

# A Study on the Task Analysis and Performance Evaluation of Carved Lacquer Craft Inheritors in Novice Stage

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The carved lacquer craft, a gem of traditional Chinese crafts, boasts a history of over 2,000 years and features craftsmanship of a superior order. This study attempts to investigate the typical tasks and learning result evaluation of carved lacquer apprentices at the novice stage by the method of qualitative research with 11 carved lacquer craft inheritors of a studio of a carved lacquer master. It is discovered that the design of carved lacquer draft sketches, the design of carved lacquer patterns, and the making and use of carved lacquer tools are typical tasks of novice apprentices, while the modeling and aesthetics of works, carving skills, and the level of interaction with the carved lacquer community are important criteria for evaluating the development of the skills of novice apprentices.

*Keywords:* carved lacquer craft, craft inheritors, novice apprentices, task analysis

## Research Background

The carved lacquer craft, a gem of traditional Chinese crafts, boasts a history of over 2,000 years and features craftsmanship of a superior order (Digital Museum of Chinese Intangible Cultural Heritages, 2020). The carved lacquer craft is passed on mainly in the form of apprenticeship, and apprentices are transformed from novices to experts in the process of completing complicated tasks (Chan, 2014). Dreyfus (2004) has divided skill acquisition into five stages, namely, Novice, Advanced Beginner, Competent, Proficient and Expert, each stage having its unique characteristics. This study focuses on the tasks and occupational skill requirements of novice carved lacquer inheritors at the novice stage.

Studies have found out that the novice stage is characterized by limited and inflexible actions, a focus on grasping procedural knowledge, weak ability to solve practical problems with instructions and constraint by context-free rules (Dreyfus, 2004). Novices normally can only complete simple tasks within their work field, which are mainly derived from real contexts of production processes or service fields (Berryman, 1995). The process of growing from a novice to an advanced beginner calls for the learning of directional and summary knowledge (Rauner, 1999; Zhao, 2009), and craft inheritors depend on their master's instructions for

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professional development at the novice stage (Yu, Wei, & Chen, 2017; Zhang & Jin, 2019). The learning tasks at the early stage of the carved lacquer craft are the identification and purchase of materials for carving, and the early processing of the materials. Only after mastering the preliminary knowledge of carved lacquer will the apprentices get contact with such contents as the design of carving patterns, use of carving tools, and the making of carved lacquer products (Chen, 2020).

Research results currently available on inheritors of the carved lacquer craft are mainly limited to the specific contents of the carved lacquer craft and introduction of the lives of carved lacquer masters. Little research has been done on the professional development of carved lacquer apprentices at the novice stage. This research, adopting the qualitative research paradigm and mainly focusing on carved lacquer inheritors at the novice stage, mainly studies the following two issues:

1. What are typical tasks of carved lacquer apprentices at the novice stage?
2. How should be learning results of carved lacquer apprentices at the novice stage be evaluated?

### Research Methodology

This study takes as its main research topics the typical tasks of carved lacquer craft inheritors and their craft characteristics at the novice stage. The method of purposive sampling is adopted; 11 carved lacquer craft inheritors of the studio of a carved lacquer master are selected as targets of research. 15 interviews have been conducted, and the time of interviews amounts to 713 minutes. The researcher has transcribed the audio data into words, obtaining texts of interviews with 121,600 words. See Table 1 for the specific information of data collection. With Nvivo 11.0 as the data processing tool, the data collected in this research have been coded for three steps, that is, open coding, axial coding, and selective coding.

Table 1

#### *Summary of Information of Interviews With Research Targets*

Interviewee	Gender	Age	Length of time (minutes)	Number of words transcribed
WQG	Male	79	49	8,793
YXY	Female	71	39	6,780
MGJ	Male	35	53	11,677
LTY	Female	29	50	13,706
ZLP	Female	32	71	14,002
LZG	Male	55	50	9,625
TMV	Female	24	64	13,789
			17	3,390
			25	5,671
			49	12,462
MN	Male	38	40	3,004
			36	8,503
YF	Female	25	30	6,268
SBR	Female	37	43	7,548
			28	5,203
Total			644	130,421

In this study, the validity of the research is tested by triangle verification, participant test, and feedback method. The validity of the research is ensured by reporting the research results to professional researchers and carved lacquer inheritors to confirm the accuracy of interview data and discuss the feasibility of theoretical

construction.

