, meaning the whole context of both forms of knowledge are considered, negotiated, merged and integrated to form a new framework for design practice that aims at long-lasting and mutually beneficial design process for both Thai hand weavers and Thai designers.

There are three contributions to knowledge stemming from this research. First, the key is the foundation of framework of “Localized Design Practice” (outlined in Chapter eight), which can initiate contextually appreciated and appropriate design practices. This contributes to current and expansive design frameworks in academic research and practical design activities.

Secondly, the contribution takes the form of an ethnographic account of the fieldwork from the perspective of the apprentice weaver. This contributes to the body of literature

on Thai hand weaving which mainly utilizes knowledge gained from the observable and verbalized. Thirdly, there are the findings of the learning process and knowledge integration from a designer's perspective. These materials contribute to the current body of literature on the nature of design, craft, making, learning and knowledge.

Overall, this research project offers an understanding of design in a contextual setting. It is not only applicable specifically to the workshop of the master weaver where the fieldwork was located, but is also suitable for other weavers in Ban Rai district and Thailand in a broader sense, as they all share a similar weaving culture. It is further applicable at a fundamental level for other manual craft practices and in other cultural and geographical locations such as other countries in Southeast Asia and beyond.

Given that this research project is deeply framed within a specific case of apprenticeship, weaving practice and design activity, further research could next be undertaken to investigate the use of the framework of Localized Design Practice in actual design development projects that purposefully target change-making in the area of study. Further research in different contexts of textiles and other crafts learning and practice could also be conducted to establish a fuller picture of craft and design practice, and in order to understand the foundation or variety of the modes of the practices. In addition, contexts other than vernacular craft practice itself could be studied, i.e. within industrial design, in order to assess how Localised Design Practice can operate as a model in that wider context.

Appendices

Appendix A: All the list of works

Appendix B: Motifs and patterns

Appendix C: Technical information on weaving in the fieldwork

Appendix D: Types of Looms used in the research

Appendix E: The Thai government initiatives on traditional textiles development.

Appendix F: Summary of academic design development on traditional Thai textiles

Appendix G: Consent form

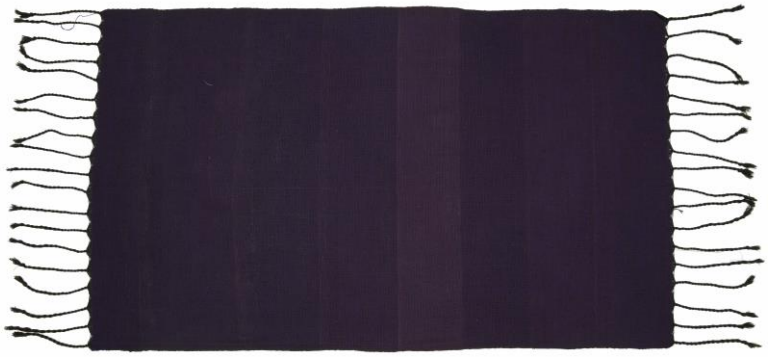
Appendix A

All the list of works

Woven textiles from the practices (in chronological order)
All photograph by Wuthigrai Siriphon, 2018

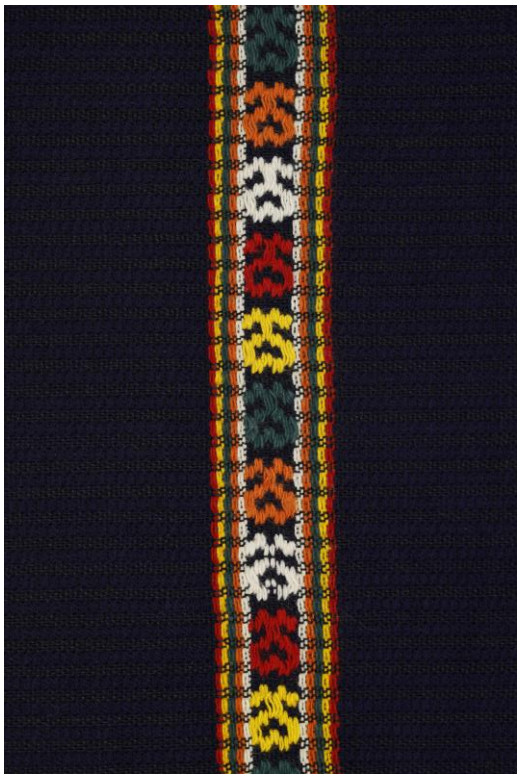
Practice part one, apprenticeship in the first period of fieldwork

Picture A1. Apprenticeship piece 1. Strips of plain cloth. Materials: cotton and synthetic yarn. Dimension 43 x 161 cm. (without fringe) 2016.



Picture A2. Apprenticeship piece 2. Small tablecloth with *kep phai hu tho muk* structure. Materials: cotton and synthetic yarn. Dimension 42 x 705 cm. (without fringe) 2016.

Picture A3. Apprenticeship piece 3. Small tablecloth with small strips of pattern.
Materials: cotton and synthetic yarn.
Dimension 41 x 76.5 cm. (without fringe) 2016.



Picture A4. Details of apprenticeship piece 3.

Picture A5. Apprenticeship piece 4. Small tablecloth with three bands of patterns. Materials: cotton and synthetic yarn. Dimension 40 x 76 cm. (without fringe) 2016.

Picture A6. Details of apprenticeship piece 4.

Left. Picture A7.
Apprenticeship piece 5. Scarf with different patterns on each end.
Materials: cotton and synthetic yarns.
Dimension 41 x 238 cm. (without fringe)
2016

Top. Picture A8. Details of apprenticeship Piece 5.

Top left. Picture A9.
Apprenticeship piece 6. Sleeveless jacket with a selection of patterns (patches of textiles on the sides provided by the master weaver).
Materials: cotton and synthetic yearn.
Dimension 58 x 98 cm. (without fringe)
2016

Top right. Picture A10. The back of apprenticeship piece 6.

Left. Picture A11. Details of apprenticeship piece 6.

Left. Picture A12.
Apprenticeship piece 7. Scarf with pattern on each end
Materials: cotton, silk and synthetic yarn.
Dimension 40.5 x 181 cm. (without fringe)
2016

Top. Picture A13. Details of apprenticeship piece 7.

Picture A14. Apprenticeship piece 8. Tube skirt (unfold with one seam unsewn) with a very large pattern. Materials: cotton, silk and synthetic yarn. Dimension 99 x 166.5 cm. (without fringe) 2017.

Picture A15. Details of apprenticeship piece 8.

Practice part two: weaving at the RCA

Picture A16. Jacket no.1. Materials: cotton and linen. Dimension 131 x 75 cm. (without fringe) 2017.

Picture A17. The back side of Jacket no.1.

Picture A18. Jacket no.2. Materials: linen, wool and cashmere. Dimension 130 x 78 cm. (without fringe) 2017.

Picture A19. The back side of Jacket no.2.

Picture A20. Jacket no.3. Materials: linen and cotton. Dimension 132 x 69.5 cm. 2017.

Picture A21. The back side of Jacket no.3.

Picture A22. Jacket no.4. Materials: wool, silk and LUREX. Dimension 134.5 x 68 cm. 2017.

Picture A23. The back side of Jacket no.4.

Picture A24. Details of the Jackets 1.
Picture A26. Details of the Jackets 3.

Picture A25. Details of the Jackets 2.
Picture A27. Details of the Jackets 4.

Practice part two: the second period of fieldwork

Left. Picture A28.
Blanket with very large pattern.
Materials: cotton and synthetic yarn.
Dimension 103 x 194 cm. (without fringe)
2017

Top. Picture A29. Details of the blanket.

