An Evaluation and Discussion of a Proposed Evidence-based Pedagogical Model for Jewellery Design Education with Traditional Handicrafts in China:

The Studio-based Design Knowledge Processes Toolkit

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Abstract

This research investigates how contemporary design education can contribute to the revitalisation and ongoing development of traditional handicrafts in China. In response to the challenges of cultural discontinuity, the research explores how design can function as a tool to preserve, reinterpret, and innovate traditional handicraft knowledge within educational settings.

Grounded in theories from craft and design studies, the research develops the Ideation-Empathy-Making (IEM) model, a practice-based teaching framework designed to integrate traditional handicrafts into design education. The model was developed and iteratively refined through a series of teaching experiments, personal design, and curatorial practice. It guides learners through retrieving, integrating, and concretising knowledge, fostering reflective, empathetic, and hands-on engagement with traditional handicrafts.

Jewellery serves as the primary medium in this research, offering a tangible platform to explore how traditional handicrafts can inform contemporary design outcomes. While the research focuses on the continuous development of handicrafts through educational practice, the IEM model also demonstrates broader applicability. As validated through teaching and exhibition practices, it has the potential to contribute to the sustainable development of traditional handicrafts in broader contexts, including cultural promotion, tourism, and public engagement.

This research identifies: (1) a pedagogical model that embeds traditional handicraft practices within design education; (2) a knowledge generation process that supports innovation grounded in traditional handicrafts; (3) the evolving roles of students and educators in protecting intangible cultural heritage; and (4) the potential of the IEM model to serve as a strategic framework for sustaining traditional handicrafts across cultural, economic, and ecological dimensions, achieving sustainable development goal.

Declaration

I hereby declare that this thesis, titled "*An Evaluation and Discussion of a Proposed Evidence-based Pedagogical Model for Jewellery Design Education with Traditional Handicrafts in China: The Studio-based Design Knowledge Processes Toolkit*", is the result of my own research and work done during my PhD in Design at the University of Gloucestershire, and is original except where indicated by specific reference in the text. The concepts and ideas resulting from my work are stated here in my own words. I have fully documented the source of ideas, references, quotations or paraphrases attributable to other authors. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

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Note on Chinese Names:
In this thesis, Chinese names are presented in their original order, with the family name preceding the given name. For example, Wang Wei refers to Wang as the family name and Wei as the given name. This naming convention is followed throughout the main text unless otherwise indicated.

AI: Artificial Intelligence

BCU: Birmingham City University

CAD/CAM: Computer-Aided Design and Manufacturing

CAFA: Central Academy of Fine Arts

DICRC: Design Innovation and Craft Resource Centre

ESD: Education for Sustainable Development

IEM: Ideation-Empathy-Making

ICH: Intangible Cultural Heritage

IRCI: International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region

PACC: Public Art Collaborative Center

RCA: Royal College of Art

SCFAI: Sichuan Fine Arts Institute

SDGs: Sustainable Development Goals

UAL: University of the Arts London

UNESCO: The United Nations Educational, Scientific and Cultural Organisation

UNESCO/ITC: United Nations Educational, Scientific and Cultural Organisation/Information Technology Community

VR: Virtual Reality

CHAPTER 1: Introduction

This chapter encapsulates the research framework, introduces the context of Chinese design education for conducting this research, and states the research question, research objectives, and methodology. The last section describes the research outline to assist readers in grasping the overall framework of the thesis for better comprehension.

1.1 Research Background

1.1.1 Motivation for the Research

During a one-year postgraduate programme at the School of Jewellery at Birmingham City University, I employed Chinese embroidery, a long-standing traditional handicraft, to enhance the artistic and market value of plastic materials, exploring their potential for sustainable development. I learned how to incorporate traditional crafts into jewellery design and to realise the concept of sustainable development through traditional handicrafts, all while realising the power of design-driven innovation[1].

Upon graduation, I joined the Fine Arts School Affiliated with the China Central Academy of Fine Arts as a fashion and jewellery design teacher. Currently, I serve as a teacher at the Jewellery Studio of the Sichuan Fine Arts Institute. Learning traditional handicrafts, especially jewellery-making crafts, is a fundamental and vital course for jewellery students in the university. These courses help students devise and complete design schemes. Through my teaching experience, I realised the role of design education in promoting the sustainability of traditional handicrafts and facilitating the

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[1] Factories can recycle plastic materials like milk bottles. However, our individual actions often disregard or discard these materials, causing environmental pollution. This pollution, including marine pollution, poses a direct and urgent threat to the lives of marine organisms, underscoring the importance of our responsible disposal and recycling practices. So, to achieve that, I reshaped the plastic waste and embroidered it into a new, creative form.

Therefore, the embroidery used is deeply rooted in historical traditional handicraft and requires significant time and care in its handmade production; it is not just a craft that can be used to decorate and reshape plastic. This meticulous process significantly enhances the value of the plastic material and imbues it with the connotation of embroidery, redefining it as a valuable and cared-for object. It is a testament to the design that taps into the potential of traditional handicrafts, showcasing the beauty that can be created from what was once considered waste and generating sustainable value.

significant potential of traditional handicrafts in jewellery design education. Since 2019, I have dedicated myself to teaching experiments that explore how sensory design fosters innovative designs of traditional handicrafts, which resulted in the publication of one journal paper and one international conference paper.

To deepen my understanding of traditional handicrafts, I actively participated in events such as the Guangxi Minority Dyeing, Weaving, and Embroidery Skills Inheritance and Innovative Design Seminar, arranged by the Guangxi University of Arts in 2020. These experiences prompted me to contemplate the difficulties and challenges those traditional handicrafts encounter, consider the importance of traditional handicrafts in contemporary design, and explore how design education can effectively address and improve these challenges.

Drawing from past experiences in creation, learning, and research, I was inspired to further explore design solutions to the challenges encountered by traditional handicrafts and how jewellery design expertise and educational methods can contribute to the long-term development of traditional handicrafts, especially jewellery-making traditional handicrafts.

1.1.2 Research Context

As one representative type of intangible cultural heritage (ICH), traditional Chinese handicrafts have experienced the impact of the Industrial Revolution, wars, and political chaos, resulting in difficulties and challenges. However, traditional handicrafts played a significant role in China's economic recovery during periods of reform and opening up, especially during World War II, when learning traditional handicrafts, such as embroidery, was a way to encourage women's independence[2]. In addition to their economic value, traditional handicrafts contain various other values, including artistic

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[2] More details are described and explained in Section 3.2.1.1.

and historical value, which fully reflect their continuity, regionality, dynamics, and practicality.

The formal adoption of the Convention for the Safeguarding of the Intangible Cultural Heritage in 2003 (Ma and Zhou, 2018, p.1) stressed the importance of protecting 'tangible' and 'intangible' cultural heritage and the need to develop practices that ensured its protection and continuation into the future.

In today's China, it is mostly older people skilled in traditional handicrafts (Ma and Zhou, 2018, p.98), while increasingly young people are abandoning a craftsman's monotonous, repetitive life, especially as rural areas become more urbanised. Traditional handicrafts no longer attract the interest and attention of young people. Furthermore, the reduction in intergenerational communication and dialogue has threatened the survival of traditional culture (Härkönen, Huhmarniemi and Jokela, 2018). Traditional culture should be transmitted naturally, which relies heavily on transmission from person to person. Human beings are the subject of handicrafts (Li, Ho and Yang, 2019, p.8), so intergenerational transmission between teachers and students, parents and children, and designers and visitors can achieve an intergenerational culture of traditional handicrafts continuity (Qiao, 2020, p.6).

China realised the need for sustainable development and transmission of ICH through educational means. At the beginning of the 21st century in China, various policies have been implemented to promote ICH in schools, from early childhood to higher education. Moreover, these policies range from experimental practical teaching to advocating the establishment of corresponding university disciplines for a complete and systematic preservation, transmission, and innovation strategy. Qiao (2007, p.32) underlines the ongoing reform, supplementation, and structural adjustment of disciplines to adapt to cultural protection and social product development. He also emphasises that studying the reorganisation of Chinese cultural resources and the sustainable development of

Chinese cultural genes is a new discipline, a cultural mission that university education should not neglect.

Thus, the implementation of concrete teaching methods is continually emerging (Pöllänen, 2011; Sweet, 2013; Pöllänen and Urdziņa-Deruma, 2017; Li, Ho and Yang, 2019; Ji, Tan and Hills, 2020). For traditional handicrafts, most models or teaching approaches required cooperation between designers and craftspeople; for instance, Jay Thakkar developed the Craft Innovation Systematic Approach. However, many problems exist in the cooperation process and after, such as communication barriers, time constraints on project collaboration, and a lack of independent design ability. Therefore, the Chinese design education system needs a pedagogical model, an appropriate tool for teachers and art-design students when creating, maintaining, or protecting traditional handicrafts.

In the contemporary socio-cultural context, human beings are the main subject involved in the transmission and the driving force of innovation. The research on traditional handicrafts, a significant area of study, is mainly carried out in the department of Arts and Crafts within the design discipline in China. It combines design theories and practices to comprehensively represent the implicit and explicit knowledge of these handicrafts. This research aims to cultivate talents for traditional handicrafts that meet social needs swiftly and accurately through higher education in design, underscoring the importance of this field of research.

Therefore, this research is based on the jewellery studio-based practice, focusing on the creation and transmission teaching model, particularly in traditional jewellery-making handicrafts. It explores how design, a crucial element, can contribute to the continuation of traditional handicraft practices to achieve long-term sustainable development goals. Importantly, this research highlights the evolving role of university students in the innovation and transmission of traditional handicrafts. As they transition from being mere recipients and experiencers, they take on pivotal roles as promoters, protectors,

transmitters, and designers. This shift in roles is not just a change, but a significant contribution to the long-term sustainable development of traditional handicrafts. Hence, this research emphasises the importance of design education and the development of a teaching model.

1.2 Research Design

Based on the literature review of Chapters 2, 3 and 4, four research hypotheses have been identified：

(1) In changing times, there is an urgent need to keep traditional handicrafts relevant by transforming or recreating them to suit contemporary living.

(2) There is a growing awareness among art-design educational institutions about the loss of traditional handicraft knowledge and practices and the importance of preserving them.

(3) In the process of reviving, protecting, or creating traditional handicrafts, students and teachers need of a clear and practical method or tool to guide their creativity.

(4) The pedagogical model of design needs to engage art-design students, the potential future artists, craftspeople, designers, and educators, to play a pivotal role in protecting, transforming, or creating traditional handicrafts.

These hypotheses highlight gaps in current teaching approaches within Chinese design education, particularly in relation to the preservation and innovation of traditional handicrafts. This research responds to these gaps by exploring how traditional handicraft knowledge can be embedded into contemporary jewellery design education through experiential, practice-led teaching methods.

1.2.1 Research Questions

This research aims to investigate the teaching practice based on traditional handicrafts in the context of Chinese jewellery design education and proposes a teaching model to explore the potential of design education in the sustainable development of traditional handicrafts. Additionally, it explores the roles and contributions of students in this context, along with their future potential. Specifically, this research contributes to design education by nurturing talents for the protection and sustainable development of traditional handicrafts to disseminate the cultural and intrinsic values of traditional handicrafts.

Thus, this research is centred on the primary research question:

How can design education contribute meaningfully to the continuity and development of traditional Chinese handicrafts?

Three research objectives were set to drive the research project, and outlined the specific steps to serve as the primary research question. The objectives are:

(1) How can the role of contemporary design education be reimagined to sustain and reinvent traditional handicraft skills?

(2) How can innovative approaches in contemporary jewellery design education generate new knowledge by using traditional handicrafts as a resource?

(3) What new pedagogical model would enable the generation of this practice-based learning?

1.2.2 Research Methodology

This research, as practice-led research, aims to explore pedagogical approaches for the continuing development of traditional Chinese handicrafts, particularly within the context of jewellery design education. The research is grounded in both teaching-based activities and personal creative practice, through which the research questions and objectives are investigated.

The primary research approach is design-led inquiry, which enables the development of both a teaching method and a design method that innovates within the field of design methodology itself. Rather than applying a fixed method, the research is structured as a progressive and responsive process, allowing methods to evolve as insights emerge. This methodological strategy is organised into three interrelated stages, including collecting, building, and sharing knowledge. Each stage is purposefully designed to support the generation, application, and dissemination of cultural and design knowledge in a situated and practice-responsive way.

Through this approach, a comprehensive methodological structure has been developed to accommodate various research activities, including teaching experiments, individual design practices, workshops, and projects. Importantly, the final creative works generated through these activities are not merely products but are treated as embodied forms of knowledge, which is a critical component of the original data and a reflection of the evolving research process. More importantly, these three stages also form the framework for data analysis, ensuring that the process of knowledge generation is examined in alignment with the structure of the research itself.

Taken together, these methodological choices have informed the development of the Ideation-Empathy-Making (IEM) model, which serves both as a conceptual framework and a teaching toolkit for the reinterpretation and transmission of traditional handicraft knowledge. The IEM model not only addresses practical challenges in craft education but also contributes to the theoretical advancement of culturally responsive design methodology in the Chinese context.

1.3 Outline of the Research

The thesis comprises ten chapters organised into terminological understanding (Chapter 2), theoretical background (Chapter 3), research context (Chapter 4), methodology (Chapter 5), practice research (Chapter 6), toolkit (Chapter 7), validation (Chapter 8), examination and analysis (Chapter 9), and conclusion (Chapter 10).

Chapter 2 begins by reviewing relevant literature, policies, and legal frameworks to clarify key terminologies and the hierarchical relationship between intangible cultural heritage, traditional handicrafts, and jewellery-related crafts. It highlights the values and characteristics of traditional handicrafts and introduces three core components to support a disciplinary understanding of the traditional handicrafts. Building on this foundation, the chapter proposes a definition and classification of traditional handicrafts within the field of design. Within this classification framework, embroidery is identified as the specific craft focus of this research due to its cultural relevance and practical applicability.

Chapter 3 examines the challenges facing traditional handicrafts, identifying education as both a contributing factor and a potential solution to these challenges. It situates education within broader frameworks of ICH safeguarding and the Sustainable Development Goals (SDGs), emphasising its role in promoting cultural sustainability. Tracing the development of ICH protection in China, the chapter outlines five key safeguarding measures, with a focus on education-related policies. It then critically reviews existing pedagogical models, both domestic and international, to identify gaps and opportunities for improvement. This analysis clarifies the type of practitioner this research seeks to cultivate - those who integrate craft, design, and cultural understanding - and examines the evolving roles of teachers and students in supporting this aim.

Chapter 4 analyses case studies from Chinese higher education to establish studio-based learning as the pedagogical context of this research. It then examines the mediating role of design between contemporary jewellery and traditional handicrafts, highlighting how design enables dialogue across these domains. Building on this foundation, a case study of embroidery-based practice is presented to identify three innovation strategies, which underscore the relevance of the Making and Empathy modules within the research model. These insights inform the development of the proposed pedagogical approach and the creative capacities it seeks to cultivate.

Chapter 5 outlines the methodological framework of this practice-led research, which is structured around three interrelated stages: Collecting, Building, and Sharing Knowledge. These stages form both the design of the research process and a corresponding framework for data analysis. Each stage integrates methods drawn from creative practice, reflection, and pedagogy, providing a structured and iterative approach to generating and analysing knowledge.

Chapter 6 clarifies the key terminologies used in the IEM model to define its core components and research focus by analysing the curricula of leading jewellery programmes in China and the UK. Teaching experiments, workshops, projects, and individual practices based on the studio-based model facilitate the iteration of the IEM model and the generation of knowledge. Throughout this iteration, I constantly situated myself in the cycle of being inside and outside, taking on multiple roles that shaped my observations and reflections on my works and teaching experiments.

Chapter 7 introduces a practical toolkit to assist teachers and art-design students in designing effective traditional handicraft practices and generating knowledge.

Chapter 8 presents two evaluation approaches, comprising an analysis of design outcomes and qualitative social validation, to explore how the validity of the knowledge

generated through this research is demonstrated as a contribution to the disciplinary and professional knowledge base.

Chapter 9 critically examines how the model functions, identifies its potential beneficiaries, explores the contexts in which it can be effectively applied, and discusses the potential impact of the IEM model.

Chapter 10 summarises the research contribution to knowledge by answering the research questions, discussing their limitations, the potential evolution of the research questions, and the implications this research has for practical and pedagogical future work.

CHAPTER 2: Traditional Handicrafts in the Chinese Context

This chapter contributes to achieving the first research objective by proposing a definition and classification of traditional handicrafts within the design context. It clarifies and explains the hierarchical relationship between ICH, traditional handicrafts, and traditional jewellery-making handicrafts, thereby identifying the distinctive characteristics and values embedded in traditional handicrafts. Furthermore, it introduces three core components of traditional handicrafts to illustrate the interplay between their values and characteristics, which aids in establishing a clear definition and classification of traditional handicrafts within the design discipline. Within this framework, embroidery is highlighted as a representative jewellery-making craft that carries both cultural significance and practical relevance, which provides a strong foundation for its use as the primary craft in this research design practice and pedagogical exploration.

2.1 Ambiguous Traditional Handicrafts Concept

This section has reviewed legal and policy sources to clarify the conceptual landscape surrounding craft-related terms. By distinguishing between related concepts, the section ensures terminological precision and identifies traditional handicrafts as the central research object. This groundwork prepares for the following sections, which explore the definition and classification of traditional handicrafts in Chinese design education, thereby supporting the broader aims of this research.

2.1.1 Comparative Analysis of the Concept of Craft in Chinese and Western Contexts

The term 'craft' as a "naming-word is an unstable compound" (Greenhalgh, 1997, p.21), which is "brief, pungent, but ambiguous" (Lucie-Smith, 1981, p.11), and this ambiguity is reflected in a shift in the word's meaning (Zhang, 2022, p.27). In the sixteenth century,

for example, craft could be used to mean simply strength, power, force. It could also signify intellectual power, or abstract knowledge, or, in a pejorative sense, witchcraft (Risatti, 2007, p.160). Additionally, craft could mean occult art, or magic (Lucie-Smith, 1981, p.11). In the 18th century, craft gained political implications, referring to power and secret knowledge (Greenhalgh, 1997, pp.22-23, p.35). Craft also refers to the concepts of making, skills, and knowledge (Lucie-Smith, 1981, p.11; Greenhalgh, 1997, p.22, p.43) but can likewise be a skilled pastime (Greenhalgh, 1997, p.37), and provides an "evidence of the way in which society itself has developed" (Lucie-Smith, 1981, p.11) and be a material outcome of positivist activity (Greenhalgh, 1997, p.48). However, the current understanding of craft originated in the Arts and Crafts movement[3], where it was defined as a distinct artistic class based on processes and genres rather than ideas (Greenhalgh, 1997, p.38). It was both a noun and an adjective, with its meaning evolved from Caleb D'Anvers's sense of guile and political intrigue to Gustave Stickley's vision of art and life (Greenhalgh, 1997 p.36).

In China, the translation of 'craft' is rendered as '工艺' (gōng yì). The earliest Chinese dictionary, *Shuowen Jiezi*, was compiled by Xu Shen, a philologist in the Eastern Han Dynasty. It explains that 工 (gōng) symbolises standards and rules (Xu, 2014, p.124). However, this meaning has long been lost. The term later came to carry various extended meanings. The earliest and most direct extension referred to craftspeople and extended to mean skills and techniques, broadly referring to various labourers. In ancient times, it could also denote music officials (Tang, 2014, p.711; Xinhua Dictionary Editorial Committee, 2015, p.289; Huang and Zeng, 2016, p.915). Throughout different historical periods in China, people engaged in traditional craftsmanship belonged to different social classes, organisations, and cultural structures (Chen, 2016, p.80).

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[3] The Arts and Crafts movement originated from efforts to reform design and decoration in mid-19th century Britain. However, during that time, China was experiencing war and political chaos. As stated in Section 2.2, developing traditional handicrafts was aimed at increasing the economy and improving the living standards of its people. As a result, the Arts and Crafts movement concept, which was too idealistic for China at the time, had little impact on Chinese crafts (Zheng, 2012; Zhang and Teng, 2016). However, nowadays, many Chinese designers and scholars consider and draw inspiration from the Arts and Crafts movement theories.

The term '艺' (yì) first appeared during the Shang Dynasty as '埶' (yì), which symbolising the act of planting (Huang and Zeng, 2016, p.1190; Tang, 2014, p.217). As planting was considered a skill, the term '艺' further extended to mean talent or skill (Huang and Zeng, 2016, p.1191). Possessing skill implies mastering the standards or measures for performing a specific task, so '艺' also came to mean criteria (Xinhua Dictionary Editorial Committee, 2015, p.1071). Moreover, if a skill can reach a state of mastery, it can evoke an artistic appreciation, so '艺' also connotes art (Tang, 2014, p.218). In ancient Chinese literature, the term '工艺' generally referred to the means of making objects and was widely used to meet various needs related to clothing, food, shelter, and transportation. The physical products of these crafts embodied the ideological concepts of specific eras, distinguishing social classes and establishing ritual systems (Chen, 2017c, p.5).

The term craft's historical trajectories and cultural frameworks differ significantly in Western and Chinese contexts. However, both regard craft as a practice involving skill, knowledge, and cultural expression. As it has evolved over time, the word craft changed from being an adjective to a noun and from describing things to becoming an object in and of itself. However, its contemporary usage is not limited to its earlier meanings. Nowadays, the definition of craft varies among individuals and may depend on the specific context or perspective. Craft is "a broad, generic signifier that might be applied to any area of the arts or humanities; it could be used in the context of theology, opera or easel painting. For them, craft implies a particular type of person, environment, genre, technique and market" (Greenhalgh, 1997, p.24).

However, as a term, the definition of craft "should not proceed through generalities, but, like the legal system, evolve through case law by taking account of previous examples and the judgements of connoisseurs" (Dormer, 1997a, p.5), or "best addressed by history" (Greenhalgh, 1997, p.21). There is a global absence of a universally accepted term for handicraft, despite several efforts to define it. Reaching a consensus

on an appropriate definition for handicraft becomes extremely significant, especially for China (Barber and Krivoshlykova, 2006, p.1).

2.1.2 Statutory Descriptions of Craft

Article 2 of the promulgated Regulations on Protection of Traditional Arts and Crafts in 1997, defines **traditional arts and crafts** as "a variety of handicrafts and techniques that have existed for over one hundred years and are marked by a long history, exquisite skills, have been passed on from generation to generation, have a complete technical process, have been made of natural materials, have a distinct national style and local features, and are renowned both at home and abroad" (The State Council of the People's Republic of China, 2014a).

The Plan on Revitalising Chinese Traditional Crafts in 2017, aims to further promote traditional Chinese crafts, especially those listed as part of the country's ICH. It demonstrates the concept and characteristics of **traditional crafts**, which consist of crafts and related products with historical heritage and national or regional features. These traditional crafts are closely linked to daily life, mainly involving manual work. They represent creative manual work and personalised production based on the material, and have characteristics that industrialised production cannot replace (The State Council of the People's Republic of China, 2017a, para.2).

The definition of traditional crafts provided in this plan requires further clarification. Firstly, while some crafts have been preserved throughout history, others have been lost. Secondly, the proposal only includes traditional crafts products, but the function and application range of these products has not been defined. Therefore, traditional crafts should be considered as all handicrafts formed throughout history, and their products should be practical, artistic, or both practical and artistic (Hua, 2020, p.123). For instance, the production technology of tools has a strong practicality, paper cutting is an artistic product, while ceramics includes daily use items and fine art ceramics.

Moreover, this plan points out that traditional crafts contain the cultural values, ideological wisdom and practical experience of the Chinese nation, and is an important part of ICH (The State Council of the People's Republic of China, 2017a, para.3). The definitions in the two policies indicate a change in the terminology for handmade techniques and handicrafts, while the attribution of traditional handicrafts is being explored. It is important to understand that traditional handicrafts are not always the same as defined by Arts and Crafts, despite common misconceptions (Du, 2006, p.87).

Craft encompasses both technique and art, is concerned with aesthetics and artistic perception, and reflects differences in people's understanding. However, **handicraft** is commonly defined as "the ability to originate and create things by hand through the manipulation of material" (Risatti, 2007, p.177). Handicraft refers to the creation of objects entirely by hand, or with the use of simple tools, and is a blend of manual techniques and art. Without the pursuit of beauty and creativity, an object can only be considered handmade, not true handicraft (Zhu, Wang and Shen, 2023, p.2).

However, the definition given by the United Nations Educational, Scientific and Cultural Organisation/Information Technology Community (UNESCO/ITC) Symposium on Crafts and the International Market covers the complexity and diversity of handicrafts (1997, quoted in Barber and Krivoshlykova, 2006, p.3):

> *handicrafts* are those produced by artisans, completely by hand or with the help of hand-tools and even mechanical means, as long as the direct manual contribution of the artisan remains the most substantial component of the finished product.

Handicrafts have both practical and aesthetic factors. Practicality embodies the utility function of handicraft products, while the makers' creative ideas add to their utility efficiency and give them a more aesthetic value beyond their practical use (Hua, 2020, p.228).

The defining of the 'tradition' in Article 2 of the Regulations on Protection of Traditional Arts and Crafts, includes the limitation of time, which requires over hundred years; the other point is linked to historical inheritance. As Giddens and Pierson (1998, pp.127-128) addressed that **tradition** is

a means whereby the past lives in the present and thereby shapes the futures. Traditions involve the following qualities: (1) they depend upon ritual, which often, although not always, takes the form of collective ceremonial; (2) they involve repetition and therefore a certain classicism; (3) they imply a notion of 'ritual truth'. The truth of tradition is given by the codes of practice which it enshrines. This is the crux of the differences between traditional ways of doing things and those based upon rational or scientific inquiry. Of course, particular kinds of activity or institution can involve elements of each: the practice of science, for example, can take on traditional traits. (4) Tradition is always collective: individuals can have their own rituals, but traditions as such are group properties. (5) The reason for this, as the French sociologist Maurice Halbwachs pointed out, is that tradition is a form of collective memory. It transmits experiences through ritual.

Tradition does not simply refer to the concept of time as opposed to contemporary times; it includes "material objects, beliefs about all sorts of things, images of persons and events, practices and institutions" and "all that a society of a given time possesses" (Shils, 1981, p.12). In terms of craft, it means technical norms and craftsmanship rules are based on what has been developed over time through experience and knowledge. As Yanagi (2011, p.95) states, the beauty of a craft is found in its adherence to tradition, and only by honoring these traditions can the craft progress in the right direction.

Crafts are both a global and local phenomenon: every culture on earth has some form of craft and craft manufacture to fulfil its basic functional as well as creative and social needs (Niedderer and Townsend, 2018, p.195). However, handicrafts are considered a kind of culture that includes both material and spiritual aspects. It is a cultural phenomenon, and a remarkable human achievement produced under specific circumstances and conditions that involve the relationship between humans, objects, and techniques (Zhu, Wang and Shen, 2023, p.2). It has a dual attribute of being both

material (craftwork) and non-material (craftsmanship and related knowledge) (Zhu, Wang and Shen, 2023, p.2). Traditional handicrafts possess a unique charm that is deeply rooted in their history. They have been passed down through generations, telling a story of the skills and creativity of the craftspeople. Despite the changing times, traditional handicrafts have stood their ground and continue to be treasured for their timeless beauty and cultural significance.

This section has examined the definitions and applications of craft-related terms as they appear in various Chinese policy documents and has cross-referenced them with relevant UNESCO frameworks. This comparative analysis presents a conceptual map that clarifies the relationships and distinctions among key terms associated with craft (Figure 2.1). This clarification contributes to a more precise understanding of traditional handicrafts as a research object, particularly in terms of their attributes, definitions, and classifications.
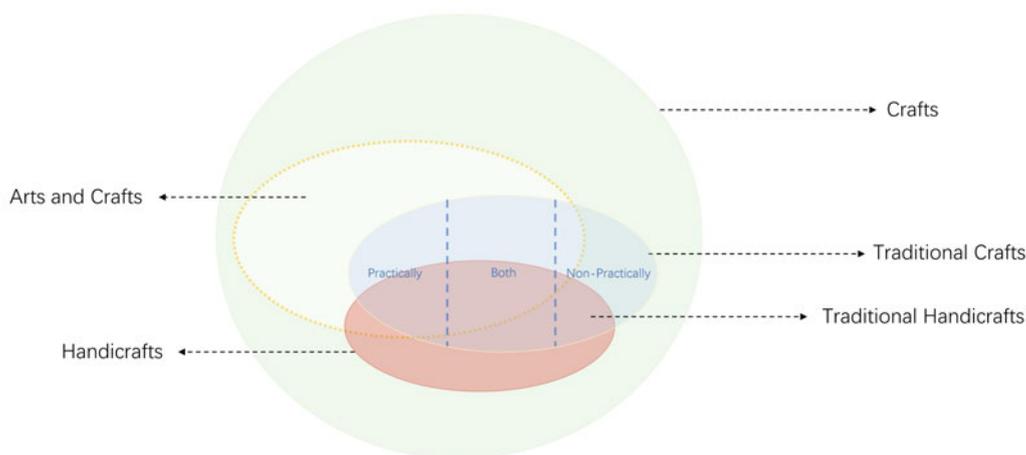
Figure 2.1 The relationship between research terms

2.1.3 Traditional Handicrafts as Part of Intangible Cultural Heritage

People have pondered ways to protect and preserve the world's cultural heritage for several hundred years. The idea of an international legal instrument to achieve this, dates back to the 1950s. In the law for the Protection of Cultural Properties (1950), the Japanese government defined "tangible and intangible cultural properties, and people as 'living treasures', - all national resources and assets to be protected, appreciated,

utilized and managed" (Kurin, 2004, p.66), which helps with "understanding how life in Japan has changed over time" (IWANAMI, 1991, p.1372, quoted in Thornbury, 1994, p.212). Followed by the General Conference of UNESCO established the Convention for the Protection of World Cultural and Natural Heritage in 1972 (World Heritage Convention, no date). Cultural heritage is the legacy of tangible and intangible heritage assets of a group or society inherited from past generations, which encompasses the architectural heritage, books, and other material forms of heritage, as well as knowledge, traditions or living expressions inherited from the ancestors and passed to the next generation (Yang *et al*., 2018, p.3). Hence, cultural heritage includes tangible and intangible cultural heritage, which are closely interrelated (Kurin, 2004, p.70).