## Research Results

### Typical Tasks of Carved Lacquer Apprentices at the Novice Stage

Typical tasks refer to complete comprehensive tasks from a work field reflecting the work style, contents, and requirements of this field, and completing typical tasks can promote the development of an individual's professional capability (Zhao, 2009). It has been discovered in the research that at the novice stage, the design of carved lacquer draft sketches, the design of carved lacquer patterns, and the making and use of carved lacquer tools are typical tasks of novice apprentices.

**Design of carved lacquer draft sketches.** Given that carved lacquer is a craft of carving on lacquer, the combination of draft sketches with the lacquer carving techniques is a priority consideration of novices. In draft sketches, the technical characteristics of carved lacquer should be considered, and a work can be presented by the techniques of carved lacquer.

My master gave me a round box for me to design a draft sketch. The lacquer on the box was very thin (2-3 mm). I tried to draw a flower on a piece of paper and then transformed the flower into a regular pattern, that is, the petals were very evenly divided. Next, I thought of engraving different brocade (designs) inside each petal. I found the pattern very exquisite, able to reflect the characteristics of carved lacquer while embodying the beauty and form of a flower. (DH-TMY-20190123)

In the process of making a carved lacquer work, the master would raise specific technical requirements for his apprentices according to the characteristics of the carved lacquer craft.

When you draw a draft sketch, you should consider whether the draft design can be realized on the carved lacquer. Different from other types of carving, lacquer carving is sculptured relief. A knife is used to cut all open and then the pattern is carved layer by layer. Before carving, a draft should be made, and then a piece of paper is used to copy the pattern, which is then drawn on the box. Then a puncture knife is used to punch it, and then a slice knife is used to slice it. Finally, a knife for carving brocade designs is used to carve brocade designs. (DH-MY-20190602)

When drawing draft sketches, we should follow the general rules of plastic art. For example, the aesthetic knowledge of plastic art, including color tones, such as black and white, heavy and light, cold and warm; the proportion of things that can be used, such as the 3:4 ratio of the golden cut; the tempo and rhythm of works, as the tempo and rhythm of fine arts are connected with music. As beginners, novice apprentices cannot have a very thorough grasp of these points, but such are designs that they must learn and have a preliminary understanding of. (DH-LZG-20190212)

**Design of carved lacquer patterns.** Traditional patterns occupy a very important position in the works of carved lacquer. Cloud patterns and S-shaped cloud patterns, which are most frequently used, are important contents of work in the early learning of inheritors of the carved lacquer craft when they have just started their apprenticeship. At the novice stage, the master would require that his apprentices design patterns with reference to traditional patterns or variations of traditional patterns.

The patterns learned by novices mainly include traditional patterns and patterns of landscape, flowers and birds, and occasionally include figure patterns and architectural patterns. The brocade designs involved include cloud patterns, curly grass patterns, water patterns, and brick patterns, among others.

We must learn some regular patterns. Cloud patterns and curly grass patterns must be learned. In terms of brocade patterns, regular patterns such as square patterns and triangle brocade should be learned. Occasionally we also learn some other patterns, like water patterns, sky patterns and square brocade. Patterns like the Yangtze River and the Yellow River are free water patterns, which look carefree and have waves. Sky patterns are a kind of very flat patterns, indicating that

the sky is very sunny and windless. The brocade patterns on earth are square brocade, because the Tian'anmen Square has a kind of blue brick ground, and regular patterns must be used. (DH-YXY-20190407)

The landscape, bird and flower patterns we learn are mainly cherry blossom patterns. The master would require that we take cherry blossoms as prototypes, transform their petals into regular patterns, and then evenly cut the petals and engrave different brocade patterns in each petal. In this way, the characteristics of the carved lacquer craft are combined with traditional patterns. (DH-TMY-20190517)

Brocade patterns of the same shape vary in size in different works. The designs and size of brocade patterns vary with different works. In the course of learning, the master would set different tasks for his apprentices according to their level.

He taught us freehand sketching. In the beginning, we were not allowed to use any ruler. We were required to draw straight lines by hand. We practice freehand sketching at first because we might contact some lacquer surfaces with a curve. We were allowed to use a ruler only when we drew on flat surfaces of large sizes. The master taught us how to draw and what size we should draw. After we were skilled, we started to sharpen our knives and then we could carve after the knives were sharpened. The master taught us how to carve, how to use knives, and the angles and depth of carving, among others. (FT-JWS-20181103)

**The making and use of lacquer carving tools.** Making and using lacquer carving tools are skills that novices must learn. At the novice stage, carved lacquer apprentices should be able to make different carving tools according to different demands of carving and their own use habits.