Appendix B

Motifs and patterns

In Thai textiles in general, motifs and patterns are described as being inspired or derived from the surrounding environments including animals and plants, religious beliefs and geometric forms (Thailand Creative and Design Centre, 2013; Phosuya et al., 2016; Phayakprakhon et al., 2017; Praditpong and Shoocongdej, 2017; Sittisakpaiboon et al., 2010). Identification of motifs and patterns is normally by their names such as *nak* (นาค - the mythical serpent), *dok kaew* (ดอกแก้ว - flowers), *kho* (ขอ - hooks) and *kap* (กาบ - a triangle form) (Chudhavipata, 2012). These motifs and patterns are passed down and remembered from generation to generation (Chudhavipata, 2012). Motifs and patterns are created and used to identify and express the cultural identity of the cultures (Jitchinakul, 2016; Sakunasingh and Cadchumsang, 2017). Each ethnicity develops their own ways of arranging motifs and patterns (Janpla et al., 2016; Boontiang, 2016; Hussadin, 2016).

Although much literature takes the view that motifs and patterns convey specific meanings and narratives, it has been argued that there is no absolute consensus among scholars and local weavers. Luangthongkum (2016) contends that many weavers in Ban Rai district offers different information from the other. Findly (2014) explains a similar situation in Lao textiles in Lao PDR. In her research, some informants told her that the motifs and patterns conveyed no narrative, being only decorative, while many offered rich meanings and explanations. The differences in the meanings, narratives and interpretation of indigenous decorative craft practices have also been observed in other cultures such as those in Madagascar and Lesser Sundas (Bloch, 1995; Hamilton, 2016).

The tables below show traditional motifs taken from the textiles I have made which show variations in shapes and details. The motifs are not proportional in size to each other. More information on traditional motifs and patterns can be found in Luangthongkum (2016), Silapakorn University (2000), Smanchat (1997)and Narkphong (1993). The extracts of motifs are from the works that I made, unless stated otherwise.

Table B1. List of motifs used in the weaving practices without alteration

Name of the motif: *khan* (คั่น)
Meaning: separation strip

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
			x	x	x	x	x	x		x			

Name of the motif: *pik bang* (ปีกบ่าง) (in row)
Meaning: bat wings

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x	x	x	x	x					

Name of the motif: *o ae* (อ้อแอ้) (in row)
Meaning: zig zag path (walking or cart path)

(1-8)

(1-7)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x	x	x	x	x					

Name of the motif: *dok kan kong* (ดอกก้านก่อง) (in row)
Meaning: flowers from climbing trees

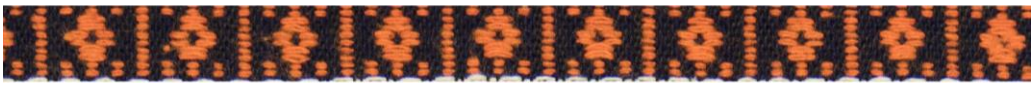
(1-8)

(1-6) (my mistake, motif is not correctly woven)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
						x	x	x					

Name of the motif: *tao noi* (เต่าน้อย) (in row)
Meaning: small tortoise



(1-5)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
					x								

Name of the motif: *kha pia* (ขาเปีย) (in row)
Meaning: yarn winding stick

(1-6)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
					x	x							

Name of the motif: *tum* or *nuai* (ตุ้ม หรือ หน่วย) (in row)
Meaning: seeds

(1-6)

(1-6)

(1-6)

(1-8)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x	x	x		x					x

Name of the motif: *mo* and *nok* (*nok* on the back of *mo*) (มอ กับ นก) (in row)
Meaning: a mythical creature and bird on the back

(1-6)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
						x							

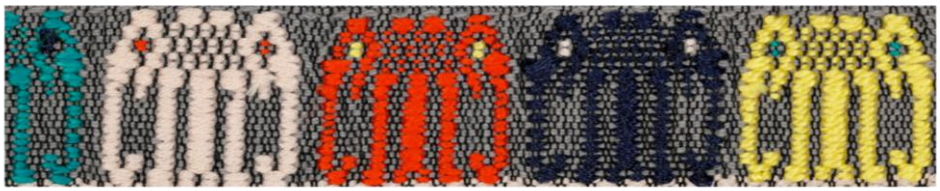
Name of the motif: *ma noi* (หมาน้อย) (in row)
Meaning: puppy

(1-5)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
					x								

Name of the motif: *chang erawan* (ช้างเอราวัณ) (in row)
Meaning: mythical three-headed elephant



(1-7)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
							x						

Name of the motif: *kho kan rom* (ขอก้านร่ม) (in row)
Meaning: hook with umbrella

(2/2-1)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
													x

Name of the motif: *kho noi* (ขอน้อย) (in row)
Meaning: small hook

(1-8)

(2/2-1)

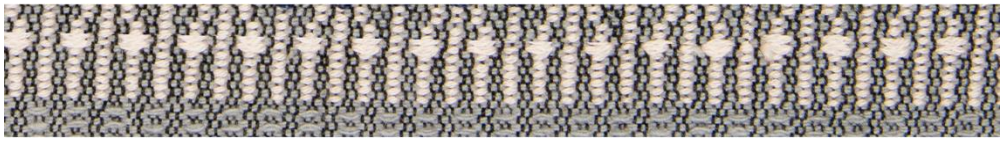
This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
													x

Name of the motif: *soi sa* (สร้อยสา) (in row)
Meaning: end panel

(1-6)

(1-8)



(1-7)

(1-6)

This motif appeared in the textiles from practice;

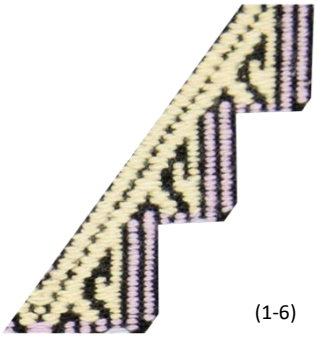
	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x	x	x	x	x					

Name of the motif: *kho* (ขอ) (in row)
Meaning: hook

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x	x	x	x	x					x

Name of the motif: *kho khuea* (ขอเคือ) (in row)
Meaning: hook with bars



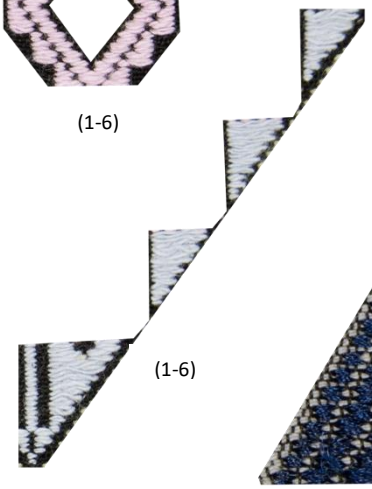
This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
						x							

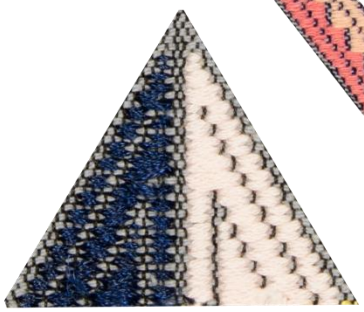
Name of the motif: *kap* (กาบ) (in sets)
Meaning: triangular element

(1-4)

(1-6)

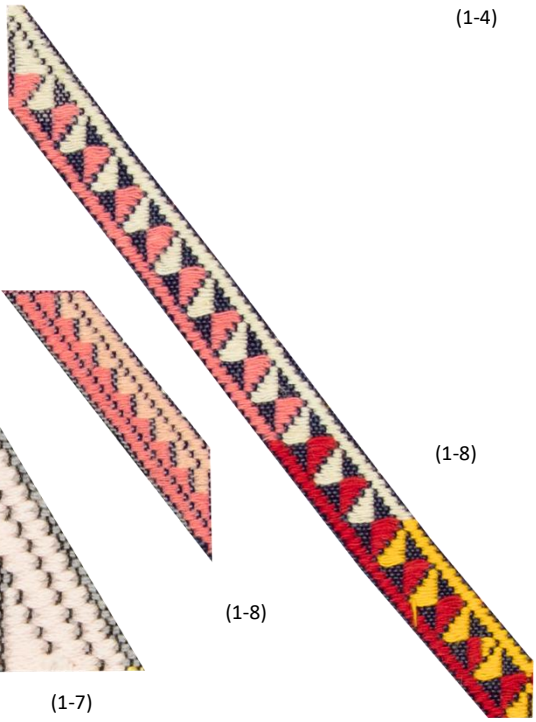


(1-6)



(1-7)

(1-8)