> *Our generation has inherited a wealth of tangible and intangible cultural resources that embody the collective memory of communities across the world and buttress their sense of identity in times of uncertainty. Held in trust for humankind, these resources are essentially non-renewable.* (UNESCO, 1995, p.176)

ICH, in a broader sense, embodies the concepts and values that are intricately linked with tangible cultural heritage (Ma and Zhou, 2018, p.4). As Parry-Williams (2015, p.167) argues "understanding or knowledge held by an individual, or individuals, that facilitates the act of producing a defined cultural artefact or tradition" further recognises the interaction between the 'intangible' and 'tangible'.

For a long time, people have placed more emphasis on safeguarding tangible cultural heritage, such as historical landmarks and sites, while neglecting the significance of ICH (Kurin, 2004, p.68). As UNESCO (1995, p.176) noted, all forms of cultural heritage are fragile, but the immaterial ones that exist in people's minds and hearts are especially so.

With reference to the Convention, and in accordance with the Chinese context, the Intangible Cultural Heritage Law of the People's Republic of China defines ICH as:

all forms of traditional cultural expressions, as well as objects and places associated with traditional cultural expressions, which have been handed down from generation to generation by peoples of all ethnic groups and regarded as part of their cultural heritage.[4] (Ministry of Culture and Tourism of the People's Republic of China, 2011)

This definition emphasises the two necessary attributes of ICH, namely intergenerational inheritance and identity (Ge, 2020, p.6) and focuses on national uniqueness and cultural diversity oriented towards promoting Chinese national convergence.

ICH is considered part of cultural heritage, which involves "the practices, representations, expressions, knowledge, skills - as well as the instruments, objects, artefacts, and cultural spaces" and "transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity" (UNESCO, 2003, p.2). UNESCO member states consider ICH in relation to tangible world heritage, with an emphasis on intangible aspects of culture, which consists of nonphysical intellectual wealth, that is, beliefs, language, traditions, and knowledge.

Furthermore, the classification of ICH by UNESCO (2003, p.2) covers the basic situation of all countries worldwide and is divided into five domains[5], including traditional craftsmanship. However, China's ICH law divides ICH into six domains[6] based on UNESCO's classification (Ministry of Culture and Tourism of the People's Republic of China, 2011), including traditional skills, medicine, and calendars.

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[4] Original text: 非物质文化遗产，是指各族人民世代相传并视为其文化遗产组成部分的各种传统文化表现形式，以及与传统文化表现形式相关的实物和场所。Translated by Zi in 2024.
[5] The classification of ICH by UNESCO: (a) oral traditions and expressions, including language as a vehicle of the intangible cultural heritage; (b) performing arts; (c) social practices, rituals and festive events; (d) knowledge and practices concerning nature and the universe; (e) traditional craftsmanship.
[6] Original text: （一）传统口头文学以及作为其载体的语言；（二）传统美术、书法、音乐、舞蹈、戏剧、曲艺和杂技；（三）传统技艺、医药和历法；（四）传统礼仪、节庆等民俗；（五）传统体育和游艺；（六）其他非物质文化遗产。 (1) traditional oral literature and the languages as its carriers; (2) traditional arts, calligraphy, music, dance, drama, folk art, and acrobatics; (3) traditional skills, medicine, and calendars; (4) traditional etiquette, festivals, and other folk customs; (5) traditional sports and entertainment; (6) other intangible cultural heritages. Translated by Zi in 2024.

China, which has 56 ethnic minorities, is a vast territory, and geographical location has become a crucial determining factor. Therefore, the Chinese ICH adds more classifications and groups, such as Chinese calligraphy and medicine. However, it has been recognised that classifying ICH poses numerous challenges. Many ICHs are intangible, which makes it difficult to assign them to a specific category due to overlaps and ambiguities in the boundaries of different ICHs.

In the process of developing policies for the protection and promotion of ICH, several scholars have categorised ICH from different perspectives (Xiang, 2006; Wang, 2006; Zhang, 2010b, p.27; Zhou, Wang and Dai, 2012; Duan, 2018, pp.11-14; Yuan and Gu, 2022, pp.14-16). In particular, in terms of education, the potential impact of a more detailed subject classification of ICH could significantly contribute to the construction of specific disciplines, the setting of teaching systems, and the exploration of teaching methods related to Chinese ICH.

Regardless of any classification, traditional handicrafts are "the most tangible manifestation of intangible cultural heritage", which is "mainly concerned with the skills and knowledge" (UNESCO, no date, para.1) and reflect the culture and traditions of specific regions through local craftsmanship and materials (Mahgoub and Alsoud, 2015, p.471; Yang *et al.*, 2018, p.1).

This section has demonstrated three key points through a comparative review of key legal and policy frameworks, such as Japan, UNESCO and China: (1) the global significance attached to the protection of ICH; (2) the conceptual relationship between tangible and intangible cultural heritage; and (3) the positioning of traditional handicrafts as a specific category within ICH. This cross-cultural legal and policy review lays a theoretical foundation for defining and classifying traditional handicrafts within the design discipline in the Chinese context, thereby contributing to the fulfilment of research objective one.

2.2 Defining the Foundations of Traditional Handicrafts

This section presents an analysis of the characteristics and literature-based values of traditional handicrafts, establishing a theoretical foundation for their definition and classification in the following section.

2.2.1 Defining the Essential Characteristics of Traditional Handicrafts

Traditional handicrafts originate from and serve the emotional world and practical life of the people, reflecting the ways of production and lifestyles, social relations, aesthetic preferences, emotional attachments and religious beliefs of different ethnic peoples in different periods. In summary, traditional handicrafts are a collection of the wisdom of craftspeople passed down from generation to generation and are characterised by **practicality, dynamics, continuity and regionality**, which intertwine with each other.

Practicality

Traditional handicrafts are created to fulfil people's needs in daily life. To adapt to nature, humans must be able to do all kinds of work, which requires a diverse array of tools, devices, and machines. These tools and devices have been widely used in daily life, and their production techniques have become one of the main categories of traditional handicrafts, owing to their fundamental significance to human life (Hua, Li and Wang, 2023, p.v).

Therefore, **practicality** is an essential characteristic of traditional handicrafts, a continuous accumulation of the life experiences of generations of craftspeople and *daily life knowledge* and skills that rely on practical operations. Manual work is a combination of wisdom and strength. What is learned from traditional handicrafts is *concrete and rational knowledge*: rationality, a form of high-level cognition (Hua, Li and Wang, 2023, p.viii). The traditional handicrafts of cognition, in terms of the knowledge of materials, means, shapes, production, preservation, and maintenance of

handicrafts, are formed in the process of practice, which builds up from the superficial to the deep, and from the primary to the advanced; culminating in the impetus to develop traditional handicrafts and the enrichment of the knowledge system constantly. Craftspeople learn and inherit the collective creations of the past while adding their consciousness, emotions, and knowledge, which is an active practice of personalisation and innovation.

Dynamics

Traditional handicrafts are a **living** culture (Ma and Zhu, 2018, p.39; Chen, 2020, p.42), and "is never static and never insulated from what surrounds it" (Astfalck, 2007, p.34), and craftspeople are the subject of their creation and inheritance. The activities of craftspeople are necessary to demonstrate the transmission and creation of handicrafts, not only through verbal descriptions but also through the cooperation of craftspeople's physical movements with tools and materials.

Moreover, the live characteristic of traditional handicrafts regenerates across time, regions, and the individuality of the craftsperson, as they constantly evolve and innovate during the process of inheritance and transmission. Therefore, inheritance, variation and innovation are core factors that determine the live characteristics of traditional handicrafts. This evolution is an inevitable result of social development and the fundamental demand of human beings for novelty and new ideas. The driving force behind the development of human society is innovation, and craftspeople continuously innovate by acquiring new knowledge and mastering new technologies.

ICH requires an audience to survive (Chen, 2020, pp.41-43). This is achieved through festivals, craft fairs, dances, and other ICH forums and can only retain meaning and value when witnessed or interacted with. The audience plays a crucial role in preserving and developing ICH. They actively participate in its inheritance and contribute to its evolution as a living culture. In essence, they are the 'partners' of ICH. Therefore,

traditional handicrafts have a human attribute (Liu, 2009, p.2; Chen, 2020, pp.37-38), which is the most unique component of its **live characteristic** (Figure 2.2).
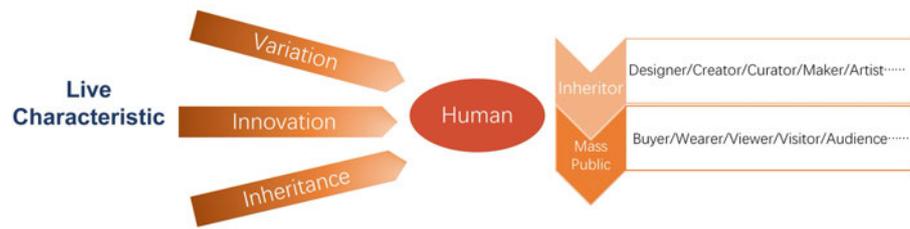
Figure 2.2 The role of human in traditional handicrafts

Continuity

Tradition, according to Nugraha (2012, pp.40-41), is "flexible and keeps developing from one generation to another to serve and suit human lives" and reflects continuity. Similarly, Shils (1981, p.13) views tradition as "the past in the present but it is as much part of the present as any very recent innovation". Thus, traditional handicrafts are about continuity (Metcalf, 2007, p.19; Nugraha, 2012, p.105), while maintaining a delicate balance between tradition and creation, where the specific role of creation is in maintaining the continuity.

The **continuity** of traditional handicrafts is a social need (Hua *et al.*, 2014, p.3; Ma and Zhu, 2018, p.48; Zhang, 2022, p.33). Creating anything requires direct or indirect, multifaceted needs, which is the fundamental motivation for people's creative behaviour. People create to satisfy their need - a process of making objects and of cultural continuation. Objects are daily consumables that need to be replenished and repaired frequently to meet everyday life's needs and, therefore, need to be made repeatedly. The techniques of handicrafts mastered by craftspeople are inherited, cumulatively improved, and refined during the sophisticated and repeated making process. Objects are created to be both artistic and rational as craftspeople's understanding of materials deepens and develops. In this process, each craftsperson may add some particular skill or special touch of their own, which is passed on for

others to develop. Moreover, traditional handicrafts are a significant part of identity and connection with history, implying a kind of social continuity and intergenerational cohesion.

> *[traditional handicrafts] transmitted from generation to generation, [are] constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.* (UNESCO, 2018, p.5)

Traditional handicraft learning involves transferring skills and knowledge from experienced and skilled craftspeople in the community. This also includes ***traditional knowledge***, such as beliefs, behaviours, and customs, that are passed down from generation to generation. Preserving these traditional handicrafts is critical to maintaining relevance and ensuring their continuation.

Regionality

> *[O]ur cultural experience is 'placed' in the 'geography' of our everyday lives, and in the 'ecology' of the diverse relationships that take place within and between place*s. (Gruenewald, 2008, p.137)

Traditional handicrafts possess unique **regional** characteristics (Ma and Zhu, 2018, p.48; Zhang, 2022, p.34) that cannot be replicated and are endowed with local meanings and values. Thus, craft activities are often associated with the concept of 'place' and 'localisation', as they offer insights into a long-standing local approach to material culture (Chudasri, Walker and Evans, 2012; Chudasri and Saksrisathaporn, 2017) and ***indigenous knowledge*** (Johnson, 2012, p.834). The materials used in traditional handicrafts are sourced from a specific region and serve as the foundation for their regional characteristics. The knowledge about materials and environmental conditions in these places contributes to local ecological balance and environmental stewardship. Thus, the natural environment plays a significant role in the development of traditional handicrafts, with macro factors such as geography and climate defining diverse social

customs in different parts of the world, contributing to the distinct regional characteristics of these handicrafts. As Pierantoni (2018, p.292) argues:

> *the main aspect that characterizes handicraft is the strong relationship between a place and its human part, the people living in a specific place. The encounter of places and people create a space for relations where the concepts of community, market and heritage coexist. It is the immaterial heritage of a place that, through the hands of artisans, can create unique objects that carry special meanings related to a specific place. Handicraft would not exist without human beings based in a specific place rich of raw materials.*

Additionally, governments and institutions develop relevant policies to support place-based craft products. For example, one of the main tasks of the Plan on Revitalising Chinese Traditional Crafts is to display, publicise, and promote traditional craft products with regional characteristics to grow the local cultural industry (The State Council of the People's Republic of China, 2017a). All traditional handicrafts have regional and national characteristics (Ma and Zhu, 2018, p.59) that reflect their localities and aesthetics (Hua, Li and Wang, 2023, p.xix, p.xxii).

2.2.2 Understanding the Values of Traditional Handicrafts

Traditional handicrafts, as vital components of China's ICH, embody multiple dimensions of value. Both the Cultural Relics Protection Law (2005) and the Law for Protection of Intangible Cultural Heritage (2011) in China recognise the historical, artistic, and scientific significance of ICH. Similarly, UNESCO/ITC (1997, quoted in Barber and Krivoshlykova, 2006, p.3) emphasises that the value of handicrafts lies in their distinctive features, such as utilitarian, aesthetic, creative, symbolic, and culturally embedded.

The historical value of traditional handicrafts is evident in their deep roots in material culture and archaeological heritage. They represent techniques and objects passed down across generations and are essential to understanding the evolution of Chinese

civilisation (Hua, Li and Wang, 2023, p.xxviii). Cultural value extends beyond its functional use to encompass symbolic meaning and identity formation, reflecting the customs, beliefs, and social structures of different regions and communities (Metcalf, 1997, p.81; Radice, 2014, p.91). These crafts not only preserve heritage but also promote cultural diversity and cohesion (Hua, 2020, p.95).

Aesthetic and artistic value is closely linked to moral, ethical, and educational dimensions. Traditional objects, such as jade carvings, have historically embodied moral ideals in Chinese philosophy, illustrating how material culture conveys social values (Rees, 1997, p.128; Hua, 2018, p.49). Moreover, aesthetic appreciation contributes to shaping public taste and cultural sensibilities, reinforcing the humanistic dimensions of craft.

The economic value of traditional handicrafts is also significant. Historically, they played a vital role in international trade along the Silk Road and made significant contributions to China's creative economy in the twentieth century (Qiu, 2023, p.26). Today, handicrafts support rural revitalisation through employment generation, tourism development, and local entrepreneurship (The State Council of the People's Republic of China, 2017a; Pierantoni, 2018, p.292), aligning cultural preservation with socio-economic policy objectives.

Additionally, some traditional handicrafts possess notable scientific and academic value. Objects like the double-sound bronze bells not only reflect craftsmanship but also demonstrate principles of acoustics, metallurgy, and mechanical design (Hua, 1996, p.52). Craft practices also contribute to disciplines such as archaeology, ethnography, and materials science.

Despite their multidimensional value, traditional handicrafts are sometimes misinterpreted as obsolete or static relics of the past (Astfalck, 2007, p.29; Holmquist, Magnusson and Livholts, 2019, p.124). This perception limits their potential in

contemporary contexts. The modern value of traditional handicrafts lies in their adaptability, capacity for cultural expression, and contribution to creative industries. Exploring this value is crucial for maintaining cultural identity and ensuring its relevance in the present and the future.

Ultimately, these various forms of value - historical, cultural, artistic, economic, scientific, and moral - are deeply interconnected. Recognising and articulating them is not only essential for the preservation and revitalisation of traditional handicrafts but also for understanding their role in shaping identity, supporting sustainable development, and informing contemporary design discourse.

2.3 A Proposed Conceptual Definition of Traditional Handicrafts in Design

This section clarifies that this research focuses on traditional folk handicrafts. Based on this, it proposes the three components of traditional handicrafts. This will help define and classify traditional handicrafts within the design discipline that underpins this research.

2.3.1 Scholarly Descriptions of Traditional Handicrafts Classification

Craft needs to be de- and then re-classified. It needs to become internally dynamic once more, rather than allowing itself to be externally constrained. (Greenhalgh, 1997, p.47)

The classification of traditional handicrafts not only facilitates a deeper and more comprehensive understanding and utilisation of these practices but also contributes to addressing the challenges they face in contemporary contexts.

2.3.1.1 General Classifications

Intellectuals have grappled with the question of whether classifying things is necessary before we can comprehend and utilise them (Greenhalgh, 1997, p.47). To conduct better research into craft, taxonomies and classification systems are often employed to distinguish the abundance of different crafts into specific fields (Risatti, 2007, p.30).

One of the earliest empirically grounded classification efforts in China is found in *Tiangong Kaiwu* (1637), where Song Yingxing adopted a pragmatic system based on essential domains of life - food, clothing, utensils, and tools[7] - reflecting a pre-industrial, function-oriented worldview. Unlike abstract scientific taxonomies, this structure prioritised utility and everyday relevance, rooted in the Chinese traditional Confucian idea of "nutrition before luxury" (Dagmar, 2005, p.50).

Nevertheless, a technology-based classification of craft is the traditional approach, and most craft activities incorporate technology (Dormer, 1997a, p.7). The term technology has alternative terms, such as workmanship (Pye, 1995, p.51) and skill (McCullough, 2010, p.311), but all refer to knowledge of making or doing things (Dormer, 1997a, p.7; Risatti, 2007, p.160). The craft classification based on technique involves recognising various craft practitioners by their distinct titles, such as carpenter, carver, and turner. It also categorises craft items using descriptive terminology, such as weaving, blowing, carving, and turning. Additionally, the identification of craft genres involves combining particular materials or objects with the appropriate verb form, such as ceramic firing, metalworking, and wood carving (Song, 2005, p.85; Tian, 2010; Zhang, 2022, p.28).

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[7] In the context of *Tiangong Kaiwu*, the terms 'food, clothing, utensils, and tools' should not be interpreted narrowly as modern consumer items, but rather as broad functional categories reflecting the basic needs of pre-industrial society. 'Food' encompasses not only agricultural cultivation (e.g., rice, wheat, oil crops) but also food processing techniques such as fermentation and preservation. 'Clothing' refers to the entire textile production chain, including sericulture, cotton farming, spinning, weaving, and dyeing. 'Utensils' broadly includes domestic and ritual vessels made of ceramics, wood, or metal, while 'tools' denotes production-related implements and technologies, such as iron smelting, mechanical devices, papermaking, and weaponry. These categories mirror Song Yingxing's pragmatic taxonomy of crafts, which prioritises the material and procedural logic of livelihood over abstract theoretical Classifications.

Handicrafts involve the manipulation of materials to create tangible objects (Risatti, 2007, p.160), and material-based classifications are also common, for example, textile art, which utilises textiles, yarns, and fibres (Barber and Krivoshlykova, 2006, p.3; Nimkulrat, 2010, p.64). However, technique and material often intersect, leading to confusion and inconsistency across different categorisation systems.

To address the complexity of craft classification, Risatti (2007, p.30) proposed a taxonomy in *A Theory of Craft: Function and Aesthetic Expression*, treating craft as a class and grouping individual objects into sets based on conspicuous, shared characteristics. Risatti (2007, pp.32-34) identified three primary functional sets by viewing form, material, and technique as an integrated constellation, rather than isolated elements: containers, covers, and supports - each of which can be further subdivided according to material, technique, and shape. However, while this function-based classification provides structural clarity, it struggles to accommodate craft objects with symbolic, spiritual, or decorative purposes. Jewellery, for instance, serves not only practical functions but also operates conceptually - conveying status, belief, or identity - thus complicating purely function-driven taxonomies.

Alternative frameworks attempt to reflect broader socio-economic or cultural factors. Jenkins (1978, p.9) proposed three categories based on materials, equipment, and local demand: processing crafts, service crafts, and creative crafts. Rogerson (2010, pp. 117-118) offered a consumer-oriented classification that covers goods such as one-of-a-kind items or collectables, gifts and novelties, homeware, jewellery and fashion accessories, curios or souvenirs, as well as garden and outdoor items.

In the Chinese context, institutional efforts to standardise craft classification have emerged. In 2000, the Development Committee for Chinese Traditional Culture and Crafts organised scholars to revise, refine and finalise the classification scheme based on the features of traditional handicrafts. These were divided into: (Wang, 2016a, p.25; Hua, Li and Wang, 2023, p.vi)

(a) Making of apparatus (including tools, machinery, instruments and other implements)

(b) Processing of agricultural, livestock and mineral products (including making salt, oil, sugar, and leather)

(c) Building

(d) Knitting, dyeing and embroidering

(e) Ceramics firing

(f) Mining, smelting and metal processing

(g) Sculpture

(h) Weaving and tie-dyeing

(i) Lacquering

(j) Furniture Making

(k) Making calligrapher's tools

(l) Printing

(m) Carving and painting (including paper-cutting, shadow puppetry, and lanterns)

(n) Special handicrafts and others (including fireworks and gunpower)

While valuable for documentation and preservation, these taxonomies tend to emphasise conservation over adaptability and struggle with issues of disciplinary overlap and institutional fragmentation (Wang, 2016a, p.25; Hua, 2019, p.310). In response to these challenges, this research proposes a discipline-based classification system designed to support both conservation and innovation. By offering conceptual clarity and enabling cross-disciplinary dialogue, this approach aims to enhance the effectiveness of design education, research, and policy development related to traditional handicrafts.

2.3.1.2 Folk Traditional Handicrafts

Traditional handicrafts can be broadly categorised as aristocratic or folk, based on a range of political, economic, and cultural factors, and are distinguished either by the

social groups they serve (Lucie-Smith, 1981, p.275) or by the identity of the maker (Yanagi, 2006, p.51).

While aristocratic handicrafts were associated with nobility, official workshops, and highly excellent techniques, many of which are now preserved in museums (Wang, 2016a, p.25). This research focuses on traditional folk handicrafts, which are more deeply embedded in everyday life and communal experience. Yanagi and Leach (2013, pp.198-199) regarded folk handicrafts as the most authentic expression of traditional values, shaped by collective recognition rather than institutional power.

In the Chinese context, the term 'folk' carries both cultural and political connotations, often referring to the lived experiences and practices of the general population (Zhang, 2013, p.7; Zhu, Wang, and Shen, 2023, p.4). Folk handicrafts embody shared values, everyday lifestyles, and aesthetic traditions, shaped by region-specific materials and cultural environments (Stalberg and Nesi, 2022, p.171). Although rooted in practicality, they often encompass symbolic, ritualistic, and spiritual dimensions, functioning as rich vessels of cultural memory and identity. Even the nobility historically relied on certain folk handicrafts for domestic utility, yet were often distanced from the cultural meaning and emotional resonance these objects held for the broader public (Stalberg and Nesi, 2022, p.185). Ultimately, folk handicrafts are designed for the practical use of the general public (Wang, 2016a, p.26) and are an integral part of traditional handicrafts.

Folk handicrafts are interpreted differently across disciplines, they share key characteristics rooted in manual skill, cultural identity, and intergenerational transmission. From a sociological perspective, they are expressions of material and aesthetic practices shaped by everyday life under specific historical conditions. In cultural terms, they involve the use of natural materials and manual work to create artworks that embody regional ethics, customs, and traditions. Historically, they reflect pre-industrial production processes through which raw materials were manually transformed into functional objects (Xu, 2011, p.223). In the field of art, folk

handicrafts are defined as techniques and related works with a lineage of over a century, involving complete making processes and carrying distinct ethnic and regional features (The State Council of the People's Republic of China, 2014a). Within the framework of the ICH, they are regarded as traditional handicrafts and production skills that have been passed down through generations within specific communities. From a legal standpoint, folk handicrafts are recognised as culturally embedded creations, transmitted collectively and tied to particular regional and ethnic identities (Wang, 2019, p.16).

While disciplinary definitions highlight different aspects, two core functions of folk handicrafts emerge across fields and are central to this research. First, their applied function refers to practical use, originally essential to daily life, but which increasingly merges with aesthetic value over time. Second, their social function relates to their strong collective nature. Rather than expressions of individual authorship, folk handicrafts embody shared consciousness, identities, and emotional attachments shaped by community traditions (Stalberg and Nesi, 2022, p.171). Moreover, their regional characteristics reflect cultural diversity and distinct ethnic aesthetics (Stalberg and Nesi, 2022, pp.33, 184).

Building on these functions, this research positions traditional folk handicrafts as its primary subject of inquiry. These crafts, developed over generations through communal labour, reflect both ethnic identity and evolving cultural meaning. Their adaptability across time and place demonstrates a dynamic interplay between continuity and innovation, particularly evident in the preservation of ancient techniques and forms in remote regions (Qiu, 2023, p.25).

Beyond their material form, folk handicrafts are understood in this research as living knowledge systems - practices deeply embedded in regional traditions, social values, and ways of making. This embeddedness makes them a productive lens for examining how design education can intersect with cultural preservation and creative

transformation, particularly in developing pedagogical models that support sustainable innovation.

A central rationale for selecting traditional folk handicrafts in this research lies in their embodiment of the concept of assembly, understood not merely as the physical act of putting materials together, but as a culturally situated process that integrates making, meaning, ritual, and tradition. The following section further develops this concept, outlining its theoretical relevance and application within the context of this research framework.

2.3.2 Components of Traditional Handicrafts: Art, Knowledge, and Assembly

Folk handicrafts represent the everyday lives, beliefs, and cultural expressions of ordinary people. Rooted in a close relationship with nature, they are rich in symbolism and manifest collective values through manual craftsmanship. As Stalberg and Nesi (2022, pp.172-186) observe, folk crafts are closely tied to social rituals and daily use, categorised into four types: holiday crafts, wedding crafts, everyday crafts (such as fans, folk toys, and kites), and general handicrafts. This research focuses on traditional handicrafts produced through collective manual labour, combining aesthetic and functional value, and continuously transmitted through generations.

The traditional folk handicrafts studied here are still in existence and/or practice today, albeit in different forms. Some have lost practical function and now serve as cultural archives; others have become objects of artistic appreciation or have been adapted for mass production. Certain crafts, meanwhile, have evolved through integration with contemporary technologies, generating new interpretations of traditional forms. These variations reflect not only the adaptability of folk handicrafts but also the layered meanings they carry across time, culture, and usage.

As composite practices, traditional handicrafts unify creative design with material production, and integrate mental and manual labour, artistry, and technical skill. In

everyday production, craftspeople apply knowledge and creativity to transform materials into culturally meaningful forms. While Greenhalgh (1997, p.25) notes that "the ideological and intellectual underpinning of the craft constituency is not a consistent whole", this research identifies three intertwined components - Art, Knowledge, and Assembly - that together form a holistic understanding of traditional folk handicrafts.

Art

Art refers to the tangible outcomes of traditional handicrafts, encompassing material, form, structure, function, ornamentation, and aesthetic expression. These objects embody not only beauty and craftsmanship but also cultural norms, beliefs, and collective or personal emotions. The artistry within folk handicrafts is dynamic - it evolves in response to changing social contexts and individual creativity. While aesthetics remains the most immediate and visible aspect, these crafted forms also communicate deeper symbolic and cultural meanings, linking the object to both tradition and innovation.

Knowledge

Knowledge encompasses the tacit and explicit understanding embedded in traditional handicrafts. This includes techniques, tools, materials, processes, and cultural connotations shaped by geography, climate, community needs, and aesthetic traditions. Tacit knowledge, particularly haptic and embodied learning, is a defining feature, often acquired through long-term practice and transmitted across generations. In this research, knowledge is viewed not only as a set of technical skills, but as a form of cultural intelligence that is materialised through making.

Assembly

The concept of assembly, as used in this research, encompasses both the act of making and the broader cultural settings in which making occurs. In its general sense, assembly refers to two interrelated dimensions: first, the process of creating tangible objects through manual techniques and material manipulation; and second, the communal gatherings associated with traditional handicrafts, such as seasonal festivals and ritual events, that provide the social and cultural context for making.

Narrowly defined, assembly refers to the crafting process itself: the hands-on transformation of materials into functional or symbolic objects. This includes the knowledge of tools, techniques, materials, and forms that are specific to particular communities. However, assembly also extends beyond the technical to include the intangible dimensions of craft, such as shared customs, oral transmission, and culturally embedded practices. These gatherings serve not only as production sites but also as spaces where social ties, beliefs, and identities are affirmed and renewed.

Thus, assembly embodies both material and immaterial dimensions, bridging technique with tradition, and making with meaning. It is a culturally situated act that integrates skill, community, and heritage, reflecting the interconnectedness of tangible craftsmanship and the intangible values that sustain it.