A traditional craft requires good tools and materials. Novices surely cannot properly grasp knives in the beginning. Also, the carved lacquer craft requires that each craftsman should make their own tools. After all, apprentices are young, and it takes a long time for them to make a tool, which calls for patience. The knives made by some apprentices are not very good. However, some can make good knives. I let them compare knives to see the gap between the work they've created with their tools and the work made by good tools. Some apprentices ask me why the things he has carved are not smooth and have many burs. In fact, that is a problem of tools. We also dispatch some masters to tutor them when they are making tools. "Good tools are prerequisites for good craftsmanship." Without good tools, you cannot go on with the work. (FT-LZG-20181031)

The tools involved at the novice stage mainly include: pencils and drawing paper, lacquer, flour, grass cloth, wood, hemp indenter, oil putty spade, boiled tung oil, vermilion, yarn end, brush, wood rasp, knives, copy paper, puncture knives and slice knives of different models, screwdriver, brocade pattern knife, oven, sand paper of different models, and wax. Novices should become gradually acquainted with and learn the use of different tools.

I remember that when I was learning my master told me that when puncturing the knife should be vertical and not go aslant, and that I must let the knife go along with me, but not let the knife take you along. For example, if you puncture a circle or a S shape, you complete it very smoothly, and your hands do not feel tired, or the knife does not change shape, that shows you manipulate the knife. But if you feel that you cannot puncture as you like, that means that the knife is taking control of you, that is, you have not properly grasped the nuance of puncturing. (DH-TMY-20190123)

When puncturing, you should grasp the proper limits and your strength. After all, if you puncture a very narrow side, and when slicing the side would fall with your knife. Therefore, you should also properly control your strength in slicing. In carving brocade patterns, our knives are different. Some square brocade patterns are carved with a longer knife, that is, a knife with a longer point. Some patterns need straighter knives, but not too long. Generally we need at least two different straight knives. Because some brocade patterns are especially narrow, you would accidentally damage or knock off a wall just carved if the point of your knife is too short. So you should use knives with a very long and sharp point. (DH-TMY-20190123)

### Assessment and Evaluation of Novice Apprentices of Carved Lacquer

**Modeling and aesthetics of works.** In the assessment of the learning outcome of apprentices of carved lacquer, the modeling and aesthetic level of their works form an important dimension. Generally novices of carved lacquer can only complete simple works within their work fields, which are mostly modeled from common small appliances in daily life, such as small caskets, inkpad boxes, and pen-holders. Apprentices can learn the forms of their works through daily experience and observations.

With the design of a casket, for example, the evaluation of casket works completed by different apprentices will focus on the coordination of different parts of a casket, whether the width and height of a work make it easy for people to hold in hand, and the treatment of the casket cover and the corners of its bottom, including the modeling of circles and the conflict between sharp right angles, the pattern rules of petals, and the smoothness of outlines and lines.

That box cover is round. If the patterns carved are too complicated, it will not feel comfortable in hand. For example, if you carve some very sharp things, your hand will feel very uncomfortable when touching it. Therefore, we should do our best to maintain the designed patterns and to make it feel round and smooth after carving so that it will leave a very comfortable hand feel. (DH-TMY-20190123)

Apprentices at this stage are mainly required to design traditional patterns, rarely involving the design of carved lacquer for specific background culture. In the cultural design of works, it is required that the design of caskets can reflect the dignified, mellow, and restrained cultural characteristics of traditional modeling of carved lacquer and attention is also paid to whether the color collocation of lacquer wares can adeptly reflect the dignified texture of carved lacquer works.

**Apprentices' carving skills.** At the novice stage of carved lacquer apprentices, their works are generally small in scale. An apprentice may complete a work and learn the whole process of lacquer carving in a short period of time. The carving skills involved in the apprentice's creation mainly include the "upper hand" skills of carving (puncturing, scraping, and slicing) of backdrop structures and the "lower hand" skills of making detailed designs (brocade patterns). The 3D relationships of patterns are completed in the "upper hand" carving, generally not involving the techniques of spading and drawing.