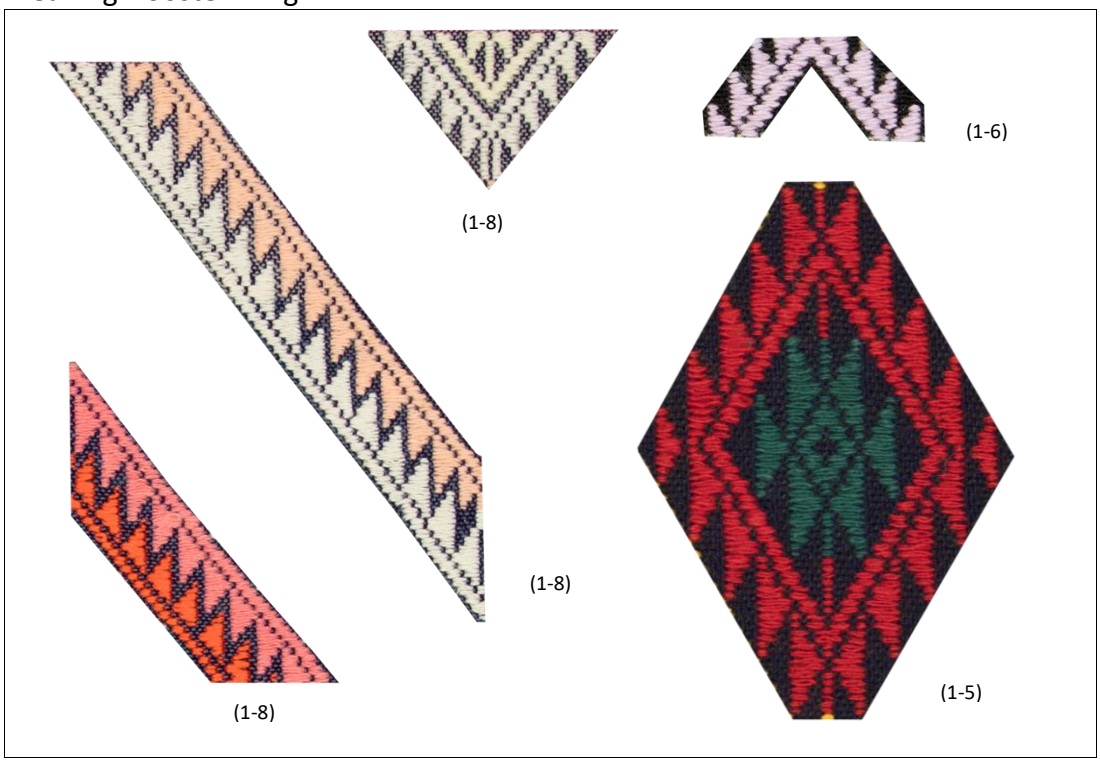


(1-8)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x		x	x	x					

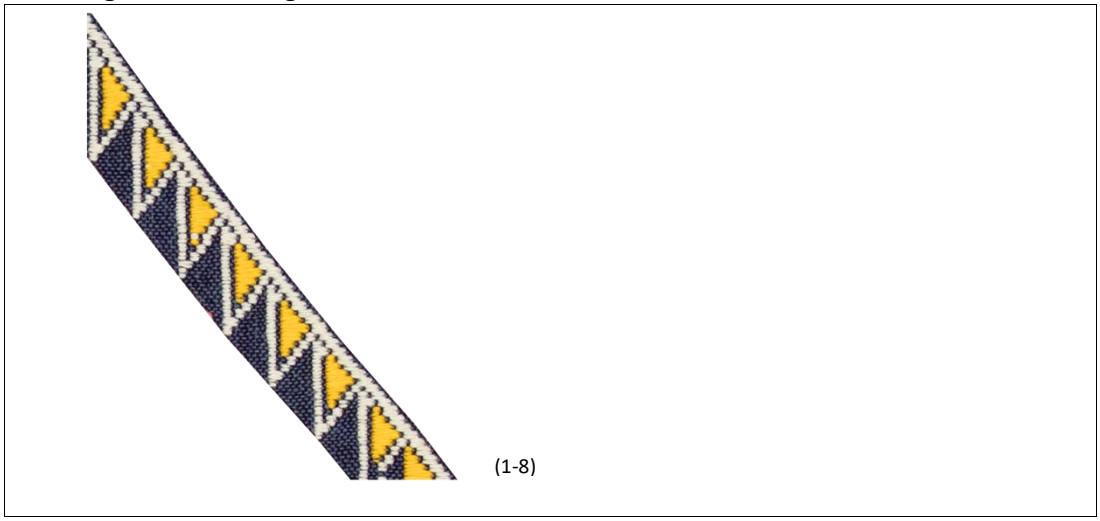
Name of the motif: *pik kai* (ปีกไก่) (in row)
Meaning: rooster wing



This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
					x	x		x					x

Name of the motif: *pik kai chak* (ปีกไก่จัก) (in row)
Meaning: rooster wing with frame



This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
								x					x

Name of the motif: *ta liaw ho* (ตะเหลียวฮ่อ) (in row)
Meaning: symbolic woven bamboo used in medicine making

(1-6)

(1-5)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
					x	x							

Table B2. List of motifs that have been rearranged or transformed
The top box shows the motifs used in the first fieldwork or those appeared in master weavers archived but I did not use previously (stated if applicable). The lower box shows how the motifs are used in the knowledge integration stage.

Name of the motif: *kaen mak hoi* (แก่นหมากห่อย) (in row)
Meaning: seeds

(Master's archive)

(2/2-1)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
													x

Name of the motif: *pla noi* (ปลาน้อย) (in row)
Meaning: small fish

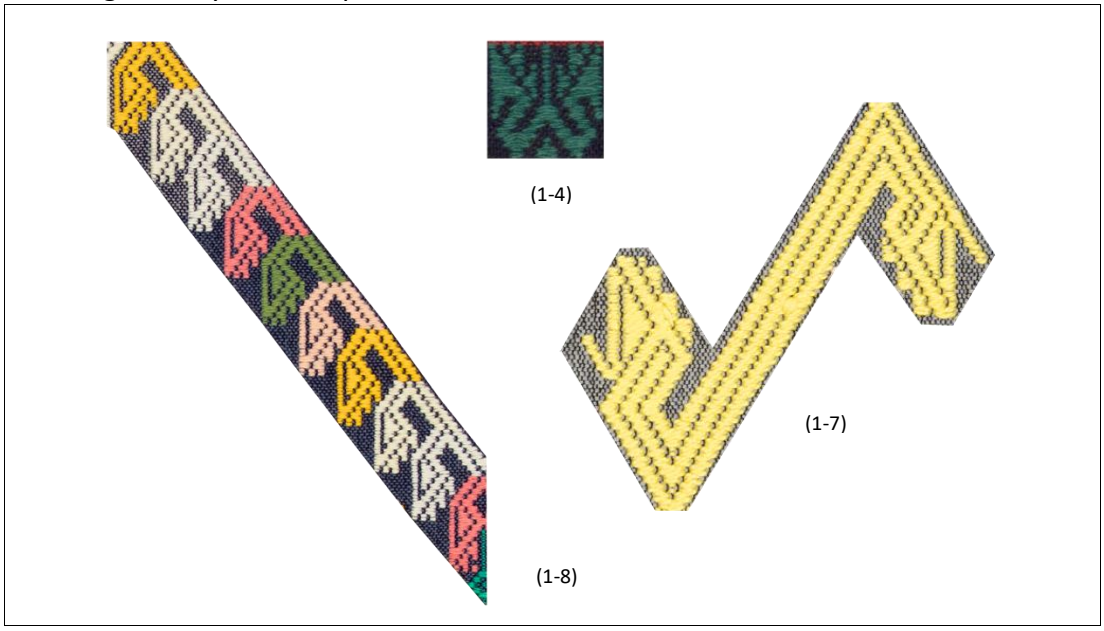
(1-4)