The relationship among Art, Knowledge, and Assembly in traditional handicrafts is dynamic and interwoven (Figure 2.3). Together, these three components provide a holistic framework for understanding how traditional folk crafts operate as cultural practices, where material processes, aesthetic values, and tacit knowledge are simultaneously enacted. This triadic relationship is not static; it adapts to evolving social, cultural, and economic contexts, enabling traditional crafts to retain their relevance while transforming.
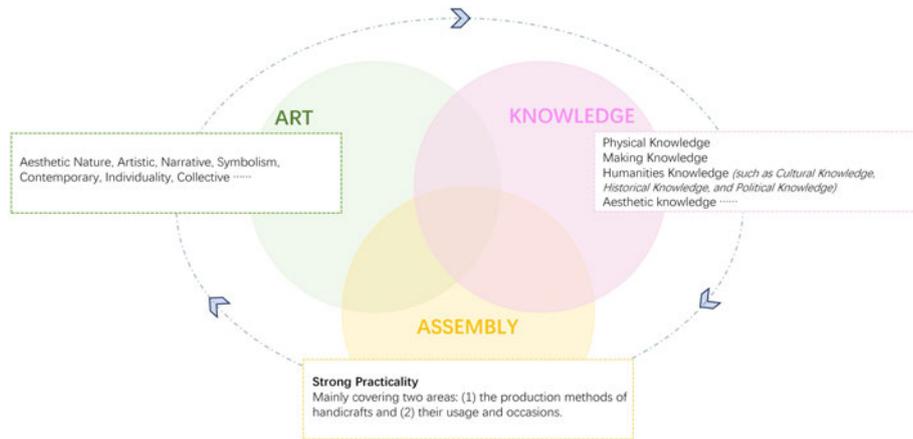
Figure 2.3 Intertwined relationship between Art, Knowledge and Assembly

These three interwoven components not only reflect and reinforce four core characteristics of traditional handicrafts - regionality, continuity, dynamics, and practicality - but also underpin their broader cultural, social, and educational values (Figure 2.4). Understanding this relational system is crucial for framing traditional handicrafts not merely as static heritage, but as evolving practices embedded in people's everyday lives. As Frayling (2011, p.125) notes, handicrafts often reflect and reaffirm social values, encompassing uses ranging from adornment and worship to play and daily utility. In this sense, assembly plays a vital role, as it mediates between individual making and collective meaning, illuminating how traditional crafts function both as acts of creation and as vehicles of cultural expression.

These three components are central to this research, offering a comprehensive lens through which traditional folk handicrafts can be understood and forming the analytical foundation for their definition and classification in the following sections.
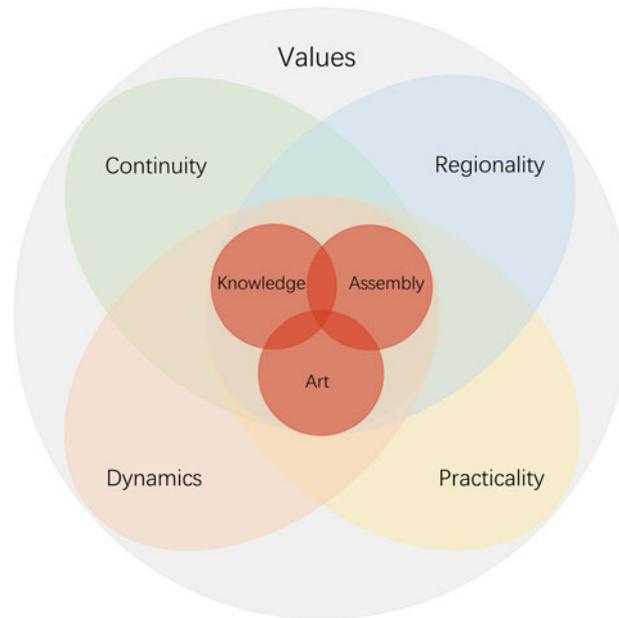
Figure 2.4 The relationship between the three elements, four characteristics and values of traditional handicrafts

2.3.3 Definition and Classification of Traditional Handicrafts in Design

There is no consensus on defining traditional handicrafts worldwide (Pierantoni, 2018, p.292; Yang *et al.*, 2018, pp.2-3). Internationally, scholars interpret the term through various disciplinary lenses. For instance, Pye (1995, p.20) describes "workmanship using any kind of technique or apparatus, in which [the] quality of the result is not predetermined, but depends on the judgment, dexterity and care which the maker exercises as he works". Some scholars define handicrafts in terms of materials and manual production (Rogerson, 2010, p.117; Fabeil *et al.*, 2014, para.8), while others emphasise technical skill (Abyareh, 2009, p.41) or frame it as a dynamic interaction between technique and material (Xu, 2010, p.69). These interpretations reflect broader cultural and disciplinary distinctions. In many contexts, traditional handicrafts are viewed as both functional and aesthetic, while in others, they are closely linked to domesticity and cultural identity (Walker, 1989, p.40; Pöllänen and Urdziņa-Deruma, 2017; Paas and Palojoki, 2019; Sederevičiūtė-Pačiauskienė, Valantinaite and Žilinskaitė-Vytienė, 2020).

In different disciplines, craft has different meanings or connotations. As Frayling (2011, pp.2-4) argues:

> **Big manufacturers** like to promote their wares with the language of craft - 'hand-made', 'hand-finished', 'made by our craftsmen', 'uniquely for you' - cousin of the language of 'organic', to reassure their anxious customers...the **ad-people** to be associated in the public mind with the values of the recent past rather than the present, with the good old pre-digital days...To a **sociologist**, the word 'craft' is associated with 'skilled manual labour' or 'the aristocracy of labour'. To an **economist**, with a stage in economic development preceding capitalism (there are overlaps and fusions between the two stages). To an **anthropologist**, with the maker as user, with homo faber or the maker of things and homo ludens or the 'deep play' of everyday life. To a **countryman**, with traditional rural pursuits. To a **literary historian**, with the anti-establishment stance of the Romantics. To a **trade unionist**, with a community of skilled people defending the way they perform their occupations. To a **laboratory scientist**, with the use of equipment to do science - a contemporary version of Galileo's dialogue between Galileo the astronomer and Galileo the builder of the telescope, the 'starry messenger'...To an **art critic**, the word 'craft' is about the distinction between an 'art' - as in intellectual/conceptual - and a 'mere craft' - as in manual...to an **art school-educated craftsperson**, the word now has unfortunate associations with manual skill which rather get in the way of making art. To a **designer**, 'craft' is about the workmanship of risk and - most recently - the slow design movement...To **educationalists**, on the other hand, the word is associated with learning by doing - experiential learning - rather than learning from books or from screens...To **a viewer of mid-evening television**, the word 'craft' is to do with watching from a distance as acknowledged experts show what they can do with cookery, gardening, singing, fishing, survivalism, nature-watching, interior designing, doing up a house.

In China, scholars have proposed more comprehensive definitions that consider creativity, materials, manual skills, and cultural function. Zhang (2001, p.6) and Hua (2019, p.309) describe traditional handicrafts as creative practices that employ natural or synthetic materials through hand-based production with the assistance of tools. Zhang (2013, p.19) further highlights that these practices combine tangible and intangible knowledge systems and should be protected as intellectual property. Wang (2016a, p.19) adds that traditional handicrafts are grounded in lived experience, shaped by historical continuity, and embedded in the transmission of folk wisdom.

Reflecting this emphasis on precision, China has recently taken steps to standardise terminology related to ICH. At the 2023 National Committee for Terminology in Intangible Cultural Heritage Working Session, Pei Yajun, Deputy Director of the China National Committee for Terminology in Science and Technology, underscored the importance of establishing and disseminating nationally recognised terms across scientific, academic, and public domains (Wang, 2023b, para.9). These developments reflect a national-level commitment to conceptual clarity. In response, this research proposes a definition of traditional handicrafts situated within the design discipline, aiming to establish a unified and shared understanding that supports analytical consistency and disciplinary relevance.

Building on this emphasis on disciplinary coherence, this research defines traditional handicrafts from a design-oriented perspective. It highlights the manual features of traditional handicrafts, which possess two features: 1) traditional production methods and no replacement by machines (Gong, 2009, p.184); 2) an emphasis on the physical attributes of handicrafts and the value of the crafts and attributes of human culture. Machinery cannot replace the emotion and wisdom of manual work, which is why it is an integral part of daily life and expands the living space between hand and craft. On the other hand, the concept of tradition is not only a concept of the past that distinguishes it from contemporary times, but it also represents the classic and timeless (Barber and Krivoshlykova, 2006, p.24). It represents a normative and self-disciplined signification, referring to a span of time and a set of behavioural rules. Tradition recognises cultural ethics and morality, offering a way of thinking about current world issues.

China's evolving academic and policy landscape also underscores the importance of this disciplinary perspective. From the 1950s onwards, the national level began to recognise the positive role of school education in the development of traditional handicrafts. Since then, with the adjustment of academic disciplines, Arts and Crafts have been incorporated into the more inclusive discipline of art and design, and the

corresponding curricula have changed. On December 7th, 2022, the Forum of China's National Sub-Committee for Terminology in Design Studies discussed the framework system of design disciplines in China. The conference defined the terminology and division of specialised fields of design, and classified most folk handicrafts into two areas: Arts and Crafts, which includes glass, ceramic, metal, and lacquer crafts; and Dyeing, Weaving, and Clothing Design, which includes fashion design, accessory design, and embroidery and dyeing (Design Theory, 2023).

By synthesising the manual features of traditional handicrafts identified earlier with the three components (art, knowledge, and assembly) proposed in this research, this research proposes a definition of traditional handicrafts from a design perspective, offering a framework tailored to the discipline. Therefore, this research broadly defined traditional handicrafts, which refer to craft techniques historically and collectively recognised as being performed by hand. In a narrow sense, traditional handicrafts refer to hand-made techniques that utilise all materials and possess unique artistic styles, conveying regional and cultural connotations. They also incorporate tradition, function and decorative features. The traditional features of these handicrafts emphasise collective creativity, historical inheritance, knowledge transmission, and cultural accumulation.

Based on this understanding, this research reclassifies the fourteen traditional craft categories established by the Chinese Traditional Culture and Crafts Development Committee (see Section 2.3.1.1) into a discipline-specific framework. All crafts are situated under the first-level category of Design, with second-level categories including Arts and Crafts, Fashion Design, Jewellery Design, Product Design, and Architectural Design. Each of these contains multiple third-level subcategories. For example, fashion design, includes d) knitting, dyeing, and embroidering and h) weaving and tying (Figure 2.5). Notably, some categories overlap with each other. For instance, crafts like mining, smelting, and metal processing (including metal forging, filigree, and kingfisher craft) fall under the category of jewellery design. Similarly, crafts such as knitting, dyeing,

and embroidery can be applied to both jewellery and fashion design. This reflects the interconnected nature of craft disciplines.
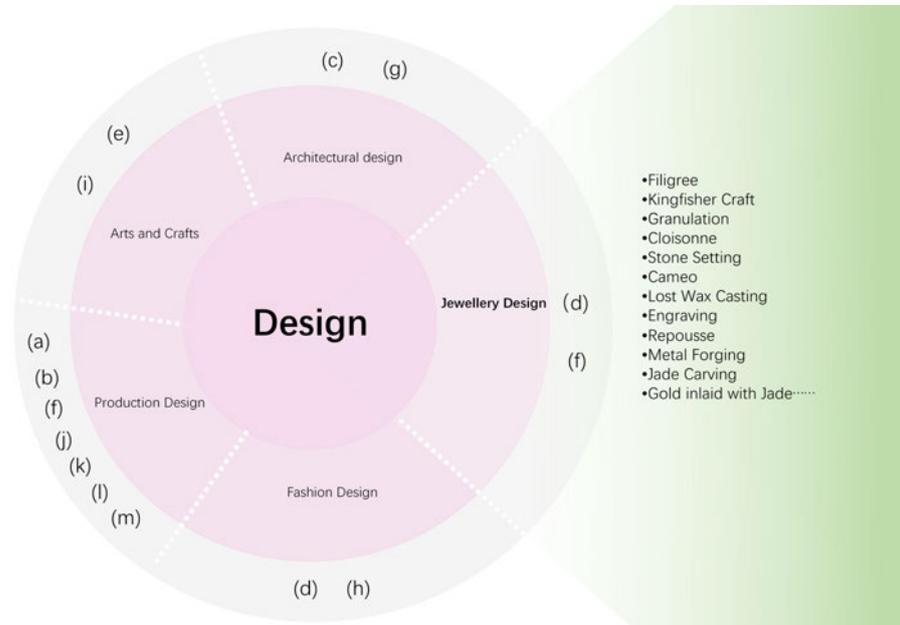
Figure 2.5 In the design discipline, the classification of traditional handicrafts and the categories of jewellery-making techniques

2.4 Jewellery as Part of Traditional Handicrafts

Jewellery, as one of the categories of traditional handicrafts, is defined as personal ornaments, such as: necklaces, rings, or bracelets that are typically made from or contain jewels and precious metals (Hawker and Waite, 2007, p.390).

In China, the translation of 'jewellery' is rendered as '首饰' (shǒushì), with '首' (shǒu) referring to the head. Consequently, in the Chinese context, the term '首饰' originally denoted ornaments designed for adorning the head. Over time, however, the semantic scope of '首饰' has broadened to encompass articles of design that can be worn or placed on various parts of the human body.

Jewellery is not only an adornment, but also "has an innate relationship with both the physical and the cultured body, and jewellery making, like all art, is a profoundly

humanistic concern" (McFadden, 1995, p.50), especially in contemporary jewellery, where makers have the freedom to go beyond traditional art/craft codes. Thus, contemporary jewellery has become more inclusive: "[i]t belongs to both the optical and the material realms; it has the capacity to tread on the terrain of the fine arts while its roots stem from the crafts" (Legg, 2012, p.20).

Moreover, due to its close relationship with the human body and its diverse cultural expressions, jewellery can take on various forms and functions across different contexts. As a result, the classification of jewellery is both complex and multi-dimensional. As stated by Unger (2019, p.28), jewellery can be categorised in various ways, ranging from practical to systematic, and based on dimensions such as time, origin, and occasion. Yang (2014), for example, offers a classification based on the wearing positions of jewellery. Additionally, Galleries and West (1998) identified four major categories: contemporary jewellery, high-street jewellery, fine jewellery, and wearable/unwearable jewellery (Sun, 2023, p.13). These diverse approaches reflect the evolving meanings of jewellery and the expanding boundaries of its design and interpretation.

2.4.1 The Meanings of Jewellery

Three perforated marine gastropod shells identified as beads found at the Western Asian site of Skhul in Israel and the North African site of Oued Djebbana in Algeria were dated to the Middle Palaeolithic period, which indicates deliberate selection by humans for symbolic use (Vanhaereny *et al.*, 2006, p.1785). Each mollusc shell was perforated with a small hole, presumably to facilitate threading them into a necklace or bracelet. This implies that "jewellery's nascent function and meaning is timeless" (Bernabei, 2011, p.1).

A necklace excavated at the Xiaogushan Village in China has been dated as 30,000 to 40,000 years old, termed the Late Palaeolithic. It is an oblate shell with a hole in the centre and retains red pigment in the radial grooves, symbolising blood. This ornament

has the significance of warding off evil spirits (Wang, 2011, p.1). These discoveries suggest that wearing jewellery has a lengthy history and is linked to identity and power because of its significance (Cunningham, 2008, p.5), and drilling became the earliest craft of jewellery making.

"Artefacts remaining from earliest history show that jewellery has been a potent and universal part of human experience" (Game, 2005, p.xiii). In addition to the individual motivations for wearing jewellery, a distinct set of reasons has emerged related to jewellery's "public, contextual and functional" aspects (Bernabei, 2011, p.1), with the specific purpose of conveying information. Thus, jewellery is a storyteller, "as readable as an identity card" (Besten, 2012, p.24). It expresses the wearer's personality (Besten, 2012, p.26), while the wearer becomes the interpreter (Bernabei, 2011, p.1) of the jewellery, which conveys multiple information (Lanllier and Pini, 1983, pp.40-41; Game, 2005, p.xiii; Cunningham, 2008, p.5; Bernabei, 2011, pp.1-2).

> *Jewellery ... was portable wealth, in a society which had no satisfactory banking system. In addition, jewels had a complex magical and astrological significance. Precious stones, according to colour, were the expression of different cosmic energies, and had to be set in particular patterns if their fullest virtue was to be passed on to the wearer*. (Lucie-Smith, 1981, p.69)

Jewellery possesses spiritual, moral, religious, or even magical powers that fortify the wearer. As body adornment, jewellery contributes to transforming the meaning carried by the object (Bernabei, 2011, p.1) and conveys the feelings and attitudes of contemporary people. For example, it has also indicated political positions and honours in many societies, such as the Iron Cross and suffragette jewellery.

> *Where precious jewellery fitted the body of the wearer, now the wearer must fit - demonstrate commitment to the piece; where before it was decorative, here it is declamatory. The wearer makes the conscious decision to the social, political and aesthetic environment for the piece. The new jewellery does not accommodate the body - rather it is in orbit around the body ... jewellery is now a body cage and a mind opener*. (West, 1998, p.70)

Jewellery has long served as both personal adornment and a medium of cultural expression. People wear jewellery for diverse reasons, ranging from private desires to social, political, and spiritual functions. Across different contexts, jewellery consistently enhances identity, communicates values, and conveys emotional or symbolic meaning. As this section has demonstrated, jewellery embodies many of the fundamental qualities associated with traditional handicrafts: material engagement, symbolic richness, technical skill, and cultural continuity. This analysis not only reinforces the classification framework introduced in Section 2.3.3, but also provides a conceptual foundation for Section 4.2.2, where traditional handicrafts are examined as a resource for contemporary jewellery design practices.

2.4.2 The Crafts of Jewellery in China (Before the Industrial Revolution)

There were two outstanding representative monographs on technical crafts in China: *Kaogongji* and *Tiangong Kaiwu*, which provide valuable insight into historical Chinese crafts. *Kaogongji,* dating to the Warring States period, offers a classification of occupational categories, while *Tiangong Kaiwu*, authored by Song Yingxing during the Ming dynasty, presents a detailed account of technical crafts. Despite their comprehensiveness, neither book contains detailed records or descriptions of the jewellery-making crafts - *Tiangong Kaiwu*, in particular, reflects a moralistic stance in "despising gold and jewellery" (Dagmar, 2005, p.50). It was not until more recent scholarship that Chinese historians began compiling jewellery-specific studies from a developmental perspective, which enables a better understanding of "how they came to be designed in their present form" (Lanllier and Pini, 1983, p.7).

In prehistoric periods, people utilised various materials, including animal teeth, bones, shells, jade, and stones, which were then meticulously shaped and, in some cases, adorned with colour. Subsequently, more precious materials, like turquoise and jade beads, began to be fashioned using perforation techniques and employed as ornamental accessories. During the Shang dynasty, there emerged a heightened spiritual reverence for jade, deemed a divine gift from the heavens (Wang, 2011, p.65). Consequently, the

craftsmanship of jade continuously advanced, showcasing a fusion of various materials and techniques. This evolution underscored the innovative spirit of craftspeople at the time, who continually invented new jewellery-making techniques to meet the aesthetic demands of the people.

The establishment of the Silk Road, spanning from the Han dynasty to the Tang dynasty, facilitated the development of the jewellery trade and exerted a profound influence on the craftsmanship, design elements, and materials (Wang, 2011, p.211, p.219, pp.247-248, p.278). Particularly noteworthy is the Song dynasty, characterised by a widespread and affluent consumer base for jewellery (Wang, 2011, p.281). In the Yuan dynasty, various craftsmanship techniques, such as filigree enamel, gemstone inlay, and hollow jade carving, were introduced to China, integrating with local techniques to form distinctive craftsmanship, thus enriching the skill set (Wang, 2011, p.350, pp.354-355). During the Ming dynasty, a high regard for manual techniques prevailed, and craftspeople enjoyed social esteem, albeit under strict management systems until the Qing dynasty (Wang, 2011, p.361). During the period of the Republic of China, the persistent state of warfare led to a severe decline in various arts and crafts. Consequently, women's headgear during this time became exceedingly simple, with minimal or virtually no adornment of jewellery.

Throughout successive dynasties, headgear, particularly crowns, served as concentrated sites of technical and symbolic convergence. In the Qing dynasty, crowns continued to be highly valued and were typically constructed using multiple techniques. For example, Kingfisher craft played a pivotal role in crown production, complemented by gilding techniques and the abundant use of pearls (Wang, 2011, p.421; The Palace Museum, 2012, p.8; Yang, 2014, p.836). Another type of headgear prevalent during the Ming dynasty was the headband, which persisted into the Republic of China era, indicating a woman's age and marital status and being referred to as the 'Meile' (see Section 2.5.1).

Forging emerged as one of the most foundational techniques in traditional Chinese jewellery, often employed in combination with filigree, gold-wire-woven craft, and inlay (Yang, 2014, pp.940, 952). During the Ming dynasty, jewellery craftsmanship reached its apex in terms of technological complexity and stylistic refinement (Yang, 2014, p.956). While the core techniques remained consistent, distinctions existed between jewellery made for the nobility and that for folk, particularly in terms of material quality and crafts. Shared decorative motifs - seen in jade carving, embroidery, woodwork, and paper cutting - reflected a cohesive visual language rooted in traditional Chinese cultural symbolism (Stalberg and Nesi, 2022, pp. 20-21, p. 40).

The historical development of jewellery craftsmanship in China reflects a dynamic integration of indigenous cultural values, material practices, and evolving techniques. This is particularly evident in composite forms such as headdresses, which demonstrate a high level of technical sophistication and symbolic depth. The recurring decorative themes and cross-material motifs reveal consistent aesthetic principles and conceptual continuity across dynasties. These craft and design practices contributed to the formation of a distinctly Chinese jewellery culture, deeply rooted in tradition yet responsive to innovation. This section has traced not only the evolution of forms and materials but also the embedded techniques and symbolic meanings that define Chinese jewellery as a representative form of traditional handicraft.

2.4.3 Context in Contemporary Jewellery (After the Industrial Revolution)

The advent of the Industrial Revolution led to the expansion of jewellery production and introduced new techniques and materials, expanding its borders and changing its definition (Marsh, 2012). The potential for design to blossom was also greatly accelerated by the emergence of techniques and materials, such as electro-plating, black glass enamel, Berlin iron, and cut steel jewellery. Particularly noteworthy is the emergence of jewellery that possesses "metaphorical value" (Bernabei, 2011, p.12) by substituting more precious materials, which implies that the value is, in part, determined

by the actions performed on the materials in use (Astfalck, 2007). For example, Berlin iron jewellery.

After the Second World War, the ravages inflicted by the war affected all aspects of European society, including jewellery production (Phillips, 2000, p.124). In the 1960s a new practice challenged fiscal value, permanence, wearability, unrelatedness to the body, aesthetic attractiveness, and adornment, with some jewellers "producing jewellery that subverted these precepts" (Bernabei, 2011, p.15); thus, launched Contemporary Jewellery.

As Cohn (2012, p.34) argues "[c]ontemporary jewellery…seeking to recode what jewellery is and how it can express value". While Legg (2012, p.19) argues that "[c]ontemporary jewellery is an individual expression that reflects on contemporary culture; it acts as a cultural signifier, a communication device through which notions of individuality and cultural identity can be transmitted". While Besten (2012, p.9) perceives contemporary jewellery as "of our time", but it is not very precise. However, Bernabei (2011, pp.15-27) presents two distinct branches of contemporary jewellery: *Jewellery as Content*, in which artists express "frustration with society's conventions through their [jewellery]" (Jerman-Melka, 1998, p.4), to reveal three themes: the body, the value and social commentary. This marks a breakthrough in terms of media, scale, and techniques. The second branch identified by Bernabei is *Sensitised Jewellery*, which is closer to traditional conventions and concerns its form, colour, and materials.

Many terms associated with contemporary jewellery emerged. For example: Art Jewellery (Jerman-Melka, 1998, p.10; Besten, 2012, p.9); Jewellery Design (Dormer and Turner, 1994; Besten, 2012, p.10); Modern Jewellery (Turner, 1976; Jerman-Melka, 1998); Research Jewellery (Besten, 2012, p.10); Studio Jewellery (Game and Goring, 1998; Besten, 2012, p.9); Narrative Jewellery (Cunningham, 2008, p.25); Mourning Jewellery; Fine Jewellery (Oberholzer, 2021, p.x). More recent developments include Digital Jewellery (Wallace *et al.*, 2007; Polydorou, Zhu and Illner, 2016), and Virtual

Jewellery (Kielarova, 2014), which utilise immersive digital technologies to redefine jewellery as an intangible or augmented experience.

Technological advancements, particularly in computer-aided design and manufacturing, represent another significant phase in the evolution of contemporary jewellery. These tools have not diminished craftsmanship; instead, they have allowed jewellers to reengage with symbolism and meaning in new ways (West, 1998, p.109). Such developments underscore the continued relevance of jewellery as both a material and conceptual practice. China's development in contemporary jewellery occurred relatively late and can be traced back to educational initiatives. Section 4.1 will expound upon the correlation between the development of contemporary jewellery in China and driving innovation in the creative transformation of traditional Chinese handicrafts.

This section has traced the evolution of jewellery from a traditional craft to a contemporary art form, shaped by industrial, cultural, and conceptual shifts. It highlighted how innovations in technique and material redefined the meaning and value of jewellery, leading to the formation of contemporary jewellery as a distinct discipline. It also introduced the late but significant development of contemporary jewellery in China, primarily through education, which will be further elaborated in Chapter 4. This provides the necessary context for the studio-based explorations central to this research, particularly in relation to traditional handicrafts in support of contemporary jewellery design (see Section 4.2.2).

2.5 Embroidery as a Jewellery-Making Craft: Foundation for Practice and Pedagogy

Embroidery is officially recognised in policy and literature as a subcategory of jewellery within traditional handicrafts. Meile serves as evidence that embroidery is a type of jewellery-making handicraft. The historical development of embroidery has led

to policies that recognise it as an ICH and define its classification clearly. This research centres on embroidery as a core practice, utilising it across personal design work, teaching experiments, and projects.

2.5.1 Embroidery as Jewellery-Making Handicraft: Meile

Meile is one of the traditional crocheted headbands, the earliest jewellery application of Chinese embroidery in the Song dynasty. It has various names due to dynasties and regional characteristics. However, since Ming and Qing dynasties, it has been known as the Meile (眉勒) or Moe (抹额). It refers to a scarf tied on the forehead and tied at the back of the head, mostly made of cotton, silk, or animal fur, decorated with embroidery or jade jewellery (Hang, 2005, p.139; Dutushidai, 2007, p.86; Wang, 2019b, p.15).

The function of the Meile has evolved over thousands of years. Its original function of the Meile was practical, mainly to tie back the hair for work, additionally, its other practical function was to keep warm. Gradually its decorative function became particularly prominent, which included decoration with gems, pearls and exquisite embroidery patterns. The embroidery stitches used in Meile is generally locked embroidery, flat embroidery and pan gold embroidery (Liang and Wang, 2006, p.19; Wang and Liang, 2008, pp.50-51).

The decorative function of the Meile reflects both aesthetic and folkloric functions (Liang and Wang, 2006, p.19). Its patterns and colours embody aesthetic consciousness, emotional expression, and transmission of good wishes, marking distinctive symbolism and regional characteristics. Nevertheless, the decorative function of Meile gradually developed the symbolic function of identity and social status (Wang, 2019b, p.28). The wearers can be determined by age, ethnicity, faith, wealth, social class and marital status according to the patterns and materials of the Meile.

In sum, Meile became a favourite object of women since the Song dynasty, representing women's creative ability and aesthetic pursuit, with the functions of Meile gradually changing to become decorative jewellery (Wang, 2019b, p.28), and make the emergence of the application of embroidery in jewellery.

2.5.2 The Historical and Policy Foundations of Embroidery as an Intangible Cultural Heritage

Embroidery is a traditional textile art that involves stitching colourful threads, such as silk, wool, or cotton, onto fabric to create decorative patterns, images, or symbols. In Chinese culture, it has long been associated with women's domestic roles and intergenerational transmission, often referred to as the Art of Motherhood (Pan, 2009, p.3; Bei, 2010, p.56) or women's needlecraft (女红) (Tong, 2012, p.19; Ma, 2013, p.281). With a history spanning over 2,000 years, embroidery has evolved from a utilitarian embellishment of everyday items into a highly symbolic art form, embodying rich cultural meanings and aesthetic traditions.

The development of Chinese embroidery is characterised by regional diversity and a strong connection to ethnic identity. Celebrated forms such as Su embroidery (Jiangsu), Xiang embroidery (Hunan), Shu embroidery (Sichuan), and Yue embroidery (Guangdong) represent the stylistic richness of Han Chinese traditions. In contrast, Thang-ga embroidery reflects Tibetan religious heritage. Among ethnic minority communities, embroidery serves not only as ornamentation but also as a medium for preserving oral history, conveying emotional narratives, and affirming cultural identity. Miao embroidery, for example, encapsulates myths, migratory histories, and collective memories through symbolic and metaphorical patterns, often in the absence of written language (Tong, 2012, pp.128-135). These diverse forms of embroidery embody both explicit cultural elements, such as motifs, materials, and techniques, and deeper cultural structures, including cosmologies, ethical systems, and gendered ways of knowing (Pan, 2009).

Understanding this historical and cultural complexity is essential to contextualising embroidery's contemporary status within China's ICH classification. While embroidery was initially listed under folk art in the Notice of the State Council on Announcement of the List of First Batch of National Intangible Cultural Heritage (2006), its classification has gradually shifted across subsequent lists. From the second to the fifth batch of national ICH (2008-2021), embroidery has increasingly been recognised as a form of traditional art, reflecting a more nuanced appreciation of its cultural and artistic value. Over time, the ICH lists have also expanded their scope, from regionally specific forms like Gu embroidery and Miao embroidery to classifications based on materials (e.g., silk, human hair, gold thread) and techniques (e.g., single-sided, double-sided embroidery). This growing precision in categorisation reflects not only an evolving understanding of embroidery as a culturally embedded and symbolically rich craft but also highlights the significant scholarly and institutional efforts invested in the preservation of ICH. Researchers have worked extensively to establish detailed typologies that support more targeted and effective safeguarding measures. These developments provide an essential framework for cultural continuity, allowing embroidery to be preserved, studied, and innovated within both traditional and contemporary contexts.