In carving, the first step is surely puncturing, followed by scraping and slicing. Generally these three steps are often used. Spading is mainly applied in carving mountain patterns, but now it is rarely used. Drawing is generally used to carve the patterns of flower leaves, stalks and petals, or bird feathers, and this skill is not used if you don't make these designs. At the novice stage, the main skills are puncturing, scraping and slicing, as well as brocade patterns. Apprentices are evaluated by judging their degree of mastering these four aspects. (DH-TMY-20190123)

We should assess our apprentices' understanding of carving skills. "Slicing" is to carve according to the requirements of patterns on the lacquer layer above brocade patterns. Apprentices are required to understand the internal relationship of relief art, layers, the contrasts of high and low, deep and shallow, far and near, and perspectives, among others. Slicing is conducted on the basis of "puncturing" and "scraping". After "scraping", the rough shape appears, and the slicing knife processes the work along the "punctured" lines and "scraped" edges. "Slicing" occupies a very important position in the carved lacquer craft. For example, when your master asks you to leave 8 mm in "slicing", you just leave 8 mm without consideration. However, when you are really carving, you may discover that the depth is not enough, as more depth is required when you add images. So you need to leave more than 8 mm. You must leave some room for yourself when you do this work. (FT-MGJ-20181026)

**Apprentices' interaction with the carved lacquer community.** As carved lacquer is a very professional field, novice apprentices should gradually familiarize themselves with this field, learn various kinds of special "jargon", use professional tools, and obey trade rules. When evaluating novice apprentices, masters attach great

importance to their apprentices' "power of perception", that is, their understanding of the carved lacquer craft itself, whether they can be accepted and recognized by the insiders of the trade, and whether they can smoothly fit in the community of carved lacquer practitioners.

In the course of carved lacquer making, a master would require that his apprentices be familiar with all processes of lacquer carving. Besides completing the work assigned by the master, the apprentices should also take initiative to learn from other members of the trade community. By communication with other members in the course of actual work, the apprentices learn professional knowledge and skills on the one hand, and gradually fit in the trade community on the other hand.

My master does not engage in lacquer coating or polishing himself, but an old master in our studio is responsible for the final polishing and waxing. My master asks me to learn from the old master and have my work polished. Though it is not an important work, I've experienced the complete process of lacquer carving in this way. (DH-TMY-20190123)

My master would ask me to design some small works. The carving of the main parts, including "upper hand" carving and "lower hand" carving, is completed by myself. My master would give suggestions and instructions at different stages, because I might have many problems in the course of design and carving. My master also arranges for me to participate in the making of large carved lacquer works, in which I am responsible for a small part in collaboration with other people. In this way, I develop a holistic understanding of the making of large-scale carved lacquer. (DH-TMY-20190123)

### **Discussions and Suggestions**

Carved lacquer masters should observe the following principles while tutoring apprentices, so as to help novice apprentices to complete the typical tasks, i.e., the design of carved lacquer draft sketches, the design of carved lacquer patterns, and the making and use of tools improve their modeling and aesthetics, carving skills and interaction with the carved lacquer community, and smoothly help novices step into the stage of advanced beginners.

#### **Determine the Order of Training According to the Apprentices' Learning Characteristics and Development Level**

The core skills of carved lacquer are design and carving. As the design of works requires that inheritors are not only versed with the carved lacquer craft but also equipped with rich knowledge of cultural heritage, therefore, in the course of actual teaching, the intangible culture inheritor should follow the order of learning carving first before design. The learning of brocade patterns in carving is a course of constant repetition, so apprentices' learning of brocade patterns should start at the early stage of craft learning. The course of learning "upper hand" carving should be accompanied with the practice of simple patterns. Such an order of learning can help the apprentices develop a basic understanding of the contents and process of the carved lacquer process, and independently complete the creation and carving of works, thus going through a complete course of work.

#### **Select Appropriate Contents of Teaching Based on the Characteristics of the Development of Traditional Handicraft**

In the selection of bases for carved lacquer works, it is suggested that novices select metal bases, because such bases are firm and lasting. The master can help his apprentices select the design of some works both practical and ornamental. The difficulty of works should follow the law of developing from simple works to complicated works. In terms of the skills of the carved lacquer craft, there is "upper hand" carving and "lower hand" carving according to the process. "Lower hand" carving, that is, brocade patterns, does not have much

variation. But some changes have occurred in “upper hand” carving with the development of the craft. The master should teach and instruct with focus on the four carving skills, puncturing, scraping, slicing, and brocade patterns.

### **Select Appropriate Method of Training Based on Apprentices’ Individual and Common Characteristics**

At the novice stage, apprentices are at the peripheral of the community of practices, and their master’s demonstration and verbal instructions play a significant role of promoting the learners’ perceptual knowledge. After accumulating certain experience and theoretical knowledge, the inheritors can reflect on and imitate the direct experience of individuals, thus promoting the abstracting of practices, and improving the level of individual practices. The master’s frequency of instruction for the learners is gradually lowered with improvement of the learners’ practices and skills. Through the strengthening of the learners’ self-reflecting ability, they become more reflective. In the course of learning, the master should be devoted to selecting authentic tasks able to promote the apprentices’ skill acquisition.

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