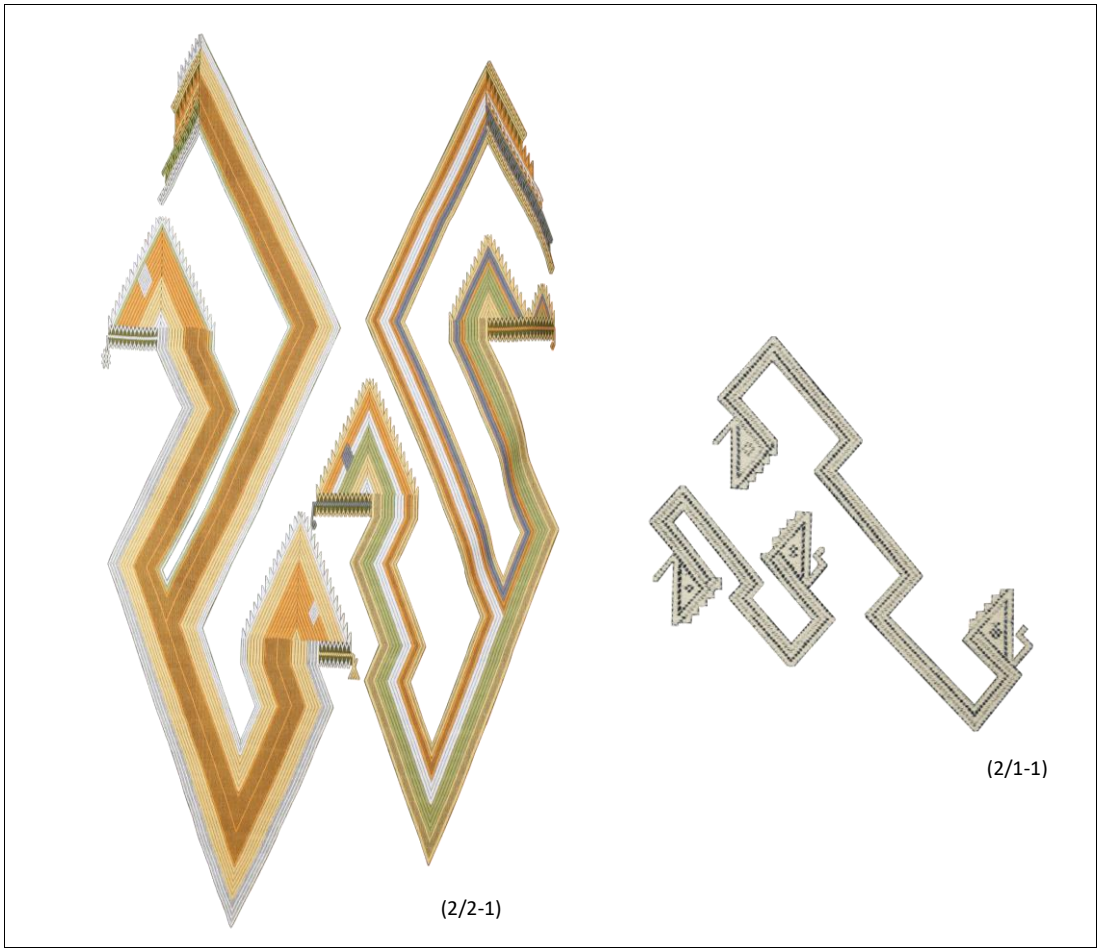
(2/1-1)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
			x	x					x				

Name of the motif: *nak* (นาค)
Meaning: the mythical serpent





This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x			x	x	x				x

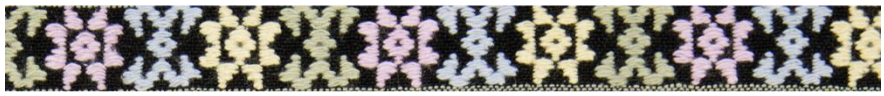
Name of the motif: *dok kaew* (ดอกแก้ว)
Meaning: flower

(1-6)

(1-6)

(1-8)

(1-6)



(1-6)

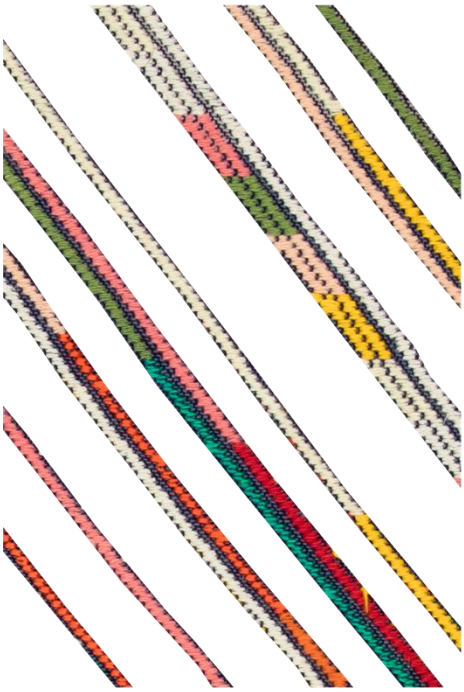
(2/2-1)

(2/1-2)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
					x	x		x		x			x

Name of the motif: *ia* (เอี๊ย)
Meaning: diagonal lines



(1-8)

(1-6)

(2/1-3)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
				x	x	x	x	x	x		x		x

Name of the motif: *dok lot* (ดอกลอด) (in sets)
Meaning: the name refer to the technical term for a special pattern stick passing under each other

(Master's archive)

(2/1-4)

This motif appeared in the textiles from practice;

	Part 1								Part 2/1				P.2/2
No.	1	2	3	4	5	6	7	8	1	2	3	4	1
												x	

Appendix C

Technical information on weaving in the fieldwork

This section explains the tools, material, colours and weaving techniques and other elements relating to weaving practice in the weaving space of master weaver Tamasiri. Most of these are also used by other weavers in Ban Rai district (see Luangthongkum, 2016).

List of tools

The list of weaving tools here does not include those for producing yarn, e.g. cotton spinning, because most of the yarns used in the master weaver's workshop are bought from the market, hence processing cotton balls into yarns is no longer a necessary practice. Although many weavers can do cotton spinning, this practice is not often seen. One occasion to experience the process is in *chun kathin (จุลกฐิน)*, the yearly Buddhist offering ceremony (Luangthongkum, 2016).

Loom frame

The loom frame functions as a structure to hold the warp and other tools in place. The loom frame is made from wood, has four posts with bars of wood joining them on four sides both top and bottom with a seat attached. It is an open frame with the depth longer than the width. It is simple enough that a person skilled in carpentry can make it. The size can vary slightly; there is no strict standardized size of loom but it must be able to accommodate the weaver's body and other tools comfortably. The loom can be assembled and disassembled easily. One weaver might have a few looms of different sizes in the house to accommodate different widths of warp.

Picture C1. Loom frames sit under the master weaver's private museum. Wuthigrai Siriphon, 2017

The cloth beam

The cloth beam is used to secure the part of the cloth that has been woven in place and to roll it up in order to advance the weaving. The cloth beam is of a square section and a little longer than the width of the loom. The cloth beam is secured on the loom by inserting it into a slot in the loom frame. The square corners of the cloth beam and the slot helps to keep the cloth from unrolling.

Picture C2. The cloth beam and the warp set in the workshop. Wuthigrai Siriphon, 2017

Shafts

Shafts, also called heddles, are responsible for separating, by lifting and/or sinking, the warp yarns to create a space between called 'shed' to allow shuttle to pass through.

The type of shafts that is common in the village, as in other parts of the Thailand, is composed of two sets of wooden rods, or other materials such as plastic or aluminium pipes, on the top and bottom of each shaft. With nylon yarns interlocked on the top and bottom of the warp, the shaft is able to lift or sink the warp looped in the string. Looms in the village normally have two shafts responsible for creating the ground cloth.

Picture C3. Shafts with black warp on while it was being set on the loom frame in the workshop. Wuthigrai Siriphon, 2017

Pattern shaft

The optional pattern shaft is structurally similar to that of shafts for the ground cloth, except that a loom needs one pattern shaft; it is much longer than that of the shafts for the ground cloth and each loop of the string holds two warp ends, which form the pair that will pass the same dent of the reed. The pattern shaft is hung vertically behind the shafts for the ground cloth. Silpakorn University (2000b) explains that the additional shaft heddle is adopted from that in the northern part of the present Lao PDR.