The state's formal recognition of embroidery through ICH classification provides a foundational framework for contemporary research and practice. It legitimises embroidery as a significant form of traditional handicraft and opens pathways for theoretical development and design innovation. In this research, embroidery is positioned not simply as textile ornamentation but as a culturally grounded jewellery-making craft - one that informs personal practice, educational experimentation, and design methodology.

2.6 Chapter Conclusion

This chapter has delved into the crucial topic of traditional handicrafts, examining their definitions, classifications, characteristics, and values. The primary objective of Section 2.1 has been to refine the research scope from a broad, abstract notion of 'handicraft' to a more specific focus on traditional folk handicrafts rooted in regional or national ICH. This focus enables a more in-depth exploration of the distinctive features and contemporary challenges associated with these practices. In this research, the term 'traditional handicrafts' refers specifically to traditional folk handicrafts.
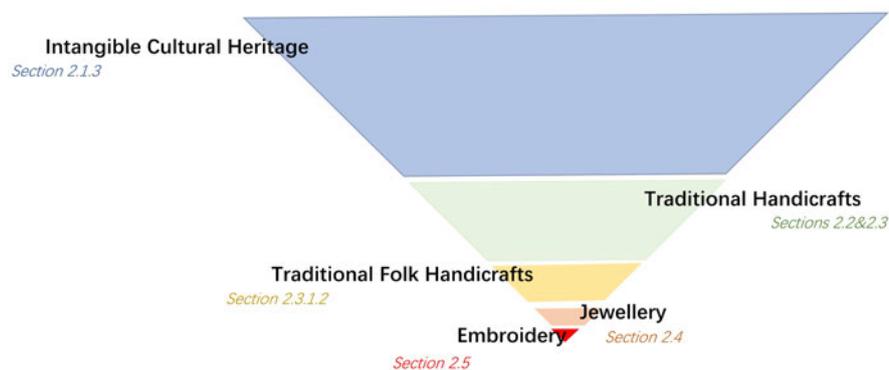
Figure 2.6 Narrow down the research scope

Drawing on various literature, diverse perspectives on the understanding and practice of traditional handicrafts have been established. This chapter has proposed four essential characteristics and associated values, thereby highlighting the need for their preservation and development. These insights have informed the formulation of three core components - art, knowledge, and assembly - which together provide a holistic conceptual framework for understanding traditional handicrafts. Within this framework, a definition has been proposed from a design perspective, along with a disciplinary classification system tailored to the field.

The chapter also identifies jewellery as a key representative category within traditional handicrafts. Tracing the historical development of jewellery in China - across dynasties, techniques, and materials - demonstrates the depth and diversity of this category.

Furthermore, the emergence of contemporary Chinese jewellery, particularly through the context of higher education, reinforces its relevance to current design practice. Jewellery, as both a traditional and evolving category, thus serves as a central focus in this research, exemplifying the theoretical concerns explored in this chapter and providing a concrete basis for further investigation and practice in subsequent chapters.

Within this category, embroidery is examined as a distinctive jewellery-making craft with deep historical and cultural roots, officially recognised through China's ICH classification system. As a representative technique of traditional folk handicrafts, embroidery provides a culturally grounded, materially rich method that will be employed in the practical, pedagogical, and design-focused components of this research.

Table 2.1 Summary of research findings in Chapter 2

Finding No.	Description	Chapter Sections
F 2.1	• Traditional handicrafts are characterised by **practicality, dynamics, continuity** and **regionality**, which intertwine.	2.2.1
F 2.2	• Traditional handicrafts have six significant values: **Historic Value and Cultural Value, Science Value, Economic value, Artistic Value, Modern Value, and Moral Value.**	2.2.2
F 2.3 (a)	• Traditional handicrafts are composed of three component elements: **Art**, **Knowledge** and **Assembly**.	2.3.2
F 2.3 (b)	• Traditional Handicraft is a holistic concept with various interrelated core components: three component elements (Art, Knowledge, and Assembly), four essential characteristics, and various values.	
F 2.3 (c)	• Four situations regarding traditional handicrafts which still survive: 1) Some traditional handicrafts have become part of the national heritage, helping to understand human history. 2) Others are now appreciated as spiritual items. 3) Some are still used as everyday goods and support mass production. 4) Some traditional handicrafts have evolved with modern technology while maintaining their origins, creating new interpretations of traditional styles.	
F 2.4 (a)	• Under the design discipline, 'Traditional Handicrafts' refer to craft techniques historically and collectively recognised as being performed by hand. • In the narrow sense, 'Traditional Handicrafts' are hand-made techniques that use all materials and possess unique artistic styles while conveying regional cultural connotations and incorporating tradition, function and decoration features.	2.3.3
F 2.4 (b)	• The classification of traditional handicrafts in this research includes three level categories. First-level category: design; second-level category: arts and crafts, fashion design, jewellery design, product design, and architectural design; third-level category: for example, fashion design, includes d) knitting, dyeing, and embroidering and h) weaving and tying.	
F 2.5	• Embroidery is confirmed as a craft of jewellery-making through literature.	2.5.1

Notes: The blue rows represent my original research findings or contributions

CHAPTER 3: Education within China's Intangible Cultural Heritage Policies: A Theoretical Foundation for Craft Preservation

The purpose of this chapter is to address the first and third research objectives: the role of contemporary design education in sustaining traditional handicrafts and to clarify what type of talent this research aims to cultivate in order to promote the preservation of traditional handicrafts. It begins by analysing the difficulties these crafts encounter and identifies education as both a source of the problem and a key to its resolution. The discussion then positions education within the broader framework of ICH safeguarding and the SDGs, highlighting its value in fostering cultural sustainability.

The chapter traces the history of ICH protection in China across five phases and outlines five key safeguarding measures, with particular emphasis on education-related policies that underpin this research. It then critically reviews existing pedagogical models in domestic and international contexts, identifying their strengths and limitations. Through this analysis, the chapter clarifies the type of talent this research aims to cultivate practitioners who integrate craft, design, and cultural understanding. The roles of teachers and students are further examined to reinforce this focus on talent development, forming the conceptual basis for the pedagogical model proposed in the following chapter.

3.1 Education as a Fundamental Driver for the Development of Traditional Handicrafts

Building upon the conceptual and historical understanding established in the previous chapter, this section shifts the focus towards the challenges that traditional handicrafts face in contemporary society. These challenges are explored from both macro and

micro perspectives. While a variety of factors contribute to the current difficulties in sustaining traditional handicraft practices, this chapter identifies education as the most influential and structural determinant of these challenges. Through this lens, the chapter aims to reveal how educational systems and frameworks not only shape the transmission and transformation of traditional handicrafts but also influence how these practices are valued, adapted, or created in a rapidly changing world.

3.1.1 Challenges Facing Traditional Handicrafts: A Macro and Micro Perspective

3.1.1.1 Macro Level Issue

Since World War II, the world has genuinely entered an era of an industrial economy based on mass manufacturing. After the 1980s, it has entered the era of brand experience economy based on products and services. It has now entered the era of the knowledge economy based on knowledge platform construction (Liu, 2015, pp.2-4). During the development of the economic era, the purchasing behaviour of consumers has been continuously changing and gradually transitioning from addressing the necessities of life to pursuing quality of life. From feudal society to socialist society, China's economic development is from commodity economy to planned economy and then to a market economy, which has influenced changes in people's needs, ideas, values and culture, and thus affecting the survival of traditional handicrafts, and leads to the many dilemmas that traditional handicrafts face today (Table 3.1).

Traditional handicrafts survive in a very complex context. However, the most crucial factor in traditional handicrafts is the human being (Ma and Zhou, 2018, p.39), who is the vehicle for the dynamic transmission of skills and knowledge in traditional handicrafts. The new generation of craftspeople are the inheritors of the past and the creators of the future within the field of traditional handicrafts (Ma and Zhou, 2018, p.15). As such, the sustainable development of traditional handicrafts depends fundamentally on the people involved. In this light, education becomes a vital mechanism for cultivating future practitioners. It not only equips individuals with

technical skills and cultural understanding but also fosters a sense of identity, responsibility, and innovation essential for meaningful transmission and development.

Table 3.1 Analysis of the dilemmas of traditional handicrafts

Reasons for the Dilemmas of Traditional Handicrafts		
(1)		Contemporary China's aesthetic consciousness has been deeply influenced by Western industrial civilisation and information innovation concepts - global aesthetic concepts of simplicity, functionality, and sense of form (Zhang, 2016b, p.44; Gao, 2018, pp.33-34).
(2)		Traditional handicrafts require a lot of time investment by craftspeople with mature skills, and craftsmanship is complex (Yuan and Yu, 2018, p.47). The work cost is high, but social demand is declining; the labour cost is rising, but the handicrafts presentation is out of date (Zhang, 2016b, p.44).
(3)	Inheritor Issue	**Ageing of inheritors** The ageing of inheritors is a severe problem (Hassan *et al.*, 2017, p.407; Yang *et al.*, 2018, p.5; Le, 2020, pp.16-18). As the Ministry of Culture points out: until the end of January 2015, only 1,751 representative inheritors of national ICH left. More than 50% of them were already over 70 years old (Ma and Zhou, 2018, p.98).
		The problem of succession The diversification of societies makes the ICH of many countries face the dilemma of lack of successors, with fewer young people willing to inherit or interested in learning the traditional handicrafts (Cheng, 2012, p.36; Hassan *et al.*, 2017, p.407; Wu, Chen and Ren, 2017, para.4; Yang *et al.*, 2018, p.5; Yuan and Yu, 2018, pp.47-48; Ge, 2020, p.8). Due to the complexity and time-consuming production process, they generally do not intend to choose this profession. Instead, they prefer to work in the first or second-tier cities to find a well-paid job (Woollef and Niedderer, 2016, p.160). As a result, several traditional crafting skills and techniques have disappeared or are vulnerable.
		Influence of educational level of inheritors ● The low level of education of the inheritors (Li, 2014, p.35; Hassan *et al.*, 2017, p.405; Yang *et al.*, 2018, pp.5-6) is the lack of knowledge in the techniques, history, and culture handicrafts embody, to a certain extent (Le, 2020, p.17). ● Inheritors master a traditional handicraft as a profession. Due to changes in economic and social structure and rapid replacement of consumer demand (Li, 2014), they cannot respond to changes in the speed of customer demand for new designs; meanwhile, they lack innovation and new technology (Li, 2014, p.36; Zhao, 2017, p.22; Yang *et al.*, 2018, p.5). Hence, they fail to create a marketable product (Li, 2014, p.36). ● The inheritors are not familiar with the pricing, marketing and promotional channels of traditional handicrafts or are unable to keep up with the demands require, resulting in unstable income and narrow income channels for the inheritors (Yang *et al.*, 2018, pp.7-8; Le, 2020, pp.17-18).
		The dissemination of handicrafts The relevant traditional handicrafts are poorly documented and mostly orally transmitted, resulting in a lack of information and data (Yang *et al.*, 2018, p.4; Le, 2020, p.17). Moreover, finding a good teacher/master who is willing to teach is challenging, as many traditional handicrafts involve 'trade secrets' that artisans are afraid to share them with strangers. The knowledge may vanish if the family members are unwilling to learn (UNESCO, no date). Traditional handicraft skills, as a form of tacit knowledge, are secretly passed down within specific regional domains to sustain livelihoods or in response to competitive pressure. It is passed down only among masters and apprentices or people with blood relations and has a strong sense of privacy, exclusivity, and non-sharing (Gao, 2018, p.25; Stalberg and Nesi, 2022, p.19). Whereas modern science and technology are transcendent, i.e., transcending the boundaries of ethnicity, geography, country, and even cultural circles, scientific explanations of the objective world do not vary according to ethnicity and geography, and mechanised and standardised technologies are often globally unified (Wan, Wei and Meng, 2011, p.112). This shows that the inheritance method of traditional handicraft tacit knowledge is closed and fragile (Gao, 2018, p.24).
(4)	Challenges of industrialisation	Thanks to industrialisation, products are becoming commodified (Li and Liang, 2019, p.54), while traditional handicrafts are inefficient and costly, gradually being replaced by machine-made products (Li, 2014, p.36; Yang *et al.*, 2018, p.4).

and mass production	Traditional handicrafts are competing with other comparable alternative items (Barber and Krivoshlykova, 2006, pp.21-23) as a result of rising worldwide competition, and simultaneously, similar processes or products are gradually increasing (Mahgoub and Alsoud, 2015, p.472; He, 2020, p.136).	
	In addition, the diversity of production, dissemination, and sales modes, along with the transformation of contemporary lifestyles, has resulted in a decrease in the desire for traditional handicrafts (Qiao, 2007, p.30), as well as a lack of identification with one's culture and traditional handicrafts (Yuan and Yu, 2018, p.47). On the other hand, this has caused the disconnection between the original traditional handicraft products and contemporary lifestyles and aesthetics (He, 2020, p136).	
(5)	With the acceleration of urbanisation, the traditional ways of passing on ICH and the practised environment are under attack (Qiao, 2016, p.2; Yuan and Yu, 2018, p. 47; Ge, 2020, p.8). Traditional handicrafts are mostly based in the rural environment, but lack of basic infrastructure causes problems (Yang *et al.*, 2018, p.5), such as production difficulties and increased costs, resulting in the decline of domestic and international market competitiveness (Barber and Krivoshlykova, 2006, pp.28-29).	
(6)	Necessarily, the craftspeople have to access a high-quality raw material to produce fine handicrafts (Ma and Zhou, 2018, p.98). However, craftspeople are experiencing difficulties in obtaining raw materials. Ecological and habitat environment changes have led to the destruction of raw materials needed for traditional handicrafts (Hassan *et al.*, 2017, p.407), which may increase production costs (Yang *et al.*, 2018, p.5).	

3.1.1.2 Micro Level Issue: Take Embroidery as an Example

The distribution and division of geographic areas have created differentiation in economic development, cultural heritage, feelings, education, and other aspects, which also causes the problem of regionalisation in traditional handicrafts. Therefore, targeted solutions or protection measures need to be proposed for a particular traditional handicraft in a special region, as generalising any protection measures is not feasible.

This section draws upon a series of semi-structured interviews[8] conducted with nine participants involved in Miao embroidery in Qiandongnan, Guizhou Province. The participants included embroiderers (2), teachers (4), a designer (1), and entrepreneurs (2), all of whom have an in-depth understanding of the specific situation of Miao embroidery in Qiandongnan to provide targeted support and feedback. The interviews aimed to explore the challenges facing Miao embroidery from the perspectives of practice, education, and transmission (Figure 3.1). Complementary field visits were conducted in July 2023 in both Qiandongnan and Hangzhou, encompassing artisan studios, museums, and local markets (Figure 3.2), to provide comparative insights.
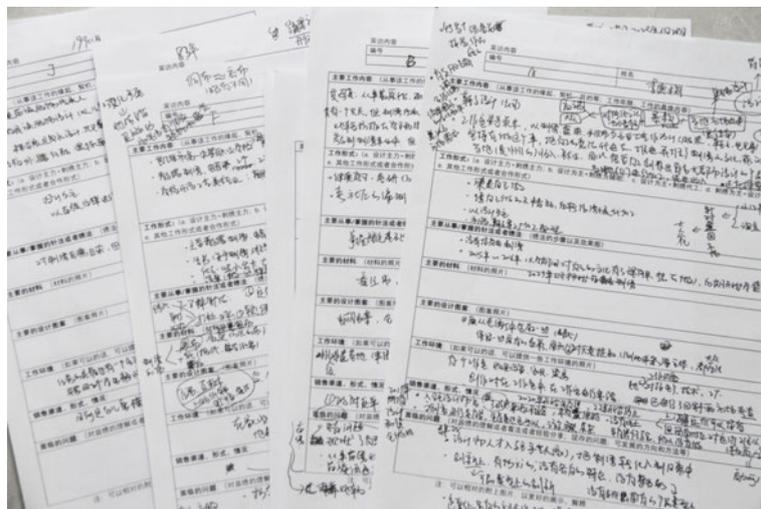
Figure 3.1 Interview transcripts, summary notes, and field notes were prepared for data analysis

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[8] Interviews were audio-recorded using an iPhone, and all audio recordings of interviews were saved on my computer with password protection, and they were labelled with number, date, and category. As all interviews were conducted in Chinese, they were transcribed first and written in Microsoft Word in Chinese. Essential parts (without repeated information, verbal elements, and parts unrelated to the research topic) were later developed into summary notes and translated into English. After the interviews, I photographed the working environment, making processes and craft experience.

The findings reveal that most Miao embroiderers acquire their skills informally, through intergenerational transmission within families, particularly from grandmothers or mothers. By contrast, embroiderers in Hangzhou are often apprentices under the guidance of master artisans. In Hangzhou, embroidery is supported by local associations, peer learning networks, and a greater degree of socio-economic stability. Interviewees also exhibited a stronger awareness of design aesthetics and a passion for cultural heritage. These differences underscore the role of educational access and institutional support in shaping the sustainability and innovation capacity of embroidery traditions.

In the Qiandongnan of Guizhou, the low level of education is one of the critical factors affecting the development of Miao embroidery, resulting in people not realising the importance and value of Miao embroidery (Table 3.2). Vocational schools in Qiandongnan offer embroidery course, but students and parents are not aware of the importance of embroidery as a skill or a means to make a living, as it is generally considered to be a job where the effort is not proportional to the income leads to a lack of motivation and undervaluation of the craft's cultural and economic potential. As a result, Miao embroidery, despite its richness and uniqueness, is at risk of further marginalisation.

This section has analysed the challenges confronting traditional handicrafts from both macro and micro perspectives, identifying the inadequacy of educational systems as a critical obstacle to their sustainable development. Education also represents a key strategic pathway for revitalisation. When embedded within formal education systems, vocational programmes, or community-based initiatives, educational interventions can move beyond mere preservation to actively support the transformation and adaptation of traditional practices within contemporary contexts. Such efforts not only foster innovation but also empower emerging generations of craftspeople, reinforcing the living continuity of craft traditions. Building on this premise, the following section will explore the relationship between craft education and the SDGs, examining how

educational engagement with traditional handicrafts can contribute to broader agendas of cultural sustainability and social resilience.

Table 3.2 Analysis on the dilemmas of Miao embroidery in Qiandongnan

Specific Reasons Analysis		
(1)	**The local economy lags behind**	Inadequate policy protection measures taken by the local government, such as backward facilities and difficulties in implementing relevant work, determine the local economic development and indirectly affect the relevant markets. For example, unclear market positioning, confusing product pricing, failure to establish brands and trademarks, failure to prevent vicious competition, and counterfeit, shoddy products.
(2)	**Lack of collective consciousness**	There is a significant issue of design plagiarism in the local market, which undermines the rights and interests of original creators and leads to chaos and unhealthy competition. This situation arises because many businesspeople lack a spirit of collaboration and prioritise their personal profit.
(3)	**Blocked design**	There are more sales channels with modern science and technology development, but sales difficulties still exist. This has a certain relationship with the design of Miao embroidery works. Most of the works are designed to meet the local aesthetics and needs but ignore urbanisation, unable to extend the works to a broader market. Meanwhile, the limitations of Miao embroidery-related products and the lack of innovative design are also causes of this problem. Especially, the local handicraft techniques have not improved to adapt to contemporary designs.
(4)	**Educational Retardation**	Regionality has a certain degree of influence on the politics, economy, culture, and other aspects of the region. It is easy to see that the cultural level in Qiandongnan is generally lower than that of other cities. In contrast, Hang embroidery, which originated in Hangzhou, is mainly based on crafts and has built many brands with brighter development prospects, such as Yao Jianping, who founded Suzhou Yao Jianping Embroidery Art Museum and the Yao Embroidery Brand in 2002, which involves accessories, scarves, and furniture.

Figure 3.2 The left photos show daily life in which people in the village came to Jin Li's home to embroider together, and she is also preparing embroidery for her daughter's clothing (middle photo). The right photo shows the local market selling embroidery pieces. Photographed by Zi in 2023

3.1.2 Educational Nexus Between Traditional Handicrafts and Sustainable Development

This section explores the dynamic relationship between ICH and education, as well as the broader connection between ICH, education, and sustainable development. Divided into two sub-sections, these discussions not only establish the academic and practical significance of this research but also directly inform its first and third research objectives - developing an innovative pedagogical model for revitalising traditional Chinese handicrafts through design education.

3.1.2.1 Intangible Cultural Heritage for Education

This section demonstrates that ICH not only benefits from education for its preservation and revitalisation but also actively contributes to the development of education itself. This reciprocal relationship directly supports the first research objective of this research, which is to explore the role of education in the development of traditional Chinese handicrafts, particularly through innovative teaching pedagogy within design education.

Safeguarding ICH can effectively address integrated problem-solving, foster social and emotional intelligence competencies, enhance educational quality, and support community development (IRCI, 2021, p.103). This aligns closely with the five characteristics of ICH outlined by UNESCO in 2015, particularly its inclusive nature, which "contributes to social cohesion, encouraging a sense of identity and responsibility" and provides people with "a sense of identity and continuity" (IRCI and NICH, 2020, pp.136-137). ICH is not only a vital cultural asset but also a catalyst for economic development, strengthening local economies (IRCI and NICH, 2020, p.135). Moreover, it serves as a source of cultural resilience, inspiration, consolidation, and collective responsibility (IRCI, 2021, p.12), while acting as a driver of innovation to address challenges in a changing environment (IRCI and NICH, 2020, p.135; IRCI, 2021, p.12).

ICH plays a vital role in advancing educational goals, particularly SDG 4, by enriching learning with culturally relevant content and essential life skills, such as adaptability, creativity, and mutual respect (IRCI, 2020, p.45; IRCI and NICH, 2020, p.137). Integrating heritage into education bridges classroom learning with community knowledge, deepening students' understanding of cultural environments and imparting values connected to local traditions and practices (IRCI, 2020, p.53; IRCI and NICH, 2020, pp.138-139). This approach fosters interdisciplinary learning and critical thinking, enabling students to develop broad competencies and a holistic worldview (IRCI and NICH, 2020, p.137, p.143). Moreover, ICH-based education influences educators, including cultural bearers and policymakers, serving not only to preserve heritage but also to enhance the quality and relevance of Education for Sustainable Development (ESD) (IRCI and NICH, 2020, p.159; IRCI, 2021, p.1).

The integration of ICH into education has gained wide recognition as a mutually beneficial approach for the cultural and educational sectors (IRCI and NICH, 2020, p.133, p.138). Educators are increasingly seeking ways to ground learning in local contexts to improve relevance and effectiveness for both students and teachers (IRCI, 2020, p.46). UNESCO continues to explore diverse methods for embedding ICH in formal and informal education, although research remains limited in many countries (IRCI, 2017, p.25; IRCI and NICH, 2020, p.133, p.137). This dynamic approach offers a valuable theoretical foundation for this research, which aims to innovate traditional handicraft through design pedagogy.

3.1.2.2 Integrating Intangible Cultural Heritage into Education for Sustainable Development

The global framework for safeguarding ICH is grounded in UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage and was further reinforced by the 2030 Agenda for Sustainable Development in 2015, with its 17 goals and 169 targets spanning economic, social, and environmental dimensions. In

recognition of the pivotal role of education in achieving these goals, UNESCO's Intergovernmental Committee adopted a decision at its twelfth session to prioritise ICH in educational contexts.

In response, the International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region (IRCI) launched its *Multi-disciplinary Study on ICH's Contribution to Sustainable Development: Focusing on Education* in 2018. This project developed ICH-based formal and non-formal educational guidelines to enhance education quality. Moreover, IRCI's 2020 report *Research on ICH Contribution to Sustainable Development Goals (SDGs): Education and Community Development* explored ICH's impact on SDG 4 (Quality Education) and SDG 11 (Sustainable Cities and Communities), while highlighting its positive effects on SDG 5 (Gender Equality) and SDG 17 (Partnerships) due to the interconnected nature of the Goals (IRCI, 2020, p.49; IRCI, 2021, p.57).

Education, defined as how people understand and manage societal challenges and learn their place and responsibilities in the world (Veeber *et al.*, 2015, p.16), is acknowledged by UNESCO as an essential strategy for pursuing the SDGs (UNESCO, 2017). IRCI's 2022 follow-up report, *Research on ICH Contribution to SDGs: Education and Community Development*, documents how ICH-based education fosters non-cognitive skills, improves educational quality and provides culturally grounded solutions to social issues, benefiting both educators and policymakers (IRCI, 2020, p. 46, pp.48-49; IRCI, 2021, p.57).

Concrete examples demonstrate these principles in action. In the Philippines, the School of Living Traditions enables master practitioners to transmit traditional knowledge to younger generations through hands-on workshops and community projects (IRCI, 2020, p.9, p.13, p.15). In Vietnam, the ICH-ESD Guideline aligns ICH content with existing curricula and Education for Sustainable Development (ESD) principles, emphasising experiential, participatory learning (IRCI, 2020, pp. 25-27, 34-

35). These initiatives illustrate how ICH-based education can advance interdisciplinary teaching and reinforce the SDGs by linking local cultural practices with global sustainability frameworks.

China has likewise embraced ICH-based education as part of its safeguarding strategy. Since joining the UNESCO Convention, China's government has spearheaded top-level policy design and resource integration for the protection of ICH (IRCI, 2017, p.78). The Public Art Collaborative Centre (PACC) of the Shanghai Education Commission exemplifies innovation in education by uniting traditional and contemporary cultural resources through industry-university-research partnerships. PACC's *ICH Cross-border Innovation Model*, developed in collaboration with the Shanghai Academy of Fine Arts, pairs ICH inheritors with designers to merge traditional craftsmanship and modern design, thereby bringing heritage into contemporary life (Zhang, 2018).

Despite these successes, integrating the ICH into formal education remains a challenge. Educators must reconcile existing curricular demands with the development of new ICH-related teaching materials (IRCI, 2020, p.48; IRCI, 2021, p.94), and truly scalable, systematic examples are still limited. As Ishimura (IRCI, 2020, p.48) notes, a robust methodology for researching the relationship between ICH and education is urgently needed.

These international and national experiences demonstrate the increasing recognition of ICH as a valuable resource for achieving the SDGs, particularly through education. While such initiatives highlight promising directions, ranging from policy-level strategies to grassroots educational models, they also reveal persistent challenges.

This research takes education as its central lens, exploring how design-led pedagogy can support the revitalisation and sustainable transmission of traditional Chinese handicrafts. The insights gained from these international and national models provide a critical foundation for developing a contextually grounded, interdisciplinary teaching

model that aligns with both UNESCO's SDGs and China's broader cultural policy landscape.

3.2 From Rescue to Transmission: The Development Trajectory of China's Intangible Cultural Heritage Protection

This section focuses on how China has responded to the challenges facing ICH, with particular attention to the strategies and frameworks developed to support its preservation and revitalisation. It traces the evolution of ICH safeguarding efforts through five distinct phases and five key protective measures. Notably, education emerges as a consistent and integral element throughout both the stages and the measures, highlighting its vital role in the transmission and innovation of traditional handicrafts. Furthermore, this section emphasises the significance of national policies in shaping and advancing ICH safeguarding practices, demonstrating how policy formulation and implementation have contributed to the sustainability and resilience of traditional knowledge systems.

3.2.1 Three Foundational Phases of Traditional Handicraft Development

The First Industrial Revolution had a significant impact on the social structure and economic development of the West. However, it was not until the Opium War in 1840 that China experienced the aftershocks of the Industrial Revolution. The impact on the state system and social structure that had continued for thousands of years based on the agrarian culture (Wang, 2016a, p.23), and was being replaced by the emerging industrial civilisation. The coastal regions of China were the first to see traditional handicrafts facing replacement by machine production.

During the subsequent Second Opium War (1856-1860) and World War I (1914-1918), China did not participate in the development of the Second Industrial Revolution. This also resulted in China's economic backwardness, which meant handicrafts faced an

even more difficult situation. However, it is precisely in this environment that handicrafts are also the key to China's economic development and the improvement of national living standards. Some revolutionaries or scholars advocated allowing women to acquire skills to make a living and promote the country's economic development (Shen, 2004, p.5; Zhang, 2016a, p.157; Hassan *et al.*, 2017, p.406), especially the awakening of women's self-awareness (Shen, 2004, p.18).

The specialisation and professionalisation of traditional techniques through the establishment of schools was an important combination of traditional handicrafts, which still have value in the contemporary process, and industrial civilisation. Its significance lies in the fact that it explored the value and ways of existence of traditional skills in the new social formations (Shen, 2004, p.17). During this period, there were three forms of manual education (official, non-official, and foreign) (Yu, 2008, pp.156-160), with teaching characteristics that focused on practice (Yi, 2012, p.98) and solved the employment problem. It is noteworthy that most students in the institutions of this period were women. The most representative example is the independent training institute for female workers founded by Shen Shou that focuses on embroidery (Shen, 2004, p.11, p.147), which also provides women with career options and identifying self-worth.