The function of the pattern shaft is to restore patterns so that a weaver does not need to do handpick the patterns anew every time. The pattern shaft in the village uses a bamboo stick to save a row in the pattern. There must be as many bamboo sticks as there are individual rows in the pattern. In the case where the placement of the pattern is horizontally mirrored, the number of sticks can be halved.

The master weaver does not like using the pattern shaft herself. She thinks that although this part might save time, it does not allow creativity to flourish. The patterns restored in the shaft can be used repeatedly over years and many weavers choose to use them. To change the pattern, a weaver has to do a laborious handpicking all over again. Making the same patterns all the time is what the master weaver dislikes. However, the master weaver had a loom with a pattern shaft which she set up for a weaver to work for her in the workshop.

The technique that the master weaver prefers is to use no pattern shaft but to restore each row of the pattern in a bamboo stick inserted directly in the warp. This way the pattern restored can be used only once because it is impossible to use the second bamboo stick without taking the first one away.[1] As the bamboo sticks can be used only once, making another pattern will require another handpicking. The master weavers

[1] An exception is that of *dok lot* (ดอกลอด) which has a particular set of rows in the motif that the bamboo sticks can be used interchangeably without taking a bamboo stick away.

thinks this encourages the weaver to make new pattern arrangements every time. Being able to create a new pattern arrangement is what the master weaver is proud of.

Picture C4. A weaver in Pha Tang weaving centre is working on a loom that has a pattern shaft installed. Wuthigrai Siriphon, 2016

Picture C5. Master Tamasiri is weaving on a loom with no pattern shaft. The pattern is stored in the warp. This loom is one that I was working on and the master weaver was helping me to start a row of pattern. Wuthigrai Siriphon, 2016

Reed, its frame and beater

Reed is used to separate the warp ends evenly throughout the width of the cloth and helps press down the weft that is inserted in the shed to create a firm cloth. The reed is generally composed of small strips of materials placed at an even distance from each other. Each strip is secured to thicker pieces of materials on top and bottom. The gap between each strip allows warp ends to pass through. And the strip is used to press down the crossed weft. The reed used to be all made of wood and bamboo. Nowadays, reeds made of metal are more popular because they are standardized, can be ordered to specification and are more durable than those made of wood.

The reed is normally framed in hard wood to add the strength and thickness that is appropriate for gripping. This creates a beater. The top frame is slightly curved to add a decorative feature and to make space for the cotton cord to be tied around.

Picture C6. Beater with metal reed and wooden frame on another weaver's loom in the workshop. Wuthigrai Siriphon, 2016

Treadles

Treadles are used to press down the shafts, which in turn lift further shafts and create a shed – a space between the warp that is lifted and sunk. Most treadles I saw in the village are made from bamboo which is abundant. There are two of them in a loom. Each is tied

to one shaft with cotton cords rather than being fixed to a loom frame, hence they can be assembled and dismantled easily.

Picture C7. Treadles made of bamboo on the loom that I was working on. Wuthigrai Siriphon, 2016

Shuttles

Shuttles carry weft yarns through the shed of the warp. Thai shuttles are long, slim and boat- shaped, and are made of hard wood with a slot or two for bobbin(s) in the middle. The slot for the bobbin takes around one-fifth of the whole length.

Picture C8. Shuttles placed on the seat on the loom that I was working on, together with the bobbins basket and the shuttle bucket on the floor. Wuthigrai Siriphon, 2016

Picking sward, flipping sward and problem solving sward

The picking sward is a tool for picking the warp yarn on the loom in the designated order to create space for the supplementary weft to be inserted to create patterns. The picking sward is made of hardwood, is around two inches wide and is no more than one quarter of an inch thick. The length varies depending on the width of the warp. The length of the picking sward must be slightly longer than the width of the warp to ensure all the warp end can rest on it. One end of the sward is made pointy and thin so that the sward can pass through the warp ends easily.

The function of the flipping sward is to create a wider shed on the warp to allow the supplementary weft to be inserted more easily. The flipping sward has a similar shape to that of the picking sward but is wider and thicker. The width is around ten centimeters.

The problem-solving sward can help fix the problem in small spots while the picking sward still secures the correct ones. The problem-solving sward has a similar shape to that of the picking sward but is narrower, around an inch wide, thinner and shorter.

Picture C9. The master weaver is using a picking sward to handpick an area of a pattern. Wuthigrai Siriphon, 2017

Picture C10. Flipping sward on the loom that I was working on. Wuthigrai Siriphon, 2016.

Bamboo sticks

A few sizes of bamboo sticks are needed for various functions. First, small bamboo sticks, no thicker than a pencil, are employed for pattern storage in the pattern shaft or in the warp (see pic. C5). Secondly a thicker one, no larger than a small finger, has many uses, e.g. crossing the warp to keep it in order, and insertion between the warp and the cloth beam to secure the warp in place and to interlace the warp to rearrange if it is not finely done. The length of these sticks must be slightly longer than the width of the warp.

Another type of stick is for knotting warp. One or two are needed for a bunch of warp. Using a stick in a knot helps make unknotting and tensioning easy. The thickness of the stick can be that of a chopstick or slightly larger and the length is between 10-15 centimetres depending on materials used - hard wood or bamboo. Weavers in Ban Rai district prefer not to use warp beam but to knot the warp to the loom frame which is a similar technique to that previously popular in Lam Poon province in the north (Pantulee, 2017b).

Picture C11. Warp knotting in a loom in Pha Tang weaving centre. Wuthigrai Siriphon, 2016.

Bobbins

Bobbins are what the weft yarn is wound onto, prior to being put in a shuttle and carrying the weft yarn through the warp shed. It is cylindrical in shape with a hollow space through the middle. The thickness is minimally that of straw and maximally of the little finger. The length should be shorter than the length of the slot in the shuttles. In the workshop, the bobbins are made from two materials, one is local small bamboo and the other is cut to size from medium-sized, thick, plastic straws used for drinking.

Picture C12. Bobbins and plastic straw used for one of my weave. Wuthigrai Siriphon, 2016.

Weft winder set

The weft winder is used to wind weft yarns into bobbins. There must be two pieces of tools to do this, first the winder and another the hank stretcher. The winder can be made of all wooden bamboo structure and cords, or otherwise, a small bicycle wheel frame can be employed as the wheel that drives the smaller bobbin holder. The hank stretcher is made of wood, bamboo and cords.

Picture C13 (left). The bobbin winder. Wuthigrai Siriphon, 2016.

Picture C14 (right). The yarn stretcher. Wuthigrai Siriphon, 2016.

Miscellaneous tools

- Baskets for bobbins
- Buckets for shuttles and picking swards set
- Scissors, clippers
- Measuring tape
- Sand paper to smoothen the picking swards when the edge is slightly rough
- Crochet hook to fix small mistakes in the weaves
- Cotton cords

Materials

The weavers use four types of yarns: silk, cotton and two types of man-made fibre, called *pra dit* (ประดิษฐ์) (meaning man-made or synthetic, possibly polyester) and *Toray* (โทเร) (possibly either polyester mixed rayon (TR) or cotton (TC))[2]. Cotton is the most common while some weavers use silk. Most cotton is industrially made and the weavers buy it either dyed or undyed. It is rare to find locally grown cotton because hand spinning is labour intensive. However, there are some places where cotton plants are grown, one is in a village temple when there is an annual offering ceremony *chun kathin* (จุลกฐิน) (Luangthongkum, 2016) where processing cotton to make a monk robe is a core activity, and in some houses in a small batch. The master weaver also has a small cotton field that she plants to show the students the process of making cotton yarns.

Silk is more popular in another part of the province, Thap Than District. Textiles made of silk are at higher price than those made of cotton. It is however slightly more difficult to weave because the yarn is finer and the patterns are finer as a consequence.

Picture C15. View inside a shop in the town centre selling yarns. Wuthigrai Siriphon, 2017.

[2] The terms are used commonly by the locals although they are not scientific terms. To correctly specify the type of yarns in this case is difficult. The yarns come as loose hanks without label. To test the materials to know their exact properties requires a scientific process. However it is not the concern of the research here to cover this matter. Although Toray is a trademark, the terms Toray, TC and TR are used interchangeably in Thailand in the consumer market, hence it is very difficult to determine to what this term actually refers.

The materials are usually bought from the market in the town centre while some weavers claim that they sourced textiles from other specialized dealers. Buying yarns is also a common practice in Thailand (Sarasuk, 2017; Phayakprakhon, 2015). These shops in the town centres sell most types of yarns except silk in a variety of colours.

Colours

There are some typical uses of colours. Each type of colour arrangement derives from a different cultural background and use. These below are different types of colour arrangements that I have witnessed during the fieldwork. Luangthongkum (2016) also describes most of the types of colour arrangement that are provided below, except for one that is associated with the death of the King as the book was published before the incident.

Firstly, traditional cloths possess five colours for the patterns and one other for the background – black, red, orange, yellow, white and green. Although there are six colours in total, the weavers normally explain there to be five colours with the background colour not seeming to be mentioned. Either red or black is used for the background and it is woven with the same colour of warp i.e. weaving a red background with a red warp and weft. If red is the background, black will be on the pattern and vice versa.

The arrangement of five colours within the pattern is based on these principles.[3]

1. The master weaver advised me to arrange the colours regularly and evenly, that is, all five colours should be used roughly equally and regularly. The term she explained is equivalent to 'spreading' (*tok khueang wan:* ตกเขื่องหว่าน).
2. One unit of the motif has one colour. To change the colour, the weaver should do it in another unit of the motif.[4]

[3] The master explains only the first one. The other two are from my own interpretation.

[4] One unit of motif refers to a single motif. If the motive is repeated in the pattern, each repeat is considered one unit.

3. There should be an avoidance of having the same colour on adjacent motifs because they would look as if they were one whole motif. If that is unavoidable, keep it to a minimum.

The traditional colour scheme should adhere to the strictly traditional. Having an additional colour that is not in the scheme is seen as odd and it could be undermining.

Picture C16. (left) A piece of textile made by myself. It shows how the traditional five colours should be used in the patterns. However they are woven on a dark blue background instead of the traditional black. Wuthigrai Siriphon, 2016.

Picture C17. (right) Tube skirt made by master Tamasiri with all the traditional colours. This piece is decorated with all the supplementary weft techniques. Wuthigrai Siriphon, 2016.

Secondly, I refer to the traditional colour in a dark colour scheme. I witnessed this in the month after His Majesty King Bhumibol Adulyadej had passed[5]. As the nation went into a year of mourning during which wearing black was preferred (Thansettakij, 2017), many villagers wore dark and subdued tube skirts to attend *chun kathin* (จุลกฐิน) - the offering ceremony at a temple in a village nearby. Any set of particular colours to be used in this type of tube skirt is not clearly stated. However, I was informed that a female villager would have one tube skirt in a dark tone to be worn when attending the funeral.

Picture C18. Locals gathered in *chun kathin* the offering ceremony at Wat Tap Klai (Tap Klai Temple). Many wore tube skirts with dark and sombre colours. The ceremony was held less than a month after the King had passed. Wuthigrai Siriphon, 2016.

Thirdly, there exists a natural colour, which is in high demand from the weavers and customers while the supply is very limited. Being a time-consuming craft itself, there are limited numbers of professional dyers. The textiles made of natural dyed yarn might be

[5] The death of the King brought great sorrow to the country. The government issued a guideline for Thai people to wear black garments at least for a month. As the offering ceremony was held just two weeks after the incident, most participants wore black or dark garments. There was another consequence. Customers delayed buying tube skirts in traditional vivid colours. The weavers adapted by producing black and white tube skirts, which could be produced much quicker. The sudden rise in the demand of black yarn resulted in a severe shortage of the material, the same as black garments on a national scale. The supply resumed after around a month.

in a traditional colour, be monochromic or part of a pale scheme. There are also weavers who use yarns dyed with a chemical dye that mimics the tone of natural colours.

Fourthly, there is the non-traditional colour. The weaver can use any colour in any arrangement. However there is a schemes that is more popular than any other my view, pale or pastel: this use of pastel colours is also seen in the development of traditional textiles in recent years in another part of the country (Pornpitagpan, 2015).

Picture C19. The hanging panel made by master Tamasiri shows the use of natural colour. The yarns were dyed by her late husband. Wuthigrai Siriphon, 2016.

Picture C20. A part of a tube skirt made by a weaver under supervision of the master weaver. It shows one use of a non-traditional colour against a green-brown background. Wuthigrai Siriphon, 2016.

Lastly, there is the phenomenal use of the colour purple. Luangthongkum (2016) explains that in the moments when H.R.H. Princess Maha Chakri Sirindhorn visited Ban Rai, weavers created textiles featuring purple as the main colour. Purple is the colour that represents the day of birth of the Princess, as also seen in her royal flag. By creating the textiles in such a colour, the weavers express their loyalty as well as a welcoming gesture. Luangthongkum (2016) has described this purple as 'Her Royal Highness's Purple' ('สีม่วงพระเทพฯ') (p. 19).

Weaving structure and technique

Woven structure

Although the loom is composed of two shafts and the woven structure is primarily plain weave, there are some structural variations that can be made by hand manipulation. There are three structures of textiles that the weavers use. The first is plain weave and the others are *muk* and *kep phai hu tho muk*

Picture C21. A close-up view of a tube skirt featuring bands of *muk* in green stripes and supplementary weft decoration. Wuthigrai Siriphon, 2016.

Muk (มูก) is the structure that can be used for ground cloth of plain colour or for stripes of plain colour. To make this structure, a weaver must hand pick the warp in a two-up and two-down[6] sequence. Having saved this picking order in the flipping sward on the other side of the shafts, the weaving sequence is two picks of plain cloth and one pick of the additional row from the handpicking. *Muk* can be seen in the tube skirt as the plain body or as stipes, coupled with bands of supplementary weft patterns (Luangthongkum, 2016).

kep phai hu tho muk (เก็บไพฮูทอมูก) has a similar structure to that of *muk*, the only difference being that the hand picking sequence is one-up and one-down.

Weaving technique in focus

The Lao-Khrang ethnicity is famous for making tube skirts composed of ikat body and supplementary weft technique hem pieces. (Luangthongkum, 2016). This section introduces some general information of weaving techniques used in this project, namely the supplementary weft.

Supplementary weft technique is a way to add supplementary weft, or extra weft, into the structure of a ground cloth while weaving. The ground cloth maintains the robustness of the cloth while the supplementary weft creates decorative motifs and patterns by being risen above and sunk below the surface of the ground cloth. This kind of technique can be called many things in Thailand. *Khit* refers to continuous supplementary weft*, chok,* discontinuous supplementary weft*,* and *Yok,* brocade – which is also supplementary weft (Hongsuwan and Wongkaeo, 2016). These terms for supplementary weft are sometimes interchangeable; they are structurally identical but can be differentiated by style, materials, place of production and the use of textiles, for instance, brocade is associated with precious materials and its use in royal courts or for aristocrats (Pantulee, 2017b).

[6] One refers to a dent of the reed. Normally there are two warp ends in one dent. So to count one is to count two warp ends from the same dent. Counting two is hence four ends.

Appendix D

Types of Looms used in the research project

Counterbalance loom

Counterbalance loom is the type of loom that virtually all weavers use in the village where the fieldwork was located. The principle of the counterbalance loom is that all the shafts are connected via string or cord through pulleys or levers (Straub, 1977). Thus when one shaft is sunken or lifted, other shafts are moved in corresponding ways. The counterbalance loom may hold 2-8 shafts. The looms in the village have two shafts connected by cotton cords and levers. It is the type of loom widely used in Thailand (Conway, 1992) and it is the only type of loom that was used while conducting fieldwork in Ban Rai where this loom is referred to as traditional loom.