3.2.1.1 First Phase: Early Motivations for Traditional Handicrafts Learning

During the Republican period, Cai Yuanpei advocated educational reform and proposed the importance of aesthetic education, enabling craft and design education to develop rapidly during this period (Yi, 2012, p.98). Its teaching is characterised by the combination of teaching and production modes to solve the employment problems of students. However, another school characteristic represented by Lv Fengzi still focuses on the development of women's education and advocates women's liberation (Yi, 2012, p.101), which mainly focuses on skills such as embroidery, sewing, and sericulture. Thus, the students are able to apply what they have learned. Huang Yanpei believed that women's vocational education should combine family life with schooling (Yi, 2012,

p.101). In 1906, Liangjiang Normal School offered a handicrafts course, setting up paper joinery, rope joinery, clay, plasterwork, carpentry, and goldsmithing, which could be seen as a prototype of handicrafts courses in China (Wang, 2016b, p.264).

From the early 20th century to the late 1940s, due to the instability of the current situation in China, some scholars (Zhang, 2013, p.20; Wang, 2016a, p.29) believe that this period can be perceive as the embryonic stage of the development and protection of traditional handicrafts. On the other hand, a group of scholars, represented by Liang Sicong, researched and explored the issues of folk culture and rural construction on the basis of sociological studies, which involved the topic of traditional handicrafts as a component of the rural economy. Furthermore, Peking, Xiamen, Sun Yat-sen, and Zhejiang Universities, as well as cultural institutions such as Academia Sinica and the National Museum of China, successively established custom survey committees, folklore societies, and display rooms of custom objects to carry out research on ethnology, folk art, and handicrafts. Although some of the research work during this period was too piecemeal and simple, it laid the foundation for the relevant collation, and conservation work, plus the economic development after the founding of the People's Republic of China.

3.2.1.2 Second Phase: Economic Roles and Academic Foundations of Traditional Handicrafts

The period from the early 1950s to the late 1970s is considered to be the second stage of traditional handicraft development (Zhang, 2013, pp.20-21; Wang, 2016a, pp.29-30). After the founding of the People's Republic of China, pattern education, practical art education, and craft education were collectively referred to as Arts and Crafts and became a discipline (Wang, 2016b, p.264). Arts and crafts emerged in the early 20th century, and to some extent, it has become synonymous with traditional handicrafts. Especially in the planned economy era of New China, the country mainly developed traditional handicrafts with the nature of Arts and Crafts (Qiu, 2016, p.13). However,

arts and crafts cannot refer to traditional handicrafts. Section 4.1.1 shows that many universities place jewellery under Arts and Crafts.

In the early days of New China, due to the destruction of the agricultural structure and the weakness of the industrial production base caused by successive years of war, the resumption of the development of handicrafts became an essential way of earning foreign exchange from exports at that time (Wang, 2016a, p.29; Chen, 2017a, pp.72-73; Su, 2018, para.4; Chen, 2019, p.49). As Walker (1989, p.39) points out how significant the value of handicrafts is for Third World countries:

> *The less a society is developed industrially and technologically, the more it relies upon crafts in everyday life, hence they continue to play an important role in third world countries. Within advanced societies, in sharp contrast, crafts tend to be part of the luxury and gift markets. First and third worlds come together in the craft products made by the poor for affluent foreign tourists, that is the so called 'ethnic', 'tourist' or 'airport arts'.*

As a result, through effective organisation, traditional handicrafts became an impetus for economic development, forming support for the cause of socialist construction and attracting the attention of the new government. For example, under the collective ownership economic system at that time, the export value of traditional handicrafts such as cloisonné, lacquerware, and brown straw weaving accounted for about 70% of the total output value of the arts and crafts industry (Zhu, 2013, p.30). In particular, in 1956, the important instruction of Accelerating the Socialist Transformation of Handicrafts Industry continued to emphasise the need for the handicraft industry to move in the direction of semi-mechanisation and mechanisation, while noting that some of the handicrafts could maintain their traditional characteristics (Chen, 2017a, p.72). Therefore, the production of traditional handicrafts not only solved the problem of survival and employment for the people, but also exchanged back funds and technology for the continuation of economic development, which played an important role in the revitalisation of national industry and the recovery of the national economy.

Traditional handicrafts achieved significant academic development during this period. Firstly, the political environment's stability enabled the development of numerous cultural works about traditional handicrafts, highlighted by extensive surveys and physical exhibitions. Various folk art research institutes have been organised and established one after another (Zhang, 2013, p.20; Wang, 2016a, p.29; Chen, 2017a, p.72). Secondly, professional colleges and universities involving traditional handicrafts were established to conduct relevant teaching and scientific research to cultivate professional and technical talents in the arts and crafts industry (Qiu, 2016, p.14). For example, the Central Institute of Arts and Crafts (1956), Suzhou Art and Design Technology Institute (1958), and Shanghai Arts and Crafts Vocational College (1960). Moreover, from 1954, the country organised scholars and professionals to conduct surveys in most areas of China, many of which involved traditional handicrafts. Later, it was forced to suspend these due to the emergence of the Cultural Revolution[9] (Dai, 2005, p.200).

3.2.1.3 Third Phase: Market Transformation and Academic Reengagement

The late 1970s to the early 1990s is considered the third stage of handicraft development and protection (Zhang, 2013, p.21; Wang, 2016a, p.30). During the Cultural Revolution, the production of traditional handicrafts as an economic form continued. In 1973, the State Council issued the Report on the Development of Arts and Crafts Production, which called on the arts and crafts industry to integrate with the world economy by expanding exports and attracting foreign capital (Su, 2018, para.3). In 1975, China's arts and crafts exhibitions frequently travelled to Australia, Europe, and the Americas, successfully demonstrating to the outside world that the Chinese economy was on the road to recovery and greatly enhancing foreign exchange (Bai, 2003, p.40).

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[9] Cultural Revolution from May 1966 to October 1976.

By the 1980s, the export of traditional handicrafts grew as the economy fully recovered after the Cultural Revolution. A new generation of Chinese artists, as well as craftspeople, studied abroad and returned home to set up studios and exhibitions to promote the revival of Chinese handicrafts (Wang, 2016b, p.264). However, this period saw a change in the economic system, with traditional handicrafts, contemporary handicrafts and mechanised light industrial production being planned under the same framework (Qiu, 2016, p.15; Chen, 2019, p.49). A number of arts and crafts research institutes were established in China to carry out related teaching and research work (Zhang, 2013, p.21; Wang, 2016a, p.30; Chen, 2017a, p.73). This has enabled the establishment of various fields of study including fashion and jewellery design.

As a direct result of China's reform and opening up (December 1978), people's ideologies have been opened up, multiculturalism and new academic ideas have been introduced, promoting in-depth research on traditional handicrafts. On the other hand, extensive cooperation with the international community (Su, 2018) has made China's national and folk culture widely welcomed by Eastern and Western countries. Traditional handicrafts have, to a large extent, got rid of the original one-sided pursuit of economic results and initiated academic exchanges on folk art (Zhang, 2013, p.21). During this period, with the active participation of teachers and students from major art schools, research on traditional handicrafts became more in-depth, and mainstream art and cultural circles interacted more frequently with folk art. Folk art, including traditional handicrafts, have gained unprecedented widespread recognition.

3.2.2 The Fourth Phase: The Policy Landscape and Educational Practice of Traditional Handicrafts in China

Since the 1990s, China's protection of traditional handicrafts has entered a fourth phase, marked by the integration of national policy and educational practice. Recognising ICH as vital to cultural identity and national development, the government has introduced key policies. These policies underscore education as a central mechanism for

safeguarding ICH, shaping both formal and non-formal systems. This research builds on that foundation, focusing on how Chinese universities respond through curriculum development and skills training, particularly within jewellery design education, to support the revitalisation of traditional handicrafts in line with national priorities.

3.2.2.1 National Policy and the Theoretical Grounding of this Research

With the deepening of economic system reform, the increasing improvement of people's living standards, and the establishment and improvement of ICH protection mechanisms, China's traditional handicraft protection and development entered the fourth stage from the 1990s to 2003 (Zhang, 2013, p.22; Wang, 2016a, pp.30-31).

The development of safeguarding in this phase is mainly reflected in four aspects, all of which, to varying degrees, have been supported or driven by governmental policies. Firstly, the number of investigations organised by universities and cultural institutions across the country has increased, and fruitful research results have been achieved (Zhang, 2013, p.22). For example, in 2002, the Central Academy of Fine Arts established the Intangible Cultural Heritage Research Centre, which formally included folk art in university art education as human cultural heritage, solving the problems of cognitive learning, inheritance, and the creation of cultural heritage in universities (Qiao, 2003, p.66). Secondly, with the rapid development of the national economy, the construction of museums accelerated. Traditional handicrafts were collected and displayed in museums as a material carrier of folk culture, although detached from daily use, their display has played an increasingly important role in promoting craft-related industries (Zhang, 2013, pp.22-23; Wang, 2016a, p.31). Thirdly, due to the transformation of the socio-economic structure, as well as frequent domestic and international exchanges and the increase in domestic material demand, the arts and crafts industry has maintained sustained growth, with the traditional handicraft sector experiencing notable expansion (Zhang, 2013, p.22). These three aspects of safeguarding are deeply embedded in or enabled by state-led initiatives, legal

provisions, or cultural policies. As Pierantoni (2018, p.291) notes, this form of development may be characterised as "government-driven development".

Fourthly, and notably, Chinese authorities have actively launched a series of top-level policy measures and legal instruments to safeguard ICH (see Table 3.3), which have had a comprehensive impact on the promotion and revitalisation of traditional handicrafts. At the same time, however, such top-down interventions have contributed to uneven industrial development and unequal resource distribution (Zhang, 2013, p. 22).

Table 3.3 Major National Policies Supporting the Protection of Traditional Handicrafts in China

Year	Policies
2003	UNESCO launched the Convention for the Safeguarding of the Intangible Cultural Heritage.
2004	China actively joined the convention and became one of the first countries to join.
2005	The State Council issued the *Opinions on Strengthening the Safeguarding of Chinese Intangible Cultural Heritage* to guide the review and evaluation of the ICH Inheritors Lists at the national level.
2011	*The Intangible Cultural Heritage Law of the People's Republic of China* was promulgated and implemented.
2015	The Ministry of Education, Culture, Tourism, and Human Resources Security of China launched the *China Intangible Cultural Heritage Inheritance Study and Training Plan*, to help inheritors receive advanced art education and to undertake the historical mission of inheriting and promoting the outstanding traditional culture of China.
2017	Since *The Plan on Revitalising China's Traditional Crafts* was implemented in 2017, considerable efforts have been made to improve the design, production, and quality of traditional products.
2018	The State Council (2018a) issued the *Rural Revitalisation Strategic Plan*, which pointed out that the development of traditional handicrafts has become an important channel to promote the transformation and development of rural economies.
2018	*The Notice of the General Office of the Ministry of Culture and Tourism on Vigorously Revitalising Traditional Crafts in Poverty-Stricken Areas to Assist Targeted Poverty Alleviation* issued in June further by The State Council (2018b) highlighted the impact of traditional crafts on the socio-economic structure of China's vast rural areas.

The protection of ICH has been significantly shaped by international frameworks, particularly UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage, adopted in 2003 and enacted in 2006. This convention encourages member states to develop legal and policy measures for ICH safeguarding. Japan was a pioneer in this regard, enacting the Law for the Protection of Cultural Properties in 1950. The national government implements various safeguarding measures in accordance with this law and its related regulations (CGS, Seijo University and IRCI, 2017, p.50).

Similarly, countries like New Zealand have partly achieved this through the enactment of legislative tools to preserve and protect ICH (IRCI, 2017, p.9). Since joining the Convention, China has strengthened its national policy framework for ICH safeguarding, with the International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region (IRCI) affirming the role of the Chinese government in legal planning, resource integration, and standard-setting (CGS, Seijo University and IRCI, 2017, pp.71-79).

Given the richness, diversity, and complexity of China's traditional cultures and crafts, there is a critical need for the government to play a coordinating and guiding role in ICH protection. This involves conducting both horizontal and vertical analyses of cultural resources across regions and time periods. Through such comparative evaluation, resource integration becomes possible - not only by providing an abundant pool of tangible and intangible materials but also by synthesising research findings across different levels of ICH. This integrated approach enables the identification of challenges, the adjustment of protection strategies, and the revision of relevant policy measures. In doing so, the government helps create a constructive, upward spiral of preservation and innovation.

Importantly, the safeguarding of ICH is a collaborative process that involves multiple stakeholders. While the government plays a central role, other actors, such as individual inheritors, enterprises, and local communities, also make significant contributions to the vitality and transmission of traditional practices. Relevant ICH policy frameworks not only support coordination among these diverse participants but also help to clearly define their respective roles and responsibilities in the safeguarding process (CGS, Seijo University and IRCI, 2017, p.76). However, the policy framework remains a powerful tool in this landscape. It provides strategic direction, determines resource allocation, and ensures that protection efforts are meaningfully anchored in the local context of traditional crafts and culture.

Through national-level planning, the government coordinates ICH work across provinces, establishing unified standards, guiding frameworks, and evaluation criteria that facilitate consistent and effective implementation. Furthermore, Chinese ICH policy framework reflects a broad spectrum of objectives: economic development, poverty alleviation, and cultural revitalisation. These diverse goals underscore the multi-functional role of ICH policy, positioning it not only as a mechanism for cultural preservation but also as a driver of social and economic progress.

The national policy framework introduced by the government have established a comprehensive system that integrates top-down management with bottom-up academic research. This system encompasses broad, overarching protection strategies as well as targeted measures, effectively addressing the challenges facing ICH and traditional handicrafts. These national policies not only provide the theoretical grounding for this research, particularly in positioning education as a key strategy for the protection and innovation of traditional handicrafts but also reflect the collective nature of ICH safeguarding. This research responds to the national call for heritage preservation, recognising that the protection of ICH is a shared social responsibility. Therefore, understanding this policy framework is essential to understanding the rationale behind this research, as they shape both the broader context and the academic purpose of investigating education-driven approaches to sustaining traditional handicraft practices.

3.2.2.2 National Policies Supporting Education in Traditional Handicrafts

Since the founding of the People's Republic of China, the state has played a key role in the preservation and revitalisation of traditional handicrafts, particularly through educational initiatives. In the early period, relevant policies focused on the restoration of traditional crafts by protecting elder artisans, conducting surveys of folk crafts, organising exhibitions and conferences, and establishing colleges and research institutes. A notable example is the establishment of the Central Institute of Arts and Crafts in November 1965. The institute aimed to train talent in traditional crafts through

short-term courses, while offering design research and development services to handicraft enterprises. This laid the groundwork for the creative transformation and sustainable innovation of the traditional handicraft sector.

In the 21st century, traditional handicrafts, key components of China's ICH, continue to enrich spiritual life and strengthen national cultural confidence. However, they have become an increasingly scarce cultural resource. Therefore, the government has introduced a series of targeted policies to reinforce the role of education in safeguarding traditional handicrafts. For instance, Article 34 of the ICH Law of the People's Republic of China (2011) explicitly requires schools to carry out relevant education on ICH (Ministry of Culture and Tourism of the People's Republic of China, 2011).

Subsequent initiatives further strengthened this direction. In 2015, the China ICH Inheritance Group Study and Training Plan called for academic and pedagogical support from universities in the transmission of ICH. This was followed by the 2017 Plan on Revitalising China's Traditional Crafts, and the third primary task was to implement traditional handicrafts as a core objective of the China ICH Inheritance Group Study and Training Plan. The goal is to involve inheritors in training, research, and studies to enhance their skills and strengthen their ability to recreate traditional skills (The State Council of the People's Republic of China, 2017b).

This research identifies four key functions of the plan: (1) supporting strategic cultural inheritance while enhancing national cultural confidence; (2) promoting innovation by integrating ICH into contemporary life and social practices; (3) fostering collaboration between inheritors and educators to bridge theory and practice in traditional handicraft transmission; (4) strengthening the construction of a professional teaching workforce capable of aligning ICH with formal academic disciplines (Ma and Chang, 2019, p.139), thereby advancing cultural innovation in higher education.

The preservation and transmission of traditional handicrafts can be carried out through formal and non-formal educational approaches. Formal education approaches involve academic education and training institutions, while non-formal education approaches are divided into social education (associations, museums, and workshops) and family education. Scholars such as Abisuga-Oyekunle and Fillis (2017, p.71) argue for the incorporation of traditional handicraft courses into formal education systems to ensure the preservation and sustainability of ICH.

In summary, this section has reviewed key national policy developments that embed education at the centre of ICH preservation, particularly in relation to traditional handicrafts. It emphasises the increasing role of formal education in ensuring continuity and innovation in traditional handicrafts. These insights provide an essential foundation for this research, which investigates how formal design education can effectively support the revitalisation of traditional handicrafts. While formal education remains the primary focus, the role of non-formal education, as explored in Chapter 8 through exhibitions, offers further possibilities for testing and applying the IEM model in broader contexts.

3.2.2.3 Higher Education as Formal Education in Protecting Traditional Handicrafts

Education is a fundamental pathway for selecting, preserving, transmitting, and reproducing the accumulated knowledge and expertise of civilisation (Ma and Chang, 2019, p.137). It enables individuals, especially younger generations, to efficiently acquire and develop ICH and traditional handicrafts.

In China, formal education has become a key mechanism for sustaining ICH, enhancing students' cultural awareness and capacity for transmission (Li and Bi, 2013, p.119). Educational efforts span all levels - preschool, primary, vocational, higher, and continuing education - each contributing to ICH protection in different ways (Root-

Bernstein and Root-Bernstein, 2013, p.20; Tan, 2015, p.85; The State Council of the People's Republic of China, 2017a).

Preschool and middle school education lay the cultural foundation for craft inheritance, while higher education plays a vital role in revitalising traditional handicrafts by cultivating design knowledge and handicraft skills. Universities, particularly local ones, are uniquely positioned to preserve regional ICH through academic research and training (Wang, 2010, p.140). Chinese government initiatives now encourage ICH integration into university programmes, empowering the younger generation to carry forward traditional crafts and cultural identity (Hassan *et al.*, 2017, p.413).

Since China joined the Convention for the Safeguarding of the ICH adopted by UNESCO in 2004, and the practice of ICH in Chinese universities has been conducted for over ten years. ICH education is divided into three stages, as shown in Table 3.4.

Table 3.4 Three stages of ICH education in China. Adapted from Sun, 2017, pp.12-14

Stages	Contents
Theoretical preparation stage (2004-2007)	This stage is teacher-led, providing related literature on ICH. For example, Wang published *Introduction to Intangible Cultural Heritage* in 2006, which became the first teaching material for higher education in China. Moreover, Chongqing University of Arts and Sciences started to hold a series of lectures in 2004 and relevant curricula in 2005, the earliest undergraduate courses.
The multi-point development stage (2008-2010)	This stage is student-led, and they spontaneously organised student unions to conduct field surveys and forums, demonstrating student-led inheritance. This mode consists of three sub-modes: experiential, rational cognition, and network communication, all of which have contributed to the accumulation and dissemination of ICH knowledge.
The cultural service stage (2011-2017)	This stage is discipline-orientated and social inheritance as the core, especially the Chinese Intangible Cultural Heritage Law promulgated in 2011, to promote the development of ICH disciplines in universities. Universities across the country began to establish relevant disciplines, each with its own unique focus and characteristics, such as Wuhan Textile University, which mainly focuses on the research of traditional handicrafts.

With the protection of ICH in China progressively deepening, higher education cultivates talented students to develop cultural creativity and resolve tasks and issues through cognitive learning and the creative use of inherited skills and design (Xu, 2010, p.32; Ding, 2011, p.251; Xu, 2013, p.67). Within Chinese universities, inheritance education typically takes two forms: professional and general. The professional track

focuses on developing research-oriented practitioners with advanced skills, while the general track promotes ICH awareness through experiential learning (Ding, 2011, pp. 252-253). Ding (2011, p.251) proposes that universities should aim to train three types of talent: high-quality theoretical and practical researchers, outstanding inheritors, and new cultural intellectuals who are concerned with and support the conservation of ICH. Additionally, Pan (2024, pp.16-20) proposes a three-tiered talent development model across undergraduate, postgraduate, and doctoral levels, addressing the 'what', 'why' and 'how' of ICH education[10].

Introducing traditional handicraft education into formal curricula is widely regarded as an effective strategy for safeguarding cultural heritage (Abisuga-Oyekunle and Fillis, 2017, p.61). This approach not only preserves and transmits knowledge but also enhances students' competitiveness and supports craftspeople in improving product quality through education in design, market awareness, and production skills (UNESDOC, 2007; Rogerson, 2010, p.128; UNESCO, 2016, para.8, para.16). Design education uniquely integrates productive and innovative forms of protection, making it a crucial channel for sustaining traditional handicrafts. Section 3.4.1 explores how higher education in design contributes to this process, focusing on both teachers' and students' perspectives.

3.2.3 The Fifth Phase: Traditional Handicrafts in the Digital Era

Traditional handicrafts face a new challenge, especially with technological development and the fourth industrial revolution. Somehow, technology intervenes in traditional handicrafts and restores them to centre stage (Masterton, 2007, para.3; McCullough, 2010, p.310). However, traditional handicrafts should be dominant with

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[10] **WHAT** involves the ontology of ICH, which refers to the scope of ICH and encompasses both its intrinsic and extrinsic elements, such as connotation;
  WHY refers to the significance and value of ICH, involving value judgments and serves as a crucial foundation for related research and practical initiatives;
  HOW refers to methods concerning the study, protection, and transmission of ICH (Pan, 2024, pp.16-17).

the purpose of serving life; otherwise, they will lose their cultural and unrepeatable (unique) characteristics (Peng *et al.*, 2023, pp.54-57), especially in the digital age.

In 2016, the Development Plan for Light Industry positions the 'arts and crafts industry' as follows: to promote the integration and development of 3D printing, the Internet, and other new technologies with the arts and crafts, and to promote the application of new techniques, materials, equipment, and models (Ministry of Industry and Information Technology of the People's Republic of China, 2016, p.31). According to a questionnaire survey by Peng *et al.* (2023, p.54), technology (such as AI, VR, and 3D printing) is inevitably interfering with the development of traditional handicrafts. For example, AI has been used to create intricate patterns for traditional clothing applied to Indian textiles and embroidery (Frąckiewicz, 2023).

Protection and inheritance focus on data collection, organisation, and dissemination of handicraft practice processes (Huang, 2015; Zhou and Xu, 2017; Zhou, Zhao and Sun, 2017). It helps spread the knowledge of handicrafts, analyse data on related markets, and reduce the cost of restoration and maintenance of traditional handicraft artefacts (Kolay, 2016, p.312; Pan, 2023, pp.63-65). For example, many craftspeople also take full advantage of digital and communication technologies by creating personal websites and promoting or selling through online platforms. These strategies effectively convey the value of the traditional handicrafts to consumers and create opportunities for business development.

New techniques can create a new visual representation of traditional handicrafts, leading to new or reinterpretations (Bailey, 2015, p.159; Kolay, 2016, p.311), which traditional methods cannot accomplish. They not only enhance the competitiveness and global reach of the handicraft industry but also address production challenges, foster cultural exchange, and raise public awareness about the importance of ICH (Landriani and Pozzoli, 2013, p.17; Peng *et al.*, 2023, p.55). Similarly, the integration of digital and interactive media in museums and galleries offers new modes of exhibition,

enabling audiences to engage more deeply with handicrafts through enriched multisensory and narrative experiences (Kolay, 2016, p.312; Min, 2021, p.42; Chen, 2023, p.60). In this way, technology serves as a vital bridge between traditional crafts and contemporary audiences, advancing both the transmission and understanding of these crafts.

Some fear that technology may dilute traditional techniques or homogenise art forms (Kolay, 2016, p.311). Shiner (2012, p.235) questions "whether design on the computer might be considered a form of hand craft" but views digital tools as extensions of the hand that enhance efficiency. Their integration can spark a renaissance in craft, acting as a catalyst for innovation and creativity (Hassan *et al.*, 2017, p.410; Frąckiewicz, 2023). Technology enables new ways of thinking and making (Niedderer and Townsend, 2014, p.151), while handicrafts reflect the technological context of their time, such as Shang bronzeware or Tang brocade. As Stiegler (2000, p.158) notes, human history is deeply intertwined with technological evolution.

Digital tools enable unprecedented design freedom while preserving "an intimate engagement between the maker, the material, and the product" (Zoran, 2013, p.324). This fusion marks a fifth stage in handicraft development, where new technologies extend the hand's capabilities, streamline production, and elevate design possibilities, as illustrated in Section 8.1.2 on virtual jewellery.

3.2.4 Five Protection Strategies for Traditional Handicrafts Involving Educational Engagement

Traditional handicrafts in China have undergone five stages of protection, and there are generally five types of protection strategies.

Data-based Protection is the most basic way of protection. Traditional handicrafts are adequately preserved, relevant physical objects and materials are collected, and

comprehensive statistics and data collection are used to establish archives (The National People's Congress of The People's Republic of China, 2011). On the one hand, it is to preserve detailed information about traditional handicrafts, which is cultural memory protection (Hua *et al.*, 2014, p.503), significantly helps salvage traditional handicrafts that are currently on the verge of disappearing. On the other hand, it lays the foundation for subsequent research, conservation and inheritance work. The data protection will continue, mainly through the staff and researchers of institutions and schools.

Display-oriented Protection, mainly through physical objects, written records, and multimedia forms in galleries and museums to display traditional handicrafts at home and abroad (Wang, 2016a, p.32), is the method of handicraft dissemination and popularisation of related knowledge (The National People's Congress of the People's Republic of China, 2011). Since 2003, **Government-led Protection** efforts have increasingly supported the display and promotion of handicrafts, particularly through institutional initiatives and funding schemes (Ministry of Culture and Tourism of the People's Republic of China, 2012; Hua *et al.*, 2014, pp. 503-504).

In recent years, **Productive Protection** has gained growing attention as a strategy that bridges preservation and development. This approach mainly encourages and supports inheritors to innovate and develop their skills based on adhering to traditional handicrafts and core techniques and to create works adapted to the needs of contemporary society based on traditional themes, so as to promote the functional transformation of traditional products and the enhancement of their aesthetic value (Ministry of Culture and Tourism of the People's Republic of China, 2012).

The definition of Productive Protection given by the Guiding Opinions of the Ministry of Culture on Strengthening the Productive Protection of Intangible Cultural Heritage in 2012:

The productive protection of intangible cultural heritage refers to a preservation approach where the authenticity, integrity, and continuity of intangible cultural heritage are maintained through productive practices. This method emphasises the effective transmission of intangible cultural heritage skills and utilises production, distribution, and sales means to transform intangible cultural heritage and its resources into cultural products. This method is currently implemented in traditional craftsmanship, fine arts, and the preparation of traditional medicinal materials within intangible cultural heritage. [11]
(Ministry of Culture and Tourism of the People's Republic of China, 2012)

Productive Protection is beneficial in protecting ICH in several ways. Firstly, it helps to enhance the vitality of the ICH itself and promotes its integration into people's daily lives. Secondly, it motivates the inheritors to continue the tradition and encourages more successors to take up the mantle, which lays the foundation for the safeguarding of the ICH. Thirdly, it helps to preserve traditional culture and promote its development, meeting the spiritual and cultural needs of the people. Finally, it promotes cultural consumption, expands employment opportunities, and contributes to sustainable economic and social development.

Education serves as the common thread across all protection strategies, providing the foundation for sustaining, adapting, and transmitting traditional handicraft knowledge and practices. Even when traditional handicrafts confront challenges from industrialisation or digitalisation, they remain fundamentally rooted in human creativity and craftsmanship.

This research introduces **Innovative Protection** as an original safeguarding strategy that expands the existing frameworks for ICH protection. It advocates a proactive integration of education, creative design, and technological innovation, serving as a catalyst for reimagining traditional handicrafts in ways that support their continuous

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[11] Original text: 非物质文化遗产生产性保护是指在具有生产性质的实践过程中，以保持非物质文化遗产的真实性、整体性和传承性为核心，以有效传承非物质文化遗产技艺为前提，借助生产、流通、销售等手段，将非物质文化遗产及其资源转化为文化产品的保护方式。目前，这一保护方式主要是在传统技艺、传统美术和传统医药药物炮制类非物质文化遗产领域实施。Translated by Zi in 2024.

evolution while preserving cultural authenticity. By positioning innovation as central to long-term heritage sustainability, Innovative Protection offers a forward-looking approach to safeguarding cultural traditions in contemporary contexts.

Rooted in design education, Innovative Protection forms the core pedagogical and methodological contribution of this research. It proposes a structured model for cultivating creative talent capable of revitalising traditional handicrafts through contemporary reinterpretation. In this sense, innovation is not only an outcome but a systematic educational strategy that supports cultural sustainability. By positioning education as the foundation of innovation, and innovation as a viable mode of protection, this research advances a practical, education-led model for its implementation.

3.3 Case-based Reflections on Handicraft Education and Talent Training

This section critically examines current teaching models in handicraft education through a comparative analysis of representative cases, which highlights both the diversity and limitations of existing approaches. The section clarifies the type of talent that current models often fail to support practitioners who navigate between tradition and innovation, theory and practice, and craft and design. In response, this research advocates for the cultivation of practitioners who not only possess technical skills and creative thinking but also demonstrate material sensitivity, cultural literacy, and interdisciplinary competence. The Section 3.4 further articulates the specific aims and characteristics of this talent group, laying the foundation for the pedagogical model proposed in this research.

3.3.1 Collaborative Education Modes

In recent years, collaborative models have emerged as effective strategies for innovating and revitalising traditional handicrafts through cross-disciplinary education and design-led intervention. This section compares two representative approaches: the Integration Mode of Intangible Cultural Heritage Cross-border Innovation developed by the Public Art Collaborative Centre (PACC) in China and the Craft Innovation Systematic Approach proposed by the Design Innovation and Craft Resource Centre (DICRC) in India.