Countermarch loom

A countermarch loom has lams and jacks, additional mechanism that helps shaft movement and treadling efficient. The shed is created by both rising and sinking all the shafts by pressing one treadle. A treadle controls a particular set of sinking or lifting shafts which is achieved by tying cords in a designated order. Combining all the treadles, one can make complex patterns efficiently. The countermarch loom generally controls up to sixteen shafts (Straub, 1977). This type of loom has been used to weave the first jacket in part two of the research, weaving practice at the RCA. It contains four shafts and six treadles.

Dobby loom

The loom has a dobby mechanism that helps control shafts lifting. The dobby mechanism consists of rows of lags and pegs, each peg pushes the strings that tie to each shaft so as to be caught and pulled, hence lifting the shafts. The lags move one after another controlling weft picks in synchronized fashion. By arranging the pegs in a different order one can create complex patterns. The dobby loom may control 4-40 shafts although 16 shafts is the most common (Straub, 1977). The dobby mechanism can be computerized

to maximize the design possibility and reduce time for peg changing if one needs to change structure (Shenton, 2014). For this research, the Arm 24 shafts computerized loom with 24 shafts has been used to create three jackets in the workshop at the RCA.

Appendix E

The Thai government initiatives on traditional textiles development.

The Thai Government has run development and promotion of crafts and Thai handmade textiles though many of its Ministries and Departments including;

- *Community Development Department, Ministry of Interior* (responsible for OTOP project) (Office of SMEs Promotion, n.d.; Naksorn, 2015)
- *The Queen Sirikit Department of Sericulture, Ministry of Agriculture and Cooperatives* (The Queen Sirikit Department of Sericulture, 2017; The Queen Sirikit Department of Sericulture and Faculty of Fine Arts, Srinakharinwirot University, 2014, 2015)
- *The SUPPORT Arts and Crafts international Centre of Thailand (SACICT)* (Public Organisation) (Hongsuwan and Wongkaeo, 2016; SACICT, 2017a)
- *Office of Contemporary Art and Culture, Ministry of Culture* (The Office of Contemporary Art and Culture, 2014; 2015; 2016; 2017)
- *Department of Intellectual Property, Ministry of Commerce* (Department of Intellectual Property, 2012; 2016a; 2016b)
- *Department of International Trade Promotion, Ministry of Commerce* (The Government Public Relation Department, 2013b; Isaan-object Project, 2017;)
- *Department of Industrial Promotion, Ministry of Industry* (Public Relation Office Region Khonkaen, 2014)
- *Thailand Creative and Design Centre (TCDC)* (Thailand Creative and Design Centre, 2013).

Appendix F

Table F1. Summary of academic design development on traditional Thai textiles

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
1	Anunvrapong, A., Noodang, P., Pariman, B., Jiraboon, S. and Wongsathongdee, S. (2017).	The product development of batik using natural dyes mixing technique	N/A	Y	Batik	Y	Y	N/A
2	Burapajatana, J. (2016a).	Applying patterns from identity of Jok woven textiles of Mae Jam to design of cultural textile products for home decoration	Inform	Y	Y and digital print	Y	Y	N/A
3	Burapajatana, J. (2016b).	Development of souvenir textile products of Ban Had Seao, Sukhothai	Inform	Y	Y and digital print	Y	Y	N/A
4	Butla, R. S. (2017).	Dok Phayom : from the Provincial Flower of Kalasin to the Design of Khao Wong Phutai's Textile Pattern	Inform	Y	Y	N/A	Y	Y

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
5	Chaiyaphan, S., Ratanapraphawan, S. and Saichuae, C. (2015).	Product design from waste silks paper	Inform and receive knowledge	Y	Non-woven	N/A	Y	N/A
6	Chandhasa, R., Rungwannasak, K. and Pattanapanitipong, P. (2010).	The study of the unique identity of Ban-Chiang pattern to apply with Batik painted textile and develop into the handicraft souvenir of the province of Udon Thani	Evaluate	Y	batik	Y	Y	N/A
7	Chanhom, T. (2016).	The Development of Textiles Products : Wisdom of Thai Song Dam in The Western Region of Thailand	Inform, evaluate and design (collaborate)	Y and local craftsmen	Y and embroidery	Y	N/A	N/A
8	Chullasthira, C. (2017).	Mai Taem Mi: from local wisdom to the innovation of tie-dye woven fabric production	Inform, produce and design (participatory)	Y and participatory	Y	N/A	N/A	N/A

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
9	Chunthone, V. (2014).	The art of contemporary Jok textiles: The integration between craft and creative design	N/A	Y	Y	Y (suggestions)	Y	Y
10	Dawdean, S. (2010).	The Study on the Development of Woven Cloth with Antique Pattern into Table-cloth Set Handicraft as Commercial Products at Pa Tang Village in Uthai Thani Province	Inform and produce	Y	Y	Y	Y	Y
11	Dowduen, C. (2015).	Development and design of ladies's bags with traditional textile patterns from Ban Pa Tang, Uthai Thani Province	Inform and evaluate	Y	Y	Y	Y	N/A
12	Hongsam, S., Egwutvongsa, S. and Sodphiban, P. (2014).	Study and development process to increase natural dye's tone variation on the cotton yarn from Strobilanthes flaccidifolius for textile product design	Inform and produce	Y	Y	Y	Y	N/A
13	Janpla, J., Songsuwong, W.,	Development of Thai Song Dam Woven Fabric Products to Add	N/A	Y	Y	Y	Y	N/A

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
	Kijkar, P. and Wongsaming, S (2016).	Value Following the Creative Economy Concept						
14	Jantanintorn, J., Jumpasut, K. and Kornpuang, A. (2012).	The art-lined development for hand-woven cloth: the gold-leaves art-lined application from Wihan column of Watphrasrirattana Mahathat Woramahavihan, Pitsanulok	N/A	Y	Y	Y	Y	N/A
15	Keativipak, K. (2016).	Study and Development Applies Products from Cotton Hand Made to Products Design, Case Study : The Cotton Hand Weaving Groups at Donluang Village, Amphur Pasang, Lamphun Province	Inform, evaluate and produce	Y	Y	N/A	Y	N/A
16	Khiatthong, T. (2015).	Hmong needlework products: the design for Creative Economy	Inform	Y	embroidery	N/A	Y	N/A
17	Komonsirichok, Y. (2017).	The development of Karen woven Textile products to create	Inform evaluate	Y	Y	N/A	Y	N/A

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
		the identity of Doi Tao, Chiang Mai	receive knowledge					
18	Kussalanon, R., Louhapensang, C. and Egwutvongsa, S. (2014).	A study of Sakon Nakhon local textile handicraft's design for applying to the product design	Inform and producer	Y	Y	Y	Y	Y
19	Laistrooglai, N. (2004).	Thai Mudmee design and development for contemporary use	Inform and producer	Y	Y	N/A	Y	N/A
20	Nopudomphan, K. (2016).	Designing fashion from deconstruction process: case study ikat silk in Pakthongchai, Nakhonratchasima province.	N/A	Y	Y	Y	Y	N/A
21	Phakdeesuwan, S. (2010).	Pattern design for mudmee silk fabrics of Maha Sarakham province in contemporary culture context.	Inform and producer	Y	Y	Y	Y	Y
22	Phayakprakhon, M. (2017).	Design and development of Hol pattern to contemporary design	Evaluate	Y	Y	Y	Y	Y

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
23	Saithip, P. and Porncharoen, R. (2017).	Three dimensional eri-silk's product based on Baan Nongyaplong woven fabric broup, Khon Kaen province	Inform and evaluate	Y	Non-woven	Y	Y	N/A
24	Saiyakit, P., Khiaomang, K. and Nisamanee, N. (2015).	A study of graphic design pattern mudmee silk, Chonnabot district, Khonkaen province for product design	Inform	Y	Y and print	Y	Y	Y
25	Sarasuk, K. P.)2017(.	A research of proficiency development in fashion design product; bag made from remnant fabric: case study of Tai-Lue hand woven fabric, Baan Hia, Pua district, Naan province.	Inform	Y	Y	Y	Y	N/A
26	Singin, K. (2012).	Local textiles development in southern region of Thailand for home textile products: a case study of Tambon Namuensri, Nayong district, Trang province	N/A	Y	Y	N/A	Y	Y

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
27	Sonprom, S., Saributr, U. and Sodpibarn, P. (2016).	The study and product design from Mong Identity Embroidery	Inform evaluate and produce	Y	Embroidery	Y	Y	N/A
28	Soodsung, I. (2016).	Design and Development of Working Women Uniform. Techniques with Pleated From woven Fabrics in Dok-Peep. Phitsanulok	N/A	Y	Y	Y	Y	N/A
29	Srisuk, K., Rodhetbhai, C. and Siltrakul, W.)2016(.	Nameunsi and Koh Yor woven fabric: The application of creative economy concepts to develop products for the development of community economy.	Inform and evaluate	Y	Y	N/A	Y	N/A
30	Sutthiwong, A. and Suwannawaj, S. (2016).	Design of Teenjok Printing for Creating Contemporary Fashion from Thai Phun Wisdom, Sukhothai	N/A	Y	Y and print	Y	Y	Y
31	Suwakantagul, U., Sookwhan, O. and	Design and Develop of Thai Song Dam textile, Petchaburi province:	N/A	Y	Y	Y	Y	N/A

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
	Thonglua, P. (2009)	case study set fabric on the dining table (การออกแบบและพัฒนาสิ่งทอพื้นเมืองไทยทรงดำจังหวัดเพชรบุรี กรณีศึกษา: ชุดผ้าทอบนโต๊ะอาหาร).						
32	Swadipanid, J. (2015).	Development of Allooyseem motif silk fabric: a case study of Wat Ban Kradonmaidang silk weaver group in Krasung district, Buriram province	N/A	Y	Y	Y	Y	N/A
33	Tangchantorn, A. and Soodsang, N. (2011).	Product designs of gift and souvenir for hill tribe Hmong community Tambon Kheknai, Ampur Khaokor, Petchabun Province	Inform and evaluate	Y	embroidery	Y	N/A	N/A
34	Tangchanton, A., Thitacharee, K. and Soodsang, N. (2013).	The development of textile products for housing from hill tribe Hmong community, Phetchaboon province	Inform	Y	embroidery	N/A	Y	N/A

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
35	The Queen Sirikit Department of Sericulture and Faculty of Fine Arts, Srinakharinwirot University)2014(.	*Study And Development Of Northeastern Thai "Khit" Pattern For Contemporary Thai Silk Fashion Collection*.	Inform, select, evaluate, produce, receive knowledge and design (collaborate)	Y and local craftsmen	Y	Y	Y	Y
36	The Queen Sirikit Department of Sericulture and Faculty of Fine Arts, Srinakharinwirot University. (2015).	*Silk Design And Prototyping Project 2015: The Queen Sirikit Department Of Sericulture (โครงการออกแบบและจัดทำต้นแบบผ้าไหม ปี 2558 กรมหม่อนไหม)*	Inform, select, receive knowledge and produce	Y	Y	Y	Y	Y
37	Trirat, P., Deeboonmee na Chumpare, S. and	A study and development handicraft textile product by printing with banana's gum	N/A	Y	Y and print	Y	N/A	N/A

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
	Soodsang, N. (2010).							
38	Vichasilp, K. (2017).	Development of Indigo fabric products for new market sectors: A case study of indigo dyed cotton producers in Amphoe Phanna Nikhom.	Inform, participate, produce and receive knowledge	N/A	Y	N/A	Y	N/A
39	Wangyen, J. (2011).	Clothes Design for Local Product Style Development Case study : Pha Chok Thai – Yuan Ratchaburi province.	N/A	Y	Y	N/A	N/A	N/A
40	Wisapan, S. (2017).	Product design of Ko-yo hand woven bag using quilt technique.	Inform select and evaluate	Y	Y	Y	Y	N/A
41	Worasaeng, L., Pirasant, J. and Soodsang, N. (2014).	The development of basketry and Mudmee silk for lamp design of Burapha village, Ban Khwao district, Chaiyaphum province	Inform, evaluate and design (collaborate)	Y and local craftsmen	Y	Y	Y	N/A

No.	Author(s) and year	Title	Roles of local craftsmen	Researchers create design	Using hand woven textiles	Experts evaluate design (other than local craftsmen)	Using sketches	Using notation system
42	Yabdee, S. (2015).	Development of household textiles from batik silk: a case study of the motif of ancient Khmer art at Sikhoraphum Castle	N/A	Y	Y	Y	N/A	N/A
43	Yanpisit, K. (2013).	Weaving patterns through new innovations	Inform and produce	Y	Y	Y	Y	N/A

Note:

1. the data given is interpreted by the researcher.
2. Y = yes
3. N/A = not applicable, the literature does not specify or strongly imply information relating to the concerned issues.

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13th July 2016

Project title: Understanding how traditionally-trained weavers create new designs in Thai textiles

Consent Form

I, *Jampee Thammasiri,* have read the information on the research project *(Understanding how traditionally-trained weavers create new designs in Thai textiles)* which is to be conducted by *Wuthigrai Siriphon* from the Royal College of Art, and all queries have been answered to my satisfaction.

I agree to voluntarily participate in this research and give my consent freely. I understand that the project will be conducted in accordance with the Information Sheet, a copy of which I have retained.

I understand that I can withdraw from the project at any time, without penalty, and do not have to give any reason for withdrawing.

I consent to:

- Offer an apprenticeship. interview, participatory observation and other forms of fieldwork research to the researcher
- Give personal information if required

I understand that all information gathered from the interview will be stored securely, my opinions will be accurately represented. Any images in which I can be clearly identified will be used in the public domain only with my consent.

Print Name: นางจำปี ธรรมศิริ

Signature: นางจำปี ธรรมศิริ

Date: 3 มค 60

This project will be conducted in compliance with the Research Ethics Code of the Royal College of Art.

Glossary

Commercial practice

Creating works, specifically Thai hand woven textiles, that are aimed at generating income, as opposed to those made as gifts, for domestic use or for display of individual excellence without direct profitable gain.

Craft

(v.) to make things well by hand. In the context of textiles in this research project, craft is concerned with hand weaving.

(n.) objects made by hand, following an extensive period of learning and practice. For this research project, this refers to hand woven textiles.

Design

(v.) to create or improve products or services that exhibit the qualities of creativity, newness and individuality. This thesis associate design activities with formally trained professionals.

(n.) products or services that are the result of the creative improvements or inventions. For a purpose of discussion, this refers to those developed by formally trained professionals (see details on page 10-11).

Designers

A profession comprising those who are responsible for developing, conceiving and communicating ideas for products and services. This thesis is concerned with those who are trained in formal educational establishments.

Heritage

Tangible and intangible assets that are socially, culturally or historically important and that have been passed down from previous generations. This refers to the heritage of Thai hand weaving.

Innovation

Novel or distinctively improved products or services that have considerable social impact or market value. Innovation emphasizes progressive changes while tradition values the continuation of existing practices and culture. In the context of Thai hand weaving in this research project, innovation is associated with the involvement of external organizations that either encourage or recognize such development, rather than being culturally inherent.

Material

For the traditional Thai hand weaving covered in this research project, materials are cotton and silk. Non-traditional materials are those outside this group, including some other synthetic materials that have been adopted widely, such as polyester, rayon or those mixed with cotton. In this thesis I also use wool, cashmere, Lurex and linen.

Tradition

A practice, a way of life and artifacts used that generally follow that of the ancestors in Lao-Khrang ethnic culture. Although there is a common understanding of tradition within the community, each member of the community may have slightly different understanding of the details.

For traditional textile practice, this research project follows what has been explained by the master weaver Tamasiri. The motifs, the patterns, colours, material, their use and arrangements should be created within the parameters,

exemplified in the master weaver's archival textiles which have been given to her by her ancestors.

Textiles that exhibit arrangements outside these parameters are regarded as non-traditional. If the changes are distinctively novel from what the maker claims or if they are recognized by people from outside the community, they may be regarded as innovation.

Weaving

A way of constructing textiles by interlacing two sets of yarns at a right angle. Weaving in this thesis is concerned with that of Lao-Khrang ethnic group in Ban Rai district, Uthai Thani province in Thailand. These weavers use floor looms with two-shafts. The main weaving techniques are supplementary weft and ikat (yarn tied-dyed before being woven).

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