The PACC, affiliated with the Shanghai Academy of Fine Arts, promotes the integration of ICH into contemporary life through a model that pairs ICH inheritors with designers, aiming to achieve *Traditional Handicraft + Modern Design = ICH in Contemporary Life* (Zhang, 2018, p.1). This collaboration selects crafts based on their technical characteristics and matches them with suitable designers, encouraging co-creation and innovation. Notable outcomes include cross-sector partnerships such as Phoenix Bicycles with Zunyi rattan weaving (2019) and HASHI Foods with Chishui bamboo weaving (2020). These projects not only enhanced the appeal and cultural value of products but also improved the livelihoods of inheritors and expanded the commercial potential of traditional handicrafts. By bridging tradition and modernity, this model facilitates two-way learning: designers gain an appreciation for craftsmanship, while inheritors are exposed to contemporary design thinking and new market opportunities (Zhang, 2016b, p.45).

DICRC's Craft Innovation Systematic Approach introduces an 11-step framework for innovation both in and through craft (Thakkar, 2021). Divided into three stages: documentation (Identify, Map, Record, Document), collaboration (Collaborate, Investigate, Initiate), and dissemination (Educate, Expose, Disseminate, Sustain). This model supports the entire craft innovation cycle, from knowledge preservation to education and market application. It emphasises the role of interdisciplinary

cooperation among designers, technologists, artists, and entrepreneurs to generate contextually relevant solutions.

While these two collaborative models demonstrate the potential of cross-disciplinary partnerships to revitalise traditional handicrafts, they also reveal several limitations and challenges in practice. Issues such as misaligned goals between designers and craftspeople, a lack of mutual understanding, unequal power dynamics, and sustainability concerns often hinder the effectiveness of collaboration (Papanek, 2019, p.293).

Table 3.5 summarises the key limitations of current collaborative models, revealing a critical gap between design and craftsmanship. In response, this research proposes a new pedagogical model to cultivate hybrid practitioners skilled in both design methods and craft techniques, aiming to build internal innovation capacity and reduce reliance on external collaboration.

Table 3.5 Collaboration problems

Collaboration Problems			
Problems in the collaboration process	(1)	Communication barriers	• Each group has its own professional strengths and may only have a rudimentary knowledge of other specialists. The inheritors have a shortage of design and expression skills, resulting in outdated traditional handicraft designs and techniques. Designers cannot design excellent works because they are unfamiliar with the relevant knowledge and techniques of traditional handicrafts.
			• The designers and inheritors have disparate aesthetics, consciousness, and thought, because of their different backgrounds. Therefore, there are some deviations in the collaboration process, such as understanding, aesthetics, culture, and even language.
	(2)	Innovation of the handicraft on the surface, not in-depth	• Designers do not understand traditional handicraft skills and culture well. Innovation refers to bringing about innovation in handicrafts in terms of product, material, and system. Traditional handicraft encompasses centuries of distilled wisdom, practices, aesthetics, and evolving dynamics. Traditional Chinese handicraft practices are embedded with inherent empirical knowledge, encompassing material understanding and making skills and a holistic and intuitive understanding of sustainability in the larger context.
			• Time constraints on project collaboration. Designers cannot acquire adequate knowledge of traditional handicrafts, especially techniques, within a limited time. Moreover, producing by hand takes considerable time.
Problems after collaboration	(1)	After collaboration, designers and craftspeople/inheritors return to their original lives and work, often with only a short creative experience. The problem of traditional handicraft innovation persists. The inheritors or craftspeople tend to repeat the familiar techniques to complete the design scheme because they usually do not get more improvement in other abilities in the collaboration process. Moreover, the inheritors/craftspeople often lack comprehensive abilities to satisfy the evolving needs of the people and society. In short, traditional handicrafts rely on others for development rather than by themselves.	
	(2)	The new generation of young people may lose interest in folk crafts, leading to the decay of ancestral folk craft skills. Besides, as a generation of inheritors gradually ages and passes away, there emerges the issue of succession, accelerating its decline. In addition, the proportion of artists or designers cultivated by higher education far exceeds that of learners or inheritors of traditional handicrafts. This severe imbalance also leads to difficulties in collaboration modes.	

3.3.2 Comparative Pedagogical Models

Although handicraft education allows for pedagogical flexibility, it often lacks unified guidance due to the absence of specific curricular models (Pöllänen, 2011, p.112; Pöllänen and Urdziņa-Deruma, 2017, p.137). As a result, teaching practices vary significantly across institutions and rely heavily on individual teachers' skills. This flexibility, while beneficial in some contexts, increases workload and inconsistency and often leads to an overreliance on traditional, skill-based instruction (Pöllänen, 2011, p. 113).

This section addresses this gap by comparing five representative cases and categorised into four pedagogical orientations:

- Design thinking-based (Case 1),
- Interdisciplinary/self-expressive (Case 2),
- Design-oriented pedagogy (Case 3),
- Technology-integrated (Cases 4 and 5).

Case 1 applies a sustainable design framework that blends the cognitive, emotional, and physical dimensions of making (Li, Ho, and Yang, 2019). While it strengthens empathy and innovation, it lacks clarity in product positioning and user awareness.

Case 2 treats craft as a medium of self-expression (Pöllänen, 2011), fostering personal identity and engagement. However, it underplays the extent to which audiences can understand and value the work produced.

Case 3 employs Design-Oriented Pedagogy (Sweet, 2013), emphasising teamwork and addressing real-world challenges. However, it risks oversimplifying the craft's cultural depth and spiritual context.

Case 4 merges digital fabrication and hands-on craft (Pöllänen and Urdziņa-Deruma, 2017) but overlooks the experiential and cultural immersion essential to traditional making.

Case 5 explores AR-based embodied learning (Ji, Tan and Hills, 2020), expanding learning contexts and sensory interaction. However, like Case 4, it prioritises technological novelty over tactile understanding and reduces the teacher's guiding role.

These models demonstrate innovation yet reveal common limitations: neglect of market and audience awareness (Cases 1 and 2); weak cultural and conceptual grounding (Case

3); limited attention to embodied experience (Cases 4 and 5); and underestimation of teachers' mediating role (Cases 1, 4, and 5).

Therefore, this research proposes a more integrated pedagogical model that connects design thinking, material engagement, and cultural literacy. By balancing cognitive and experiential learning and emphasising the teacher's guiding role, this model seeks to cultivate hybrid practitioners who possess not only technical skills and creative thinking but also a profound understanding of cultural heritage. The following section will further elaborate on the specific aims and characteristics of the talent this research intends to develop.

3.4 Talent Cultivation in Handicraft Education

This section explores the roles of teachers and students in handicraft education and their influence on the preservation of ICH. While teachers act as facilitators and cultural transmitters, students engage in hands-on learning that enables them to reinterpret and sustain traditional practices. It further clarifies the talent development goals of this research, laying the foundation for the pedagogical model proposed in Chapter 6.

3.4.1 The Role of Teachers and Students in Intangible Cultural Heritage Education

The preservation and transmission of ICH, particularly traditional handicrafts, rely heavily on effective educational practices. Central to this process are the roles played by both teachers and students within handicraft education. Teachers act not only as skilled practitioners and cultural custodians but also as facilitators who guide knowledge transfer, foster innovation, and nurture students' personal and professional development. Meanwhile, students engage deeply with craft skills and cultural meanings, becoming active participants in sustaining and revitalising their heritage.

This section examines how the dynamic interaction between teachers and students contributes to the sustainable safeguarding of ICH through formal education.

3.4.1.1 Developing Personal Design Competence through Handicraft Education

Engaging in handicrafts enhances creativity and essential skills like visual cognition, aesthetic comprehension, and manipulative ability, which are crucial for innovation (Root-Bernstein and Root-Bernstein, 2013, pp.17-19; Niedderer and Townsend, 2014, pp.150-152). However, the educational process in school nurtures students' creativity, preventing them from merely becoming craftspeople.

Handicraft education helps students "to see [their] ideas through from a technical point of view" (West, 1998, p.90). Teaching in the different phases of the handicraft process stimulates the students' "cognitive, sensory-motor, emotional, and social factors" (Ihatsu, 2002, p.19), and the tacit knowledge embodied in handicraft can be gained from an individual's practical expertise and insights (Dormer, 1997b, pp.147-149). Moreover, students develop a strong sense of dedication and responsibility by learning about handicraft materials and methods through real-life experience (Ihatsu, 2002, p.19). Later, by actively participating in society, they constantly reshape their interpretations of the world (Silverman, 1995; Pöllänen and Urdziņa-Deruma, 2017, p.118). This involves an approach to transferring and disseminating traditional handicrafts and associated knowledge from formal education to the community, highlighting the continuous influence of students, even when they have graduated. For example, when students return to their native communities and establish their own studios, it not only helps them make a living, but also revitalises their native tradition or traditional handicrafts through creative objects or products in which they fuse traditional Asian designs with contemporary styles (Barber and Krivoshlykova, 2006, p.29; Nugraha, 2012, p.103).

3.4.1.2 Teachers as Facilitators of Knowledge Transfer and Cultural Sustainability

In handicraft education in China, teachers follow a studio-based teaching method, taking part as consultants and project leaders, encouraging group assignments among students, and working together as a teaching team (Ou, 2019, p.17). The teachers - many of whom are artists or craftspeople - have an open-minded and intellectual approach towards handicrafts (Besten, 2012, p.198), motivating students to experiment independently. Therefore, teachers possess the ability to shape the implementation of handicraft education. Teachers serve as the maintainers (Paas and Palojoki, 2019, p.294) and bearers of Chinese traditional culture and craftsmanship, fostering students' sustainable development and fulfilling the role of developing a comprehensive, multifunctional education. Therefore, they are the impetus for developing traditional handicrafts.

Teachers have to improve their skills and related knowledge to facilitate evolving education and even answer students' various novel and unexpected questions teachers never expected. And teachers share their knowledge through reflection, reinterpretation and redistribution (Hawson, 2006, p.134), which is "a way to achieve immortality" (H Jackson Brown, 1991, quoted in Arp, 2016, p.627) for the traditional handicrafts.

In handicraft education, the focus on practical skills fosters students' innovation, enhances the transmission of traditional crafts, and cultivates social responsibility. As a key component of ICH, the preservation of traditional handicrafts requires integration into broader social contexts. Thus, education must not only train skilled individuals but also enable them to make meaningful contributions to cultural sustainability. These ideas are further developed in Section 8.2.1.4, which examines how the roles of teachers and students influence the sustainable development of traditional handicrafts.

3.4.2 Talent Development Focus

A way to address talent development in ICH is to create a platform that combines design, craft, and market resources that establishes a brand with a complete design, production, and sales system. To create a high-quality, multi-component innovation team needs to consist of managers, academics, creatives, technicians, and marketing professionals (He, 2020, pp.136-137; Hua, 2020, pp.169-170). The technicians could be categorised into engineering professionals and artisans, with the latter meticulously crafting products to meet design requirements. Marketing professionals are crucial in product promotion, sales, after-sales service, and feedback, contributing significantly to realising market value. The creative talents encompass not only creative design personnel upstream of the industrial chain, such as designers, arts and crafts artists, and creative planners, but it should include professional management talents downstream of the industrial chain who are good at transforming their works into industrial products (Zhang, 2010a, pp.36-37). Professionals in any of the roles mentioned above need to possess a certain level of understanding of traditional handicrafts to carry out their respective responsibilities effectively. For example, salespeople who lack knowledge of traditional handicrafts may struggle to interpret a piece's craft value and meaning when presenting it to customers. Additionally, a lack of familiarity with the crafting process could limit their ability to respond to customer inquiries about production techniques. Therefore, cross-border ICH talent is needed, which solves the problems in Section 3.3 and can enhance students' comprehensive capacity and adaptability for different roles. For example, from the perspective of innovation, they could be relevant designers or artists, or they could be operators or brokers of ICH from the market perspective. This research primary focus on jewellery design education as the micro-level objective.

Training Orientation:

This research aims to protect traditional handicrafts by cultivating a group of inheritors or successors who understand the value and significance of these crafts and skills, and who possess contemporary awareness and the ability to innovate. Such efforts would enhance the quality and level of protection and inheritance of traditional handicrafts, leading to innovation and development in both the content and style of these crafts. The goal of this research is to cultivate students who will become appreciators, identifiers, and transmitters of traditional handicrafts, with some of them eventually becoming inheritors and creators. Ultimately, this would result in the development of specialists with advanced professional skills and creative capabilities.

Training Objectives:

(a) Compared with the older generation of craftspeople/inheritors, the younger generation face considerable challenges and higher requirements for professional capabilities, not only a mastery of the traditional handicrafts but also have a sense of design and aesthetics. Hence, they need to have a comprehensive understanding of the traditional handicraft, from the selection and processing of materials, the techniques and processes of the production, the physical characteristics of the product, to the aesthetic characteristics, concepts and ideation.

(b) Compared with the craftspeople/inheritors who learned traditional skills from masters, the new ones have systematically been educated in modern design and marketing, thus are better able to adjust the market positioning of products to meet the diverse consumers and empathise with comporary users.

(c) In addition, they also have the advantages of knowledge and capabilities to reconcile personalisation with standardisation and mass production, on the other hand,

and are able to coordinate traditional handicrafts with modern technology, optimising processes, and reducing costs.

Students have to understand comprehensively and master handicraft-related knowledge and skills, while finding a better way of doing something "original, new and important in whatever field that breaks into a market or society" (Jain, Thakkar and Gharge, 2020, p.20). Therefore, this research proposes an innovative teaching model, which emphasises the crucial characteristics of practice and experience in the inheritance of traditional handicrafts. These features of practice play a role in promoting innovation.

3.5 Chapter Conclusion

This chapter has established the educational foundations crucial to this research by presenting a comprehensive analysis of the challenges and opportunities in preserving traditional Chinese handicrafts within the framework of ICH.

Section 3.1.1.1 begins with a thorough literature review that systematically outlines the multifaceted challenges facing traditional Chinese handicrafts, including commercialisation pressures, cultural disconnection, and the decline of skilled practitioners. This is further deepened through fieldwork-based regional case studies in Section 3.1.1.2, which provide concrete, localised insights into the specific struggles handicrafts face. These sections reveal education as both a significant contributor to existing problems and a critical avenue for their resolution.

Building on this, Section 3.1.2 discusses the role of education in ICH safeguarding and its alignment with the SDGs, emphasising education's pivotal role in promoting cultural sustainability and resilience.

Section 3.2 offers a historical overview of China's ICH protection policies, highlighting five developmental phases and key safeguarding strategies. Within this, Section 3.2.2

specifically reviews education-related policies, demonstrating not only the instrumental role of policy in ICH protection but also the fundamental importance of education within China's safeguarding framework. This policy analysis forms the essential theoretical foundation underpinning this research and frames the research's response to these national priorities.

In Section 3.3, a comparative analysis of domestic and international pedagogical models is presented, critically examining their strengths and limitations. This analysis highlights the need for a more integrated and holistic approach to talent development—one that strikes a balance between innovation, craftsmanship, and cultural literacy. The discussion in this section clarifies the specific type of practitioner this research aims to cultivate, directly informing the pedagogical model proposed in the following chapter.

Finally, Section 3.4.1 explores the roles of teachers and students in the educational transmission of traditional handicrafts, emphasising their essential contribution to the dynamic preservation and evolution of ICH. This further reinforces the centrality of education in sustaining ICH and explains why this research prioritises educational strategies.

Collectively, these analyses frame the rationale for the pedagogical model developed in the following chapters, which seeks to nurture practitioners capable of bridging craft and design, tradition and innovation, thereby contributing to the sustainable preservation of traditional handicrafts.

Table 3.6 Summary of research findings in Chapter 3

Finding No.	Description		Chapter Sections
F 3.1	• A general summary of the problems existing in traditional Chinese handicrafts: (1) Aesthetic consciousness (2) Traditional handicrafts require higher and more complex (3) Inheritor issue (4) Challenges of industrialisation and mass production (5) The traditional ways of passing on ICH and the practised environment are under attack (6) Requirement of high-quality raw materials		3.1.1.1
F 3.2	• The regionalisation of traditional handicrafts causes the specific issues and influencing factors of traditional handicrafts; take Qiandongnan as an example: (1) The local economy lags behind (2) Lack of collective consciousness (3) Blocked design (4) Educational retardation		3.1.1.2
F 3.3	• The reciprocal relationship between ICH and education demonstrates that ICH has had an active influence on educational practices, and ICH education supports the achievement of the SDGs.		3.1.2
F 3.4	The development and protection of traditional handicrafts undergo five stages in China.	• The embryonic stage of the development and protection of traditional handicrafts from the **early 20th century to the late 1940s.** *Formal education* emerged and became the primary method.	3.2.1.1
		• The second stage is from the **early 1950s to the late 1970s.**	3.2.1.2
		• The third stage is from the **late 1970s to the early 1990s.** *These two stages highlight the economic value of traditional handicrafts.*	3.2.1.3
		• The fourth stage is from the **1990s to 2003.** *The development of safeguarding in this phase is mainly reflected in four aspects: academic research, museums, the industry of traditional handicrafts, and government activities and policies.*	3.2.2
		• The fifth stage is from **2003 to now.** *The incorporation of new technologies, such as digital media, has increased the forms of protection for traditional handicrafts.*	3.2.3
F 3.5	• Technology intervenes in traditional handicrafts in two ways: (1) Innovative Intervention - as represented by the fifth protection strategy proposed in this research, **Innovative Protection**. (2) Preservative Intervention - as represented by the fifth stage of China's national ICH safeguarding framework, **Digital Protection**.		3.2.3 & 3.2.4

F 3.6	• The five primary protection strategies for traditional handicrafts are **Data-based Protection, Display-oriented Protection, Government-led Protection, Productive Protection,** and **Innovative Protection.** While education plays a role across all five strategies, it is particularly integral to Productive and Innovative Protection. Notably, this research proposes Innovative Protection as not only a core strategy for future sustainability but also as the foundation of an education-led model for innovative design in traditional handicrafts.	3.2.4
F 3.7	• The analysis of China's education-related ICH policies confirms the crucial role of both education and policy in ICH, providing the theoretical foundation for this research and aligning it with national strategic priorities.	3.2.2
F 3.8	• The problems and obstacles of cross-border cooperation for traditional handicrafts: (1) Problems in the cooperation process: communication barriers and innovation of the craft on the surface, not in-depth. (2) Problems after cooperation: the problem of traditional handicraft innovation still needs to be solved fundamentally; a new generation of young people has lost interest in folk crafts, which may lead to difficulties in cross-border collaboration modes.	3.3.1
F 3.9	• Traditional handicraft curricula mainly focus on four areas: **Design thinking-based, Interdisciplinary/self-expressive, Design-oriented pedagogy, and Technology-integrated.**	3..3.2
F 3.10	• Teachers and students have a sustainable educational impact, and their role in preserving and promoting traditional handicrafts emphasises the importance of higher education in preserving traditional handicrafts.	3.4.1
F 3.11	• This research aims to cultivate a group of inheritors or successors who understand the value and significance of traditional handicrafts, skills, contemporary consciousness and innovation ability, which can improve the quality and level of the protection and inheritance of traditional handicrafts and will lead to innovation and development in the content and style of traditional handicrafts. • The training orientation: a comprehensive understanding of traditional handicrafts, adapting to market demands, and being capable of dealing with and solving traditional handicraft dilemmas.	3.4.2

Notes: *The blue rows represent my original research findings or contributions*

Chapter 4 Contextual Foundations for Model Development in Contemporary Jewellery Education

This chapter addresses research objectives 2 and 3 by identifying innovative approaches to integrating traditional handicrafts into contemporary jewellery education and by establishing studio-based learning as the pedagogical context within which this research is situated. It begins with an analysis of current teaching systems in Chinese higher education, followed by a discussion of how contemporary jewellery is understood and taught. The chapter then examines the mediating role of design between jewellery and traditional handicrafts. It also identifies three innovation strategies through a case study of embroidery-based practice, which highlights the relevance of the Making and Empathy modules within the research model. These insights lay the conceptual and methodological groundwork for the pedagogical model proposed, as well as for the type of talent it aims to cultivate.

4.1 Educational Background of Jewellery Design in China

This section primarily outlines the research background of Chinese jewellery education from two aspects: first, the curriculum structure and teaching of jewellery programmes in Chinese universities; and second, an exploration of the origins of contemporary jewellery programmes in China, particularly the conceptual distinctions between traditional and contemporary jewellery. The aim is to establish the educational context in which this research is situated and to propose a teaching framework grounded in studio-based learning practices.

4.1.1 Curriculum Development and Studio-based Practice

Since the late 1980s, some scholars who returned to China after studying abroad have established jewellery studios at universities and introduced Chinese consumers to

contemporary jewellery (Wang, 2021, p.18). Teng Fei, a teacher at the Central Academy of Fine Arts (CAFA), was the pioneer in introducing the concept of contemporary jewellery, starting with a course on Experimentation with Materials in 1995, followed by a course on jewellery design in 2002 (Bao, 2017, p.174). As a result, jewellery design education in China gradually developed in two main directions (Wang, 2016b, p.264): one led by artists and scholars who returned after studying abroad and established jewellery studios at universities, introducing Western contemporary jewellery concepts and teaching models (Wang, 2021, p.22), represented by CAFA; the other focused on the commercialisation and market-oriented training of jewellery design, as practiced in the China University of Geosciences (Wuhan). Additionally, some vocational and technical colleges have also initiated jewellery design education tailored to commercial demands.

Since 2003, more and more Chinese students have chosen to study abroad (Cherry and Wang, 2016, pp.9-14), which is considered to be the second wave of bringing contemporary jewellery knowledge to China (Sun, 2023, p.18).

In China, various institutions have started to establish jewellery programs one after another, and teachers and students in colleges and universities have been engaged in artistic and commercial exploration within contemporary jewellery education. They have explored diverse approaches and methods in jewellery education, making forward-looking research contributions to developing jewellery education in China. In particular, it is essential to mention the following people: Teng Fei from the CAFA; Tang Xuxiang from the Academy of Arts and Design, Tsinghua University; Zheng Jing and Wang Kezhen from Nanjing University of the Arts; Zou Ningxin from Beijing Institute of Fashion Technology; Ren Jin from China University of Geosciences (Beijing); Ni Xian'ou and Wang Zhenghong from China Academy of Art; and Guo Xin from Shanghai Academy of Fine Arts (Guo, 2014, p.29; Wang, 2021, p.22).

These individuals have contributed to jewellery education by embodying the dual roles of both jewellery artists and educators, possessing advanced knowledge in contemporary jewellery, and imparting their philosophies and ideas to students. Their impact on future generations highlights the importance of education.

Summarising and outlining the educational context of jewellery in China (Table 4.1) is broadly as follows:

The first-year curriculum focuses on design fundamentals, aiming to cultivate a preliminary understanding of the discipline among first-year students and lay the foundation for second-year students to explore various specialised directions within the field of arts and crafts. In the second year, after selecting a specific major direction, students deepen their understanding of materials and craftsmanship through ***studio-based teaching*** and enter a course system that encourages the practical application of design through material utilisation. The third year is a stage that comprehensively combines professional learning and practice. Students not only master professional skills but also gain insight into societal developments, acquiring additional scientific and technological knowledge to support their learning and practice, thereby enhancing their problem-solving abilities. The fourth year comprises two crucial stages, namely experimental practical courses and thematic creative courses, aiming to prepare for graduation design project.

Table 4.1 Establishment of the jewellery programme in Chinese universities and the undergraduate curricula. Adapted from Jin, Guo and Wang, 2023; Li and Li, 2023; Qi, 2023; Wang, 2023a; Zhou, 2023

University	Department	Established Date	Name of the Jewellery Course	Undergraduate Programme Content
Nanjing University of the Arts	Arts and Crafts	1980	*Metal and Jewellery Art*	● The first-year curricula focus on design fundamentals. ● The second-year students begin specialist areas, mainly focusing on materials and crafts. ● The third-year students learn the professional content and master the skills, mainly focusing on practice to improve their problem-solving abilities. ● The fourth-year students need to complete their graduation projects.
Tsinghua University	Arts and Crafts	1999	*Metal Arts - Jewellery Crafts Laboratory*	● The first-year curriculum for the design fundamentals course focuses on knowledge dissemination. ● The second-year curriculum for the craftsmanship foundations course emphasises skill cultivation. ● The third-year curriculum for specialised practical course aims to develop both skills and values. ● The fourth-year curriculum for the comprehensive design training course concentrates on value shaping.
China Academy of Art	School of Crafts	2007	*Jewellery*	● The chain-shaped workshop teaching model integrates the labs and teaching courses of the arts and crafts specialities and opens up each laboratory so that students can access and learn different craftsmanship and use different materials in each specialisation.
Jilin University of Arts	Arts and Crafts	2011	*Metalwork*	● The arts and crafts curriculum utilises a workshop-style teaching model and incorporates professional competitions to cultivate innovative design talents. The courses primarily focus on breaking through the limitations of materials and exploring the potential for integrating material and craft. ● The graduation project is introduced into the experimental course in the second semester of the third year. In the fourth year, students face issues such as their graduation thesis, postgraduate entrance examinations, and career placement.
Guangzhou Academy of Fine Arts	Arts and Crafts	2018	*Goldsmithing and Jewellery*	● A five-module teaching system has been developed for the curriculum, with each module designed to provide practical, hands-on training. For instance, the first-year foundational courses include Introduction to Design, Graphic and Form Studies, Colour and Expression, and Introduction to Decorative Arts.

4.1.2 Understanding and Reflecting on Contemporary Jewellery in Chinese Jewellery Education

Chinese scholars have always had different opinions on contemporary jewellery. Professor Cao (2017, p.4) from the School of Arts and Design, Guangdong University of Technology, argues that contemporary jewellery now carries personal meanings or narratives that were redefined as wearable art, and research in this conceptual wearable art function has led to an exploration of narrative jewellery that was part of the contemporary jewellery movement. While Wang (2021, pp.19-20), a professor at Nanjing University of the Arts, Design School, posits that contemporary jewellery has emerged as a third alternative beyond art and design, serving as a bridge that facilitates communication between art and design, tradition and the future. However, the head of the jewellery department at CAFA, Liu (2022, p.90) states that contemporary jewellery is a creative practice influenced by contemporary concepts and a creative language based on different cultural regions.

I have experienced two educational paradigms. I completed my undergraduate studies at the China University of Geosciences Jewellery College, where I focused on commercial jewellery, with an emphasis on traditional Chinese elements and gemstone appreciation. In 2013, I pursued postgraduate studies at the School of Jewellery at Birmingham City University. Since 2015, I have been involved in educational work.

My postgraduate studies were marked by a period of significant confusion and perplexity as I navigated the shift from traditional to contemporary jewellery cognition. This phase represents a transitional period involving a confrontation of concepts with traditional jewellery. Similarly, in my teaching experience, I have noticed that Chinese students who engage with and create contemporary jewellery also experience a certain degree of difficulty or struggle. This is an inevitable part of the learning process, which involves a cognitive process of affirmation, negation, and finally, reaching a conclusion (Xu, 2013). My exploration of contemporary jewellery began during my postgraduate

studies, triggered by the conflict between contemporary and traditional jewellery. While actively involved in education and imparting relevant knowledge to students, I have constantly questioned and refined the essence of contemporary jewellery throughout the teaching process.
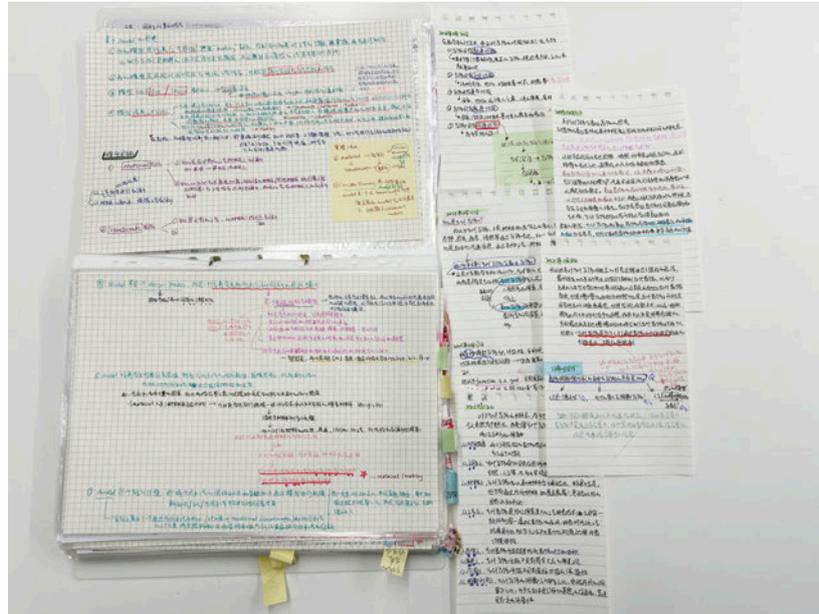
Figure 4.1 The research logs

Understanding contemporary jewellery indispensably involves using traditional jewellery as a comparative reference. I sorted out my research logs (Figure 4.1) of the comprehension of contemporary jewellery and compared it with traditional jewellery (Figure 4.2).
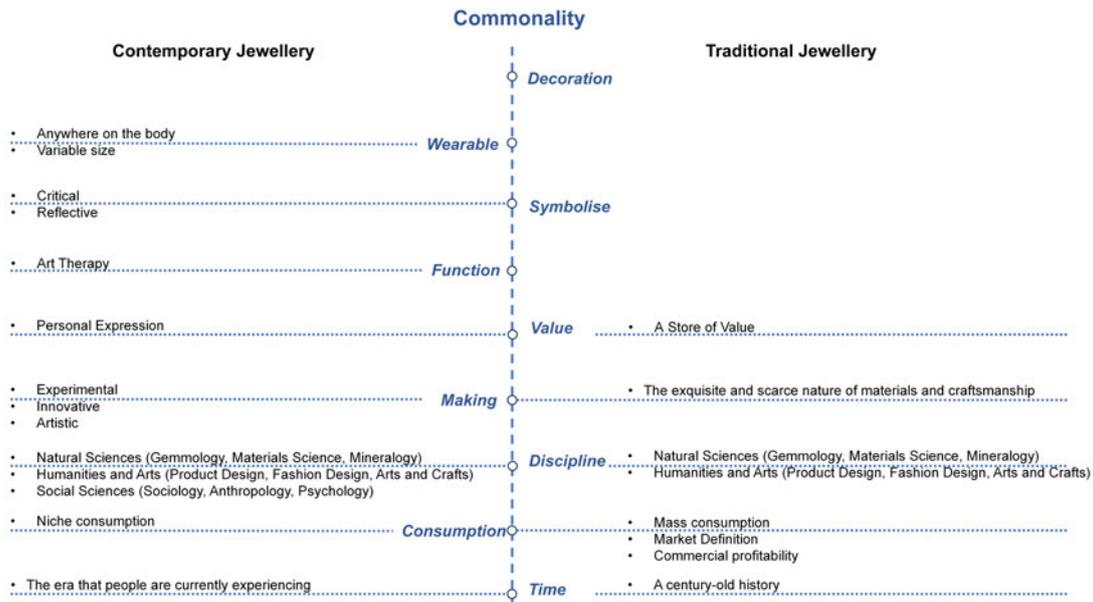
Figure 4.2 The difference between contemporary and traditional jewellery. Designed by Zi from research logs

Traditional and contemporary jewellery differ in design focus, audience, and market positioning, but both hold significant value within the broader field. This research is situated within the Jewellery Design discipline of China's Arts and Crafts education, where contemporary jewellery is regarded as a form of unrestricted self-expression. This open perspective, such as unbounded by materials, functionality, or wearability, provides a diverse and flexible foundation for the pedagogical model proposed in Chapter 6.

4.2 Traditional Handicrafts Promote Diversity in Contemporary Jewellery

This section analyses the issues present in the design of traditional handicrafts and examines how they can aid jewellery design, thereby exploring the role of design in protecting and continuing traditional handicrafts.

4.2.1 Application Issues of Traditional Handicrafts in Modern Design

In the realm of modern design in China, there is a growing emphasis on incorporating traditional handicrafts into design, which is being promoted in higher education institutions and society. There is a noticeable demand for products that showcase traditional handicrafts, which can be seen in the offerings at gift shops in museums, or tourist attractions and in design competitions focused on specific traditional handicrafts, like embroidery or ceramics.

In design education, there is a strong focus on teaching traditional handicraft techniques or skills, with students required to complete design projects related to these crafts. As a result, there are two main approaches to redesigning traditional handicrafts: applying techniques and reinterpreting the patterns, colours, and shapes found in traditional handcrafted objects.

Examining traditional handicraft products and competition entries in the market reveals a prevalent trend of reusing the visual elements - colours, shapes, and patterns - of traditional handcrafted objects. This has resulted in a symbolic design approach similar to collage and appropriation methods. For instance, designers incorporate original patterns or motifs from the Mogao grotto murals (dating back to 366 A.D.) into various products such as cups, fabric bags, and mouse pads to achieve visual differentiation. While such applications may create a sense of novelty, they often lack deeper engagement with the cultural context or craft techniques behind the original artefacts. As a result, the differentiation remains superficial, confined to their material carriers. As Papanek (2019, p.292) describes:

> *Real changes - basic changes - mean retooling or rebuilding; the costs are prohibitively high. But to repaint and rearrange surfaces (interior or exterior) is just as exciting to a manipulated public and can be done on the cheap.*

Innovative design in craft techniques is scarce, and typically the focus of artists, resulting in a relatively small market share. Much of the current design of traditional

handicrafts relies on surface-level appropriation, lacking engagement with contemporary lifestyles or spiritual needs. As Papanek (2019, p.293) describes, this results in "skin design" - design that is decorative but devoid of deeper meaning.

To move beyond this superficiality, traditional handicraft design must be recontextualised within everyday life. This requires a human-centred approach that not only means understanding people's needs, spiritual connections, relationships with nature, and ways of constructing their lives, but also integrates craft techniques and visual elements, addressing the historical, narrative, and emotional dimensions embedded in these crafted objects. By doing so, design can help preserve their cultural essence while fostering meaningful spiritual and emotional connections.

4.2.2 Rethinking the Role of Traditional Handicrafts in Contemporary Jewellery Design

Since the 1960s, many contemporary jewellery practitioners, particularly in Europe, have viewed traditional craft with scepticism. For example, Gijs Bakker described the craft as outdated and restrictive to creative exploration (Besten, 2012, p.194). This view reflects a broader tendency in contemporary jewellery to prioritise conceptual freedom over technical tradition. Some argue that craftsmanship may sometimes constrain imagination or that poor workmanship can compromise design outcomes (Lanllier and Pini, 1989, p.8; Dormer and Turner, 1994, p.32).

Some designers, such as Eric Spiller, favoured digital production methods and deemed hands-on making unnecessary. However, his background in education was skills-based, and the emphasis on technical abilities allowed him to develop his ideas without being limited by a lack of technique (West, 1998, p.39). In contrast, Stanley Lechtzin drew inspiration directly from observing and experimenting with craft processes (Dormer and Turner, 1994, pp.17-18).

Following World War II, developments in materials and technologies significantly transformed jewellery and silversmithing. As David Pye (1988) emphasised, materials do not possess intrinsic quality; instead, their value is realised through skilled workmanship (West, 1998, p.32). Craftsmanship thus remains essential in unlocking the potential of materials and shaping their expressive capacity in jewellery design.

Two exemplary cases highlight how traditional techniques continue to inspire innovation and the relationship between traditional handicrafts and contemporary jewellery. An instance that exemplifies the contemporary value and innovative application of ancient techniques is David Huycke's (2010) doctoral thesis, titled *The Metamorphic Ornament: Re-Thinking Granulation*. The second example pertains to Giovanni Corvaja's technological study, in which he devised a weaving technique to render gold as pliable and delicate as fur, retaining sufficient strength to be used in the making of jewellery (Besten, 2012, p.201). These examples show how deep knowledge of craft techniques can fuel contemporary experimentation and creativity.

Making jewellery at the intersections of art, design, and craft often blurs disciplinary boundaries (West, 1998, p.54, p.100). As explored in Section 3.2.3, digital technologies have introduced new opportunities for reinterpreting traditional practices, including innovations in filigree (Figures 4.3 and 4.4). However, the small-scale, studio-based production model remains relevant and respected in the post-industrial age, not because of nostalgia but because of the cultural meaning embedded in handcrafted processes. Therefore, making jewellery requires a thorough understanding of crafts and techniques, including their potential and limitations (Lanllier and Pini, 1989, p.7).

Ultimately, traditional handicrafts contribute to jewellery design not only by transmitting technical skills but also by preserving and reinterpreting cultural meaning. Understanding the material and symbolic value of traditional handicrafts is essential for informed innovation. This dual understanding of traditional handicrafts as both technical and cultural resources underpins the pedagogical model proposed in Chapter

6, where traditional handicrafts serve as both a source of inspiration and a method for cultivating contemporary creative practices (Figure 4.5).

Figure 4.3 TOTWOO smart jewellery collection: TIME MEMORY, with filigree craft

Figure 4.4 Zhang Fan's jewellery work, 'Yan Yi', using filigree, breaks through the constraints of traditional shapes and gives contemporary design concepts

Traditional Handicrafts

① National identity;
② Provision of design elements;
③ Technical expression or artistic effect;
④ Technical support;
⑤ Infusing historical, cultural, and other connotations to enrich the meaning and symbolism of jewellery;
⑥ Uniqueness.

① Cultural heritage and innovation;
② Techniques for upgrading traditional handicrafts;
③ Enhancing the design of traditional handicrafts to meet contemporary aesthetics and needs;
④ Support for design concepts;
⑤ Promoting the integration of traditional handicrafts with new technologies and materials;
⑥ Embodying the modern values of traditional handicrafts;
⑦ Innovations in wearing methods.

Contemporary Jewellery

Figure 4.5 The interplay and interdependence between contemporary jewellery and traditional handicrafts

4.2.3 Design as a Catalyst for the Transformation of Traditional Handicrafts

Traditional handicrafts embody the oldest and most adaptable and fluid knowledge in human culture, and refer to making things (Nugraha, 2012, p.107). Traditional handicrafts encompass both tacit and explicit knowledge, which is acquired through experiences in producing objects and provides critique and correction (Nugraha, 2012, p. 106). While it could serve as therapy for social illnesses (Nugraha, 2012, p.106), such as homogenising products or culture, consumerism and its implications, and throwaway culture (Ihatsu, 2002, p.124). On the other hand, the craftspeople constantly work with this knowledge linked to contemporary technology, not only imbuing traditional handicrafts with new relevance and value but also embracing digital technologies to explore new processes and creative strategies (Press, 2007, p.252, p.265), leading to the emergence of 'new traditional handicrafts' within contemporary culture.

Traditional handicrafts are pivotal in conveying their substantial values, meanings, identities, and wisdom through their "objecthood" (Risatti, 2007, p.34) and are not confined to concepts and logical propositions expressed through language and text. They also extend to perception, emotion, and memory as embodied experiences and, through practice, enable individuals to learn, master, and pass on culture. They are embedded in daily life, providing a sense of connection to their roots and history (Nugraha, 2012, p.105). As such, it is essential to preserve and integrate traditional handicrafts into contemporary and future contexts (Nugraha, 2012, p.107).

Craftspeople play a crucial role in redeveloping traditional handicrafts to suit contemporary culture, utilising their craft knowledge and creativity to keep them alive and relevant (Nugraha, 2012, p.107) (Figure 4.6).
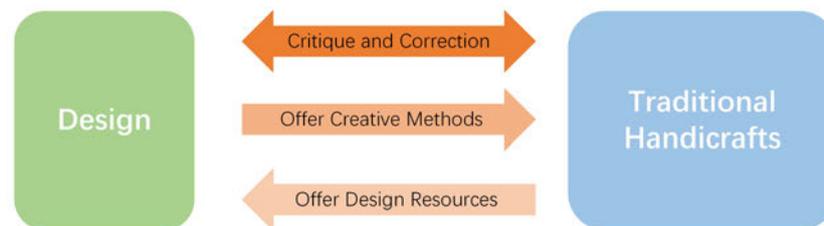
Figure 4.6 The complementation relationship between traditional handicrafts and design

Design is "an inventive act that builds something additional to the existing reality" (Motta and Conti, 2014, para.1), and designers can "explore contexts and situations in an original way, bringing new ideas and results that are not simply a technical solution of problems... the ability to invent new ones or to look at old problems with new eyes" (Micelli S., 2011, quoted in Motta and Conti 2014, para.10).

Design, as a driving force and method of innovation, is crucial in addressing the primary challenges of traditional handicrafts. It enables the revitalisation of traditional techniques through material innovation and technological integration. While design can support sustainability, it also risks being co-opted by consumerism (Baudrillard, 1998, p.78; Papanek, 2019, p.IX)). Nevertheless, the moral and symbolic dimensions of craft offer a critical lens through which design can reclaim cultural depth.

This research employs design as a means to support the continuity and reinterpretation of traditional handicrafts in contemporary contexts. Jewellery, as a material and symbolic object, functions as a medium to embody traditional craftsmanship and to communicate the cultural values, narratives, and aesthetics embedded in traditional handicrafts. In this approach, design becomes a temporal bridge, drawing from the past, engaging the present, and shaping new forms for the future (Figure 4.7).
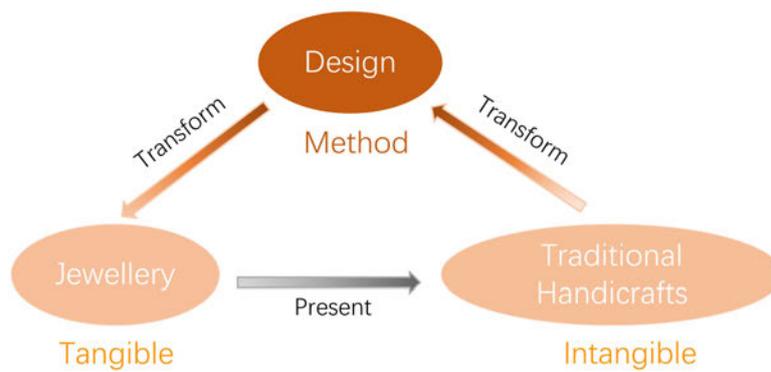
Figure 4.7 Design as a method

4.3 Three Innovative Approaches to Traditional Handicraft Design: Insights from Case Analysis

Although often regarded as outdated, embroidery presents both creative challenges and opportunities for today's designers. Many independent brands are incorporating stitching techniques into contemporary jewellery, reimagining the medium through innovative combinations of form, material, and meaning.

This section examines three distinct approaches through case analysis, revealing how embroidery is being adapted in response to evolving cultural, technological, and consumer contexts. These cases also illustrate two core components of the proposed model developed in this research: the Making module, which emphasises material experimentation and craft processes, and the Empathy module, which focuses on the communicative, emotional, and cultural resonance of traditional handicrafts in contemporary design practice.

4.3.1 Transmission of Culture and Tradition

The case studies of Cong Ma and the brand Céleste Mogador highlight two distinct yet equally valuable approaches to cultural reinvention through craft.

Cong Ma, founder of 1107 Jewellery in New York, draws inspiration from the Silk Road, aiming to reintroduce audiences to the richness of Chinese history and aesthetics. Her work Time to Knock Off (Figure 4.8) features double-sided silk embroidery structured around a silver wire skeleton, reflecting a direct engagement with traditional Chinese craft techniques and motifs. Her practice responds to the fading visibility of cultural heritage by embedding tangible historical references within contemporary forms.

Figure 4.8 Time to Knock off earring

In contrast, Céleste Mogador, established in 2016 by Pascale Nivet Bernetiere, embraces embroidery as a deeply personal and expressive medium. Each piece is hand-embroidered, with the designer herself managing the creation and communication of her work. Her work was inspired by multiple cultures, including Sami and Inca ornaments and Chinese masks. The Célestial Eye Brooch (Figure 4.9), now emblematic of the brand, emphasizes facial features rendered in vibrant silk threads. For Bernetiere, embroidery is not only an artistic practice but also a therapeutic and existential act: "Embroidery is my manual anxiolytic" (Céleste Mogador, 2016).

Figure 4.9 Yellow Rhinestone Celestial Eye brooch

Both brands contribute to the integration of tradition and contemporary culture. However, their approaches differ significantly. Cong Ma's creations convey a more direct expression by incorporating traditional Chinese cultural elements. In contrast, Céleste Mogador intertwines personal experiences and insights, opting for a more diverse range of elements to articulate a return to traditional roots. Both, however, demonstrate how traditional craftsmanship can serve as a medium for contemporary cultural discourse, reflecting identity, memory, and emotion.

These case studies begin to explore questions that are further developed in Chapter 6, particularly within the Empathy module, for example: How can traditional handicrafts serve as a communicative tool in design? How might audiences engage with the historical depth and technical intricacy of a craft through a contemporary jewellery piece? These works suggest that embodied knowledge, conveyed through material and process, plays a key role in bridging past and present within design practice.

4.3.2 Customer Contact

ARRO is a Japanese jewellery brand that incorporates elements of nature, such as birds, insects, and plants, into vibrant, three-dimensional designs using materials like polyester, rayon, and brass. Its embroidery mask strap (Figure 4.10), developed during

the COVID-19 pandemic, transforms a functional object into playful jewellery through a swirling form inspired by the idea of a 'vortex'. While the piece is partially handmade, ARRO primarily uses machine embroidery to strike a balance between creativity and production efficiency.

Figure 4.10 Embroidery mask strap/glass code

In contrast to Céleste Mogador's artist-led approach, ARRO adopts a more commercial model, offering insight into how traditional embroidery can be adapted for broader markets. Both cases offer valuable insights into the Empathy module of the IEM model discussed in Chapter 6, particularly regarding how jewellery can respond to users lived experiences, convey affect, and foster connections between traditional craftsmanship and modern lifestyles.

4.3.3 Integration of Multiple Materials/Crafts

Beatrice Mayfield is a textile jewellery artist specialising in hand embroidery, known for integrating traditional techniques, such as blackwork, beading, crewel, and ribbon work, with contemporary design. Her pieces often combine intricate stitches, prints, and embellishments to create rich textures and layered visual effects (Figure 4.11).

Figure 4.11 Yellow Rose Petal brooch

Taiwanese jewellery designer Heng Lee responds to the digital era by transforming mobile phone images of natural scenes into laser-cut and embroidered jewellery. His work combines traditional embroidery with advanced technologies, such as 3D metal printing, to produce a flattened yet vividly digital representation of nature (Figure 4.12).

Figure 4.12 Floral print of Formosa

The brand She's focuses on handcrafted hair accessories inspired by natural landscapes and feminine aesthetics. Combining machine and hand embroidery with techniques such as weaving, She's creates pieces that blend romantic imagery with commercial appeal, as seen in its 2017 collaboration with the British Museum (Figure 4.13).

Figure 4.13 British Butterfly Dream Suriname Vertical brooch

These three cases demonstrate the experimental potential of embroidery across disciplines and material processes. Mayfield's practice is rooted in narrative and material exploration, Heng Lee's work merges craft with digital fabrication, while She's bridges artisanal technique and brand-driven design. These examples reflect the exploration of the Making module in Chapter 6, where traditional craftsmanship intersects with innovation to expand the expressive capacity of traditional handicrafts in contemporary design.

In summary, the analysis of case studies illustrates that embroidery in contemporary jewellery design is shaped by evolving contexts. Changes in consumer aesthetics, shifts from handmade to semi- or machine-assisted production, and the introduction of diverse new materials have all contributed to the transformation of embroidery practices. These developments not only reflect broader cultural and technological shifts but also open up new avenues for innovation. Contemporary designers explore embroidery's potential through pattern recombination, a diversity of techniques, expanded colour palettes, and symbolic reinterpretation. Crucially, embroidery offers a unique visual and emotional language, which other materials or methods may not replicate. As

Annichiarico *et al.* (2009, quoted in Motta and Conti, 2014, para.4) suggest, embroidery represents "a purely manual process ... a metaphor of human creativity itself, that brings together craftsmanship, design, and aesthetic sensibility combined with today's technological developments, by placing the … designer's work halfway between tradition and modernity".

4.4 Chapter Conclusion

This chapter establishes the educational context for the research by identifying studio-based learning as the core pedagogical environment in Chinese jewellery education and exploring innovative ways to integrate traditional handicrafts into contemporary design practices. Section 4.1.1 examines current teaching practices and institutional systems, highlighting the structural and cultural context for the proposed pedagogical model of this research. Section 4.1.2 clarifies how contemporary jewellery is understood in this research, outlining the conceptual perspective that informs both my creative practice and teaching experiments. These discussions lay the groundwork for the development of the proposed pedagogical model and the type of talent it aims to cultivate.

Section 4.2.1 identifies key challenges in current efforts to innovate within handicraft practices. Section 4.2.2 discusses how traditional craftsmanship contributes to contemporary jewellery design through material knowledge, symbolism, and process. Building on this, Section 4.2.3 positions design as a transformative mediator between traditional handicraft and jewellery, not merely as an aesthetic layer but as a critical link for innovation and reinterpretation.

Section 4.3 presents a case study of embroidery-based jewellery practice, through which three innovative design approaches are identified for integrating traditional handicrafts into contemporary design education. This case analysis also highlights the

significance of the Making and Empathy modules within the proposed model, illustrating how these dimensions inform the model's conceptual development.

Table 4.2 Summary of research findings in Chapter 4

Finding No.	Description	Chapter Sections
F 4.1	● The structure of Chinese jewellery education follows a **studio-based** pedagogical environment. The first year emphasises design fundamentals; the second year introduces jewellery courses grounded in materials and techniques; the third year integrates professional knowledge with practical application; and the fourth year culminates in a final creative project.	4.1.1
F 4.2	● In the context of Jewellery Design within the Arts and Crafts Department of Chinese Design Education, contemporary jewellery is seen as the free self-expression of people through the form of jewellery, unrestricted by any limitations (such as crafts, materials, size, wearability, and value).	4.1.2
F 4.3	● Two issues with traditional handicrafts in modern design are the lack of techniques/skills application and a tendency towards symbolism and superficiality design.	4.2.1
F 4.4	● There is a dynamic interplay between contemporary jewellery and traditional handicrafts, each influencing and enriching the other.	4.2.2
F 4.5	● Design, as a transforming medium, converts traditional handicrafts into tangible jewellery, showcasing their cultural significance.	4.2.3
F 4.6	● Traditional handicrafts in contemporary jewellery have three innovative methods of design: **traditional culture, customers, and multiple materials/ other crafts**	4.3

Notes: The blue rows represent my original research findings or contributions

CHAPTER 5: Methodology

This chapter outlines the methodological foundation of this practice-led research, in which design functions both as a subject and as a methodological framework. Grounded in qualitative and quantitative approaches, the chapter introduces a three-stage research structure - Collecting, Building, and Sharing Knowledge - that guides the development and application of the IEM model. Each stage incorporates specific research and teaching methods, demonstrating how creative practice, reflection, and pedagogy are interwoven. The chapter also details how methods were integrated into teaching to bridge research and design education, and it establishes a stage-based data analysis approach, providing a structured method for examining data.

5.1 Rationale for a Practice-led Research

This research is grounded in a practice-led paradigm, where practice is not merely an outcome but a primary mode of inquiry that actively generates knowledge. This approach is particularly suited to craft and design disciplines, where traditional knowledge is often tacit and embodied, and cannot be fully accessed through theoretical frameworks alone. Practice allows for direct engagement with materials and cultural processes, making it an appropriate methodology for addressing challenges in knowledge transmission within traditional handicrafts (Frayling, 1994, p.1; Candy, 2006, p.3).

Rooted in hands-on making and reflective design practice, my research was initiated through practical engagement, where questions, challenges, and research strategies emerged organically from within the process (Gray, 1996, p.3). The research began by identifying obstacles within craft education and the continuity of traditional handicrafts, challenges that could not be addressed solely through theoretical inquiry. Practice served both as context and method, enabling me to uncover relevant issues in real-world

teaching and design settings, such as student disengagement with traditional handicrafts, difficulties in knowledge transmission, and the absence of innovative pedagogical models for heritage education.

To address these, I developed and tested design-led teaching experiments, workshops, and exhibitions. These activities facilitated iterative exploration and refinement of both the pedagogical model and design strategies. This methodological approach aligns with the understanding of design as an iterative, reflective, and purposeful process. As Schön (1983, p.68) and Zimmerman *et al.* (2007, p.494) argue, designers generate knowledge through cycles of action and critical reflection.

In this research, design was employed not only as a method for creating artefacts, workshops, exhibitions, and pedagogical content but also as a methodological logic that structured the entire research process. It informed how problems were identified and addressed through practice, and how findings were articulated through design action. Specifically, the design-led approach shaped the research through three interconnected stages: collecting, building and sharing knowledge.

These stages collectively underpin the development, iteration, and validation of the IEM model, which emphasises the importance of hands-on making and sensory engagement. Through tactile interaction, material exploration, and embodied experience, the model fosters deeper empathy with traditional handicraft practices, allowing for new understandings to emerge and be expressed through narrative and design.

5.2 The Role of Practice in Knowledge Generation

While Section 5.1 outlines the rationale for a practice-led paradigm, this section turns to how knowledge is generated through practice, especially in the act of making. In a practice-led context, making becomes a dynamic and embodied form of inquiry

(Crouch and Pearce, 2012, pp.47-49; Nelson, 2013, pp.8-9), where knowledge and meaning are generated through material engagement, sensory experience, and iterative reflection. This is particularly important in craft-based research, where much of the knowledge is tacit, context-dependent, and transmitted through the process of doing.

Explicit knowledge refers to the teachable and observable aspects of craft, such as tools, techniques, and materials; while tacit knowledge encompasses the embodied understanding gained through sustained and reflective making. As Pears (1971, pp. 26-27) suggests, one may know how to ride a bicycle without being able to articulate the mechanics of balance; similarly, in traditional handicrafts, knowledge is often internalised rather than verbalised. Artists and craftspeople, therefore, function not only as skilled practitioners but also as carriers of embodied knowledge. They are individuals who preserve, transmit, and creatively reinterpret traditional practices. Through ongoing engagement with materials and processes, they generate knowledge that is both generalisable and transferable (Smith and Dean, 2009, p.3).

This dual character of knowledge - tacit and explicit - is especially relevant to my research. It directly informs the design and development of the IEM model, which positions hands-on making as a core mechanism for both learning and inquiry. Section 6.1.2 explores how leading international jewellery and craft design programmes integrate 'making' as a central pedagogical and investigative strategy. These cases demonstrate how hands-on engagement fosters both cognitive understanding and cultural insight, reinforcing the model's emphasis on making as a critical module of knowledge production.

In this research, making is understood not as a passive reproduction of technique, but as an active and empathetic engagement. It enables a deeper, embodied understanding of traditional handicrafts through sensory immersion and reflective action, allowing knowledge to emerge through a combination of doing, feeling, and thinking in context.

Building on this understanding, the IEM model incorporates a framework for knowledge generation through practice, which is discussed in Section 6.2.2.2. This framework demonstrates how making facilitates a continuous cycle of discovery, interpretation, and communication of cultural values and technical skills. It also offers a structured approach for linking individual creative processes with broader educational and community-based contexts, reinforcing the model's role in supporting heritage continuity through experiential learning.

5.3 Research Design and Methodological Implementation

My doctoral research adopts a practice-led paradigm, where practice is not a by-product of research, but the central means through which knowledge is generated. Within this paradigm, I selected design as the primary methodological framework. This choice reflects design's unique capacity to integrate making, thinking, and reflecting, making it particularly suited to exploring the preservation and innovation of traditional handicrafts through education.

Design functions on multiple levels throughout this research. First, it is embedded in creative practice, which is evident in my own jewellery design, in student works, in the structure and content of teaching experiments, and the curatorial strategies for exhibitions. Second, design serves as the foundation for developing the IEM model. The data generated through these diverse design practices, such as field research, interviews, workshops, and teaching activities, provided essential input for the model's formation, iteration, and validation. Third, and most importantly, design provides a meta-structure: it offers a way to organise and orchestrate the research itself. It shaped the research plan, the formulation of research questions, the application and sequencing of methods, and the conceptual relationships between them.

Design is thus more than a tool for generating artefacts; it is a methodological lens and a structuring principle. As Zimmerman, Forlizzi, and Evenson (2007, p.496) argue, design allows inquiry into the human condition through "reflective practice, intellectual perception, and intentional choice". Schön (1983, pp.94-95) similarly emphasises the iterative, reflective process by which designers evaluate and refine their own methods. Design, in this research, is both the process and the logic through which inquiry unfolds.

The following subsections outline how to design, structure, and guide the research process, supporting the development of methods, the organisation of activities, and the integration of insights. These aspects illustrate that design functioned not only as a means to generate knowledge but also as an overarching framework for organising and directing the research itself.

5.3.1 Mixed Methods

To capture both the material and interpretive aspects of the research process, this research employed a mixed-methods approach that combined qualitative and quantitative strategies. This approach enabled a more holistic understanding of the research questions by triangulating data across multiple forms (Tashakkori and Teddlie, 2003, pp.15-17; Creswell and Creswell, 2018, p.14). Qualitative methods were prioritised, given the nature of practice-led research and its emphasis on lived experience, reflective action, and cultural meaning. As Schön (1983, p.3, p.93) argues, professionals - including designers and educators - often engage in a "reflective conversation with the situation", where knowledge emerges from doing and thinking in action. This reflective, experiential process aligns closely with the aims of qualitative inquiry, supporting the generation of rich, context-sensitive insights throughout the research.

To clarify the relationship between the different methods used in this research and how they contributed to the development of the IEM model, Figure 5.1 serves as a roadmap

to trace how design as a methodology orchestrates a cohesive and iterative research structure.

Figure 5.1 Overview of research methods and their interrelationships

5.3.2 Participant Recruitment and Ethical Considerations

This research involved a range of participants whose perspectives and engagements were essential to the development and testing of the IEM model. Participants were purposefully selected based on their relevance to the research objectives, particularly their potential to contribute to, reflect on, and respond to design-led educational practices relating to traditional handicrafts. Three main groups were involved:

● Undergraduate students enrolled in design programmes at Sichuan Fine Arts Institute (SCFAI);

● Traditional craftspeople and artisans engaged in cultural heritage practices;

● Cultural practitioners and individuals engaged in ICH preservation initiatives.

Student participants were recruited directly through my regular teaching activities at SCFAI, forming a core part of the iterative experimentation central to this practice-led research. Craftspeople and cultural practitioners were identified through fieldwork, including visits to craft villages and cultural events, as well as through networks formed via participation in external heritage preservation activities. These interactions allowed for in-depth conversations and observations that enriched the contextual grounding of the research.

This research has obtained permission from all participants, respecting their rights and clearly outlines its purpose and the exclusive use of data for doctoral research. I maintained contact with participants during data collection to verify information, inform them of research outcomes, and clarify the intended use of the data transparently. I shared some data publicly, some with internal personnel, and some exclusively accessible to me.

The research involves four types of participants:

1) Questionnaires were distributed online, and anonymous responses were received. Some questionnaires were conducted during teaching, where I verbally explained the survey's purpose and data usage, securing students' consent.

2) Interviews were conducted in two forms: Anonymous interviews, including Miao embroidery interviews and focus groups, with data saved as text and audio recordings only for doctoral research analysis and not shared publicly. Non-anonymous interviews were conducted via video, involving teachers and students who fully understood the interview's purpose and agreed that it could be videoed and used in the exhibition publicly. I shared the video link with the participants.

3) I independently organised the workshop (see Section 6.2.3.3) and project (see Section 8.1.2), inviting students and teachers to participate. Students were informed of

the main objectives, participation methods, and duration and had the right to withdraw at any time. The research outcomes of the workshop belong to the students themselves, while project outcomes belong to the team. Permissions were obtained from students, and I have applied for copyright under my name to protect the rights to the project's work.

4)   I applied and adopted my research model to my teaching courses, and students did not have the option to withdraw, as it was a required part of their university curriculum. Teaching experiments and graduation guidance were part of my teaching duties. Students were informed of the teaching objectives and tasks. The teaching outcomes and data are publicly available, reviewed by peers and relevant university departments, and finally archived by SCFAI. Notably, graduation work was also reviewed by the public through the exhibition.

While this section outlines the rationale and general process of participant engagement, detailed demographic information and the specific roles of each participant group are presented within the relevant chapters. By situating participant data within the context of specific activities, such as teaching experiments, interviews, workshops, and exhibitions, the research highlights how each group contributed to the practical development and iterative refinement of the IEM model. This structure ensures a clearer understanding of how participation was embedded in practice.

5.3.3 Research through Design and Iterative Model Development

The research adopted research through design approach (Frayling, 1994, p.5), where practical experiments are used to probe research questions and generate theoretical insights. This approach allowed the IEM model to be developed iteratively: initial concepts were tested through practice, refined in response to feedback, and re-tested in new contexts. This method provided a scaffold for the gradual emergence of theory from practice, ensuring the model was grounded in real-world application. Rather than

isolating design as an abstract concept, the research treated design as a live, dialogical process, constantly reshaped by context, materiality, and reflection.

To articulate the research structure and ensure clarity of methodological progression, the research is organised into three interrelated stages (Figure 5.2) - Collecting Knowledge, Building Knowledge, and Sharing Knowledge - which form a research process of discovery, construction, and dissemination. These stages reflect the logic of practice-led research, where knowledge is emergent, situated, and context-responsive. Additionally, these stages offer a coherent methodological structure that facilitates the development and evaluation of the IEM model across both academic and applied contexts.
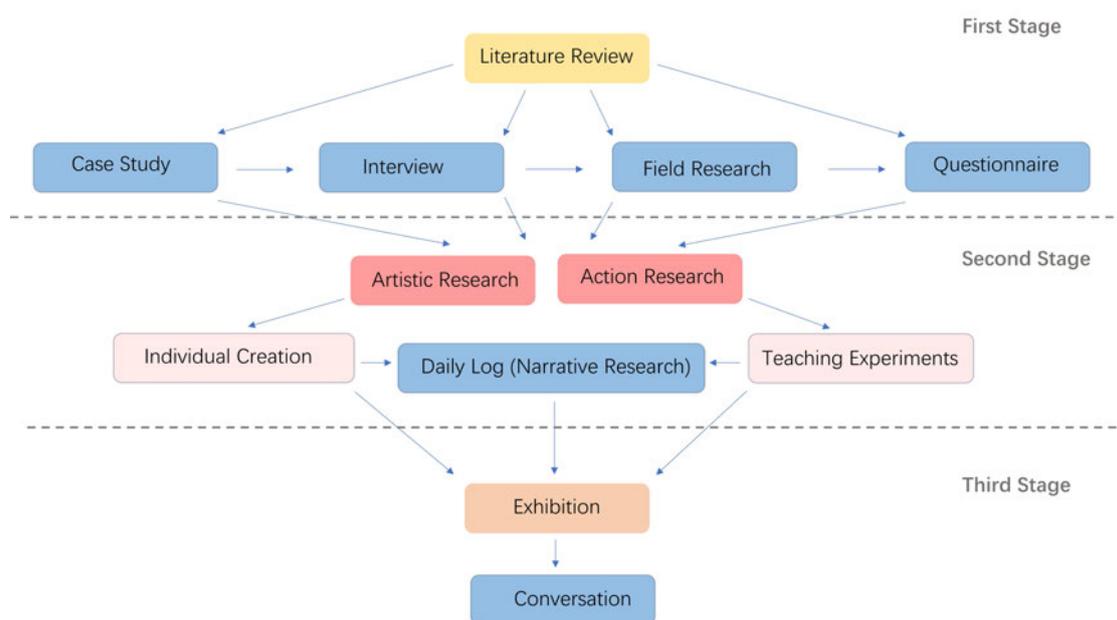
Figure 5.2 Diagram of relationships among research methods

Stage 1: Collecting Knowledge - Establishing Theoretical and Contextual Foundations

The first stage of this research focused on exploring the background of the research problem, establishing hypotheses and questions, and gathering foundational data to inform the design of the IEM model. This stage employed five complementary methods:

theoretical review, case study analysis, semi-structured and focus group interviews, ethnographic fieldwork, and questionnaire survey. These methods were chosen to support a robust understanding of the research context from both academic and practice-based perspectives.

- *Literature Review*

The literature review in this stage served to establish a robust theoretical foundation and clarify the scope and direction of the research by synthesising interdisciplinary studies across ICH transmission, design education, and craft innovation. This process helped define the research questions and objectives while grounding the IEM model in both theoretical insight and policy relevance.

Primary sources included official policy documents, government reports, and strategic plans issued by institutions, such as the Ministry of Culture and Tourism of the People's Republic of China, the State Council, and the Ministry of Education. These were crucial in mapping out the evolving landscape of Chinese policy on ICH protection and craft transmission. These policies not only foreground the cultural significance of traditional craftsmanship but also position it within national education and innovation agendas. Importantly, the analysis of these policies revealed alignment with SDGs, particularly SDG 4.

Secondary sources included scholarly articles, conference proceedings, and reviews drawn from databases such as CNKI, Scopus, and Web of Science. To visualise research trends and thematic correlations, the bibliometric tool VOSviewer was employed, revealing growing academic interest in integrating traditional handicrafts and design education (see Appendix 7).

Moreover, the review offered critical insights into the conceptual ambiguities surrounding 'traditional handicrafts' in both Chinese and international discourse.

Drawing on works from scholars and in tandem with Chinese cultural policy texts, this review helped articulate the characteristics, values, and classifications of traditional handicrafts. This conceptual refinement was necessary for situating the research within design-based disciplinary frameworks and for identifying a suitable operational definition to underpin the development and application of the IEM model.

Crucially, the literature review was not a linear or isolated process. It remained iterative throughout the research, supporting the evolution of research aims, informing the practice-based phases, and helping refine the methodological choices. This aligns with the view that a literature review in design research is a transversal activity, one that continuously interacts with empirical findings and reflective practice (Thomas and Hodges, 2010, pp.20-21). It thus served as a dynamic scaffold, not only for identifying gaps in existing studies but also for situating this research as a timely and meaningful intervention in the intersection of cultural heritage, design education, and social innovation.

- Case Study

Case study research is widely employed in design and education fields to explore contemporary phenomena within their real-life contexts. According to Yin (2012, p.5), case studies enable researchers to understand what is happening or has happened, particularly when the boundaries between the phenomenon and its context are not clearly defined. This method is especially valuable for examining the complex interplay of economic, cultural, historical, and political factors that shape innovation in traditional handicrafts (Crouch and Pearce, 2012, pp.120-121). In the context of design research, case studies are not only exploratory, descriptive, and explanatory (Yin, 2003, p.5), but also pedagogically instructive (Kennedy, 1979, pp.668-671), making them essential for studying practice-based knowledge and design education models.

The instrumental case study, which facilitates insight into or understanding of the case, is examined in depth and reveals the essence of the issue (Stake, 2008, p.137). Section 4.3 analyses the market demands, cultural narratives, and material or craft innovations embedded in individual or brand-led embroidery practices. The purpose is to reveal key elements that can inform the construction of the IEM model and the instructional design for studio-based teaching experiments. These cases demonstrate how contemporary designers incorporate traditional techniques, providing actionable references for model components and teaching experiments.

In contrast, collective case studies are employed in Sections 3.3 and 4.1.1 to compare multiple cases and gain a broader understanding of a complex issue (Stake, 2008, p.138). In Section 3.3, by analysing a range of existing teaching models, the case studies reveal their strengths and limitations, thus helping to clarify the research objectives and define the core problems this research aims to address. Additionally, the findings contribute to the iterative development of the IEM model, providing empirical evidence for its structure and pedagogical rationale.

Furthermore, Section 6.1.2 compares jewellery design programmes in Chinese and UK universities, including curricula, teaching philosophies, and studio practices, to identify shared teaching methods and priorities that are instrumental in distilling the three core components of the IEM model. Additionally, it complements the teaching models case studies by providing a broader educational context for integrating traditional handicrafts into design education.

The inclusion of both instrumental and collective case studies in this research supports a multi-layered exploration that bridges the gap between individual practice, educational system structures, and design theory. These case studies not only enrich the empirical basis of the research but also contribute to the validation and refinement of the IEM model in subsequent phases. As Swann (2002, p.60) notes, such approaches

offer critical insights that inform design frameworks and practice-led inquiry, making them indispensable to the methodology of this research.

- Interview

Semi-structured and focus group interviews were conducted with craftspeople, educators, and students to obtain first-hand insights not available in the literature (Nugraha, 2012, p.30). These interviews deepened the understanding of the sustainability, transmission, and design processes of traditional handicrafts (Burns, 2000, p.425; Morris, 2015, p.3). For example, interviews with embroidery artisans (Section 3.1.1.2) not only informed the comparative case analysis (Section 4.3) but also helped validate preliminary observations and refine the criteria for analysis. Building on these insights, subsequent fieldwork was conducted to further verify key findings in real-world contexts and gather additional qualitative data (Patton, 2002, p.342). In parallel, focus groups with SCFAI students (Section 6.2.3.1) provided feedback on the IEM model, contributing to its iterative development.

- Ethnographic Method: Observation and Field Research

Ethnography, originally rooted in anthropology, integrates observation and interviews to interpret cultural practices in context (Patton, 1990, p.206; Emerson, Fretz and Shaw, 1995, p.2; Crouch and Pearce, 2012, pp.74-96; Neuman, 2018, p.280). As a complementary method to interviews and focus groups, ethnographic fieldwork in this research was conducted after preliminary interviews with participators in Guizhou and Hangzhou (see Sections 3.1.1.2 and 8.1.2). This sequential approach enabled the validation and extension of insights gained through earlier conversations, enhancing the credibility and richness of the data.

Fieldwork took place in the Qiandongnan region of Guizhou, involving home and studio visits, local embroidery markets, and museums. Observing artisans' everyday practices in their cultural environments generated context-specific questions and

reflections that interviews alone could not capture (Patton, 2002, p.21; Thomas and Hodges, 2010, p.29; Crouch and Pearce, 2012, p.96; Neuman, 2018, pp.280-281). As Crouch and Pearce (2012, p.93) argue, combining observation with interviews enriches interpretation and supports a deeper understanding.

Ethnographic research also supports design education by helping students engage with cultural contexts and reflect critically on user interaction and craft practice (Crouch and Pearce, 2012, pp.101-102). In line with this, I led SCFAI students on field visits to Guiyang, Zunyi, and Tongren (Section 6.2.3.3), where they gathered first-hand data for design development. It demonstrated that ethnographic research, while central to this research, is also a transferable and practical method for students. It was, therefore, integrated into the IEM model's toolkit as a recommended research method to guide students in conducting contextual and culturally grounded design investigations.

- *Survey Research: Questionnaire*

Questionnaires, incorporating both open-ended and closed-ended questions, offer an efficient and structured way to collect data from a wide range of participants, providing valuable input for subsequent stages of research (Thomas and Hodges, 2010, p.28; Crouch and Pearce, 2012, p.129, p.133). While questionnaires can be used independently, they are particularly effective when integrated with other methods, such as observation and interviews, to help validate and enrich qualitative findings (Crouch and Pearce, 2012, p.130). In this research, questionnaires were employed to extend and triangulate insights from case studies and teaching practice, forming a key part of the mixed-methods approach.

Three separate questionnaires were conducted using the online platform Wenjuanxing (问卷星), ensuring anonymous participation and streamlining data collection and documentation.

First, a survey targeting university teachers and students explored the current status of traditional handicraft courses within Chinese jewellery design programmes (see Section 6.2.3.1 and Appendix 1-1.6).

Second, pre- and post-course questionnaires were used to assess changes in students' perceptions and practices concerning craft innovation before and after the teaching experiment (see Section 6.2.2.2 and Appendix 1-1.2 & 1.3).

Third, a post-workshop questionnaire gathered feedback from students regarding the outcomes of the workshop activities (see Section 6.2.3.3 and Appendix 1-1.7).

These surveys not only provided empirical evidence to support the iterative development of the IEM model but also demonstrated the role of questionnaires as intellectual tools within the design research process. As noted by Crouch and Pearce (2012, p.129), questions serve both to define design problems and to guide the development of appropriate solutions. In this research, questionnaires were also embedded in student learning activities, equipping students with the methods to collect relevant data and inform their design decisions, thus reinforcing the role of questionnaires within the IEM model's recommended toolkit.

The use of questionnaires in this research served a dual purpose: to evaluate teaching outcomes and to promote transferable research strategies for students.

Stage 2: Building Knowledge - Participatory Practice and Model Iteration

The second stage of this research was designed to advance, test, and refine the IEM model through participatory, practice-based methods. This stage emphasised the generation of new knowledge through doing, making, teaching, and reflecting. By embedding research within creative and educational activities, it aimed to bridge theory and practice. Through a combination of artistic research, action research, and narrative

research, this stage integrated individual practice, teaching experiments, and reflective documentation to iteratively test and refine the IEM model in real-world contexts, enabling both theoretical grounding and practical validation.

- Artistic Research: Individual Practice

Artistic research, defined as "the artist produc[es] an artwork and research[es] the creative process" (Hannula, Suoranta and Vadén, 2005, p.5), is widely recognised as a legitimate mode of inquiry in art and design disciplines and is central to this research. It often overlaps with practice-led research and is particularly well-established in art and design institutions (Nugraha, 2012, p.14). As Smith and Dean (2009, p.3) explain, artistic research encompasses both the process of creating an artwork and the critical reflection, documentation, and theorisation of this process by the artist-researcher.

Artistic research reveals the tacit, often overlooked dimensions of creative work (Davey, 2006, p.24) and produces symbolically expressed, generalisable knowledge (Hannula, Suoranta and Vadén, 2005, p.154; Smith and Dean, 2009, pp.3-6). In the context of traditional handicrafts, artworks serve not only as final outputs but also as manifestations of embodied and experiential knowledge, encapsulating both tacit and explicit skills and cultural values. These forms of knowledge underscore the significance of non-verbal modes of communication (Smith and Dean, 2009, p.3).

In this research, artistic research was employed to explore how traditional handicrafts could be reinterpreted and revitalised through individual practice. Here, individual practice refers not only to my own creative work as a practitioner-researcher but also to the practices of students within teaching experiments. Their individual engagement with materials, techniques, and concepts contributed valuable insights to the development and validation of the IEM model. My own practice was carried out in parallel with these teaching activities, helping to bridge the divide between creative practice and pedagogical theory (Papanek, 2019, p.345). In this way, artworks produced by both teacher and students functioned as outcomes of pedagogical interventions and

as tools for critically evaluating the model's capacity to support the sustainable development of traditional handicrafts.

- Action Research: Teaching Experiment, Project and Workshop

Action research, a recognised component of practice-led research (Candy, 2006, p.3), focuses on the cyclical improvement of practice through observation, reflection, planning, and action (Swann, 2002, p.55; Candy, 2006, p.16; McNiff and Whitehead, 2006, p.9; Ary, Jacobs and Sorensen, 2010, p.518; Crouch and Pearce, 2012, p.141). It is particularly suited to educational settings, allowing practitioners to develop personal theories and critically evaluate their own actions (Candy, 2006, p.16; McNiff and Whitehead, 2006, pp.5-32; Crouch and Pearce, 2012, pp.138-139).

In this research, action research was employed to address the continuity and reinvention of traditional handicrafts through a series of teaching experiments, projects (including a graduation project), and a workshop. These activities provided opportunities to iteratively test and refine the IEM model, generate feedback, and assess its effectiveness in real learning environments. The cyclical and reflective nature of action research enabled me to engage deeply with participants' feedback gathered through observation, discussion, and questionnaires, thereby strengthening the model's empirical foundation. Furthermore, these activities facilitated the introduction of research tools, such as surveys and ethnographic observations, within teaching contexts. Participants' understanding, application, and critique of the model helped evaluate its usability and adaptability in practice. As such, action research served as a means of both improving educational practice and contributing to theoretical development.

While artistic research seeks to generate understanding and meaning through individual creative practice, action research focuses on improving practice through participatory engagement (Nugraha, 2012, pp.16-17). Despite their subjective and situated nature, the integration of these approaches in this research provided a dynamic and iterative framework for investigating the IEM model. Artistic research enabled the development

of embodied and symbolic knowledge, while action research facilitated the refinement of the model through teaching activities, feedback, and critical reflection. Together, these methods supported the construction, application, and evaluation of the model, ensuring both theoretical rigour and practical relevance.

- Narrative Research: Teaching Log

Narrative research enables the exploration of practice through self-reflective modes, such as autobiographies, autoethnographies, and life histories (Crouch and Pearce, 2012, pp.103-110). These methods provide insights into the development of ideas, institutions, and practices by tracing their evolution and contextual complexity (Franzosi, 1998, p.532; Crouch and Pearce, 2012, p.110).

Narrative data, such as journals, teaching logs, or personal reflections, help uncover underlying values, ideologies, and assumptions that shape practice (Crouch and Pearce, 2012, p.82, p.97, p.106; Silverman, 2014, p.299). In this research, I consistently maintained a teaching log to document key moments of teaching and research, including insights from student questions, spontaneous dialogues during fieldwork, and self-reflection. These logs served both as a reflective practice and as a tool for tracking the development of the IEM model.

The culmination of this narrative process was a book titled *Walking alongside the Handicrafts Working alongside the Handicrafts,* which systematically reviewed my doctoral journey. Assigned an ISBN, the book provided a critical overview of my practice, including project documentation, teaching methodologies, artworks, and related publications. A companion exhibition catalogue offered visual evidence of the outcomes, further validating the research's impact. These records also contributed to articles and conference papers, demonstrating the value of narrative research in practice-based academic output.

Moreover, this approach was integrated into teaching activities, where students were encouraged to maintain reflective journals or logs, thereby facilitating their understanding of their own design process. Also, it informed the development of the IEM model's methodological toolkit by demonstrating the value of reflective documentation in creative research.

Stage 3: Sharing Knowledge - Dissemination and Evaluation

The third stage of this research focused on disseminating and validating the knowledge developed through the earlier stages. Sharing knowledge is an essential part of this research, which views knowledge generation as a dynamic and collective process. By making the research visible and accessible through public engagement activities, such as exhibitions, conversations, and academic dissemination, this stage aimed to enhance the model's relevance, credibility, and applicability. These methods not only communicated the research outcomes but also enabled further feedback, reflection, and refinement, thereby strengthening the model's theoretical and practical foundations.

- Exhibition

Exhibitions are increasingly recognised as valid forms of research output in art and design disciplines. As Smith and Dean (2009, p.28, p.236, p.244) highlight, exhibitions are both inspirational and effective for dissemination, capable of conveying embodied knowledge in ways that written texts cannot. In this research, exhibitions served multiple roles: a site of public engagement, a method of final data collection, and a tool for presenting the iterative outcomes of the IEM model. The exhibitions in London and Cheltenham provided opportunities to observe audience responses to the integration of traditional handicrafts, especially embroidery, into contemporary jewellery design. These interactions offered insights into how the IEM model communicates cultural continuity and innovation through tangible outputs.

Moreover, exhibitions documented students' and my own practice-based work, making visible the pedagogical outcomes and the evolving model in action. Crucially, the exhibitions made visible the multiple roles undertaken by both teachers and students in the preservation and reinterpretation of traditional handicrafts. This not only demonstrated the pedagogical outcomes of the research but also highlighted a key dimension for evaluating the IEM model in practice. Chapter 8 provides a detailed analysis of how the exhibitions functioned as both a dissemination method and an evaluative framework for assessing the model's impact.

- *Conversation*

Conversation was employed as a qualitative method to gather, exchange, and co-construct knowledge. Defined by Thomas and Hodges (2010, p.31) and Crouch and Pearce (2012, p.121) as a flexible means of gathering data, conversation captures rich, contextual insights that help build a holistic understanding of the research. It also demands a critical awareness of the participants' roles and settings (Drew and Heritage, 1992, p.21; Silverman, 2014, pp.337-348).

This research used conversation as a practice-based method across lectures, conferences, seminars, and exhibition dialogues. Importantly, these conversations were conducted in both Mandarin and English in both China and the UK. This multilingual and cross-cultural approach enhanced the accessibility and inclusivity of the discussions, aligning with the IEM model's aim of facilitating cultural transmission and mutual understanding in the continuation and development of traditional handicrafts.

These engagements allowed the dissemination of research findings while also gathering critical feedback, fostering interdisciplinary exchange, and deepening the reflection on the IEM model's relevance. One notable event was a public dialogue held during the Cheltenham exhibition, which involved staff and students from the University of Gloucestershire. This conversation not only contextualised the research but also

enabled spontaneous interaction, questions, and resonant insights from a diverse audience. The feedback and reflections collected during these events were instrumental in assessing how effectively the model translates across different contexts.

From Methodology to Pedagogy: Embedding Research through Design

These three stages also reinforced the model's pedagogical dimension by embedding research methods directly into teaching activities. More broadly, the use of design as methodology not only shaped the methodological choices of this research but also informed the structure of the research itself. Simultaneously, it enabled the development of the IEM model as both a conceptual framework and a practical pedagogical tool.

By using design as a mode of inquiry, the research generated context-specific methods that could be embedded into the IEM model and applied by both teachers and students.

For example, in the Empathy module of the IEM model, students were encouraged to apply quantitative methods such as questionnaires to explore user needs. This facilitated broader data collection and supported user-centred design, which is an essential principle of the model. In parallel, qualitative tools such as reflective journals and interviews helped students critically engage with cultural contexts and personal experiences, enriching the interpretive dimension of their design work. These methods supported their ability to integrate research into the creative process, addressing a common challenge in design education: the disconnection between research and design outcomes (Crouch and Pearce, 2012, p.127).

It will be further detailed in the Toolkit section, which outlines specific pedagogical and design methods aligned with each module of the IEM model. In this way, the selection of research methodologies was not only aligned with the developmental goals of the IEM model but also instrumental in designing its pedagogical applications.

5.3.4 Integrating Analysis and Practice: A Three-Stage Framework

To respond to the practice-led and inherently subjective nature of this research, this section outlines how data was analysed and how the research methods contributed not only to the development of the IEM model but also to its theoretical grounding.

This research employed an analytical strategy tailored to the nature of artistic and action research. Instead of a singular data analysis method, a processual, stage-based analytical framework was adopted, structured around three methodological stages of the research:

Collecting Knowledge: This stage employed thematic coding to analyse interviews, field research, and survey data. Codes were grouped into thematic clusters reflecting recurring concerns and perspectives (see Table 5.1).

Building Knowledge: This stage involved iterative teaching experiments and personal practice. Data, such as teaching logs, student work, and practitioner reflections, were analysed using reflective and narrative approaches, tracing how idea of the IEM model were developed and refined (see Table 5.2).

Sharing Knowledge: This stage served both analytical and evaluative purposes by gathering external insights through exhibitions, dialogues, and publications (see Table 5.3). These public engagements were not only dissemination tools but also analytic opportunities to interpret audience feedback and cultural reception.

By structuring the research within this analytical framework, the research strikes a balance between academic rigour and the situated, flexible nature of creative practice (Smith and Dean, 2009, pp.5-6, pp.19-21, pp.27-28). This allowed findings to be analytically constructed and grounded in lived experience and reflexive methodologies.

Table 5.1 Evaluation of the *Collecting Knowledge* Stage

Methods	Description	Section in doctoral thesis	Aim	Evaluation Mechanism
Literature Review	Review of theories related to ICH and traditional handicrafts.	Sections 2.1 and 2.2	A critical review of contemporary literature addressing key theories on intangible cultural heritage, traditional handicrafts, and jewellery education in the Chinese context.	● **Thematic coding of responses** ● **Contextual cross-checking and reflection** ● **Triangulation with literature and theory**
	Investigation into the classification systems of traditional handicrafts.	Section 2.3		
	Review of strategies for protecting traditional handicrafts.	Section 3.2		
	Literature review of the challenges facing traditional handicrafts in China.	Section 3.1.1		
	Review of contemporary jewellery education in China.	Section 4.1		
	Clarification and determination of terminology used in the model.	Section 6.1.2	Defining key terms in the model ensures its clarity and broad applicability.	
Interview	Conducted in-depth key informant interviews with 13 individuals involved in embroidery-related practices.	Section 3.1.1.2	Using primary data from key informant interviews, it investigates the complex issues involved in sustaining embroidery traditions.	
	Conducted in-depth interviews with 8 high-level graduates from SCFAI.	Section 6.2.3.1	Using SCFAI as a case study, it examines how traditional handicrafts are integrated into jewellery design education, focusing on curriculum structure, teaching approaches, and its educational significance.	
	Interviewed 4 jewellery educators at SCFAI (including 2 associate professors, 2 lecturers, and 1 teaching assistant), along with several of their students.	Section 8.2.1.2		
Questionnaire	Feedback from Chinese university teachers and students regarding the integration of traditional craftsmanship in jewellery design courses.	Section 6.2.3.1	It aims to provide a comprehensive understanding of the current status and challenges of integrating traditional handicrafts within jewellery education in Chinese universities.	
	Students' feedback on their understanding of embroidery and its design complexities following teaching experiments and workshops.	Sections 6.2.2.2 and 6.2.3.3	By collecting student feedback, it gains valuable insights into the effectiveness of the proposed pedagogical	

			model, which in turn supports its ongoing refinement and optimisation.
Case Study	Five Chinese art and design universities were selected for investigation, focusing on their jewellery programmes and undergraduate curricula.	Section 4.1.1	It establishes the research background by examining jewellery design education in Chinese universities, supporting the development of a pedagogical model based on higher education practice.
	Comparative analysis of handicraft teaching models and educational approaches was conducted.	Section 3.3	It aims to identify gaps in existing research and to delineate the unique contributions of this research.
	Six case studies were chosen from embroidery design, including three individual designers and three brands, for in-depth examination.	Section 4.3	It aims to identify the potential role of embroidery design in jewellery and to explore three innovative approaches to incorporating embroidery within jewellery design.
	The jewellery curricula and teaching methods of three British and three Chinese universities were analysed comparatively.	Section 6.1	It supports the development of the three core components of the research model.
Field Research	Field research was conducted in Qiandongnan, Guizhou province, encompassing museums, local markets, and the studios or homes of craft inheritors.	Sections 3.1.1.2 and 8.1.2	It aims to further validate the existing challenges associated with Miao embroidery and to collect supplementary information.
	Additional site visits included Guiyang, Tongren, and Zunyi in Guizhou province, covering museums, landmark buildings, natural landscapes, and rural villages.	Section 6.2.3.3	It aims to prepare primary sources for the project design by acquiring design inspiration and elements, gaining an understanding of local culture, and studying traditional handicrafts.

Table 5.2 Evaluation of the *Sharing Knowledge* Stage

Methods	Description	Section in doctoral **thesis**	Aim	Evaluation Mechanism
Artistic Research (Individual Creation)	Personally designed and created three series of works applying the proposed pedagogical model.	Sections 6.2.1.1.4, 6.2.1.2.1 and 6.2.2.3	It aims to refine, enhance, test, and validate the proposed teaching models.	● **Iterative testing and refinement of the IEM model**
Action Research (Teaching activities)	Conducted three teaching experiments, one workshop, one project, and supervised a graduation project.	Sections 6.2.1.1.3, 6.2.1.2.3, 6.2.2.2, 6.2.3.3, 8.1.1 and 8.1.2		● **Peer feedback and internal self-assessment**
Daily Log	Documented discussions, teaching insights, learning experiences, and various forms of interaction with students throughout the doctoral research period.	Sections 4.1.2 and 6.2.1.2.1	It aims not only to facilitate the iterative reflection and refinement of the IEM model but also to provide evidence and reflective materials to support the doctoral thesis writing.	● **Student engagement and developmental feedback**

Table 5.3 Evaluation of the *Building Knowledge* Stage

Methods	Description	Section in doctoral thesis	Aim	Evaluation Mechanism
Exhibition (Conversation event)	Showcased student works alongside my own, demonstrating the outcomes of teaching experiments, projects, and workshops, as well as the impact of the proposed pedagogical model.	Section 8.2.1	It aims to present research outcomes and gather feedback, thereby facilitating qualitative analysis within the research.	● **Public audience feedback, observed engagement** ● **Academic and cross-cultural critique** ● **Peer review, citation, academic response**

5.4 Chapter Conclusion

Chapter 5 has outlined how design, as both a methodology and a mode of inquiry, shaped the overall research process and enabled the development of a three-stage methodological framework: Collecting, Building, and Sharing Knowledge. Each stage identified appropriate teaching and design strategies, which informed the practical development of tools for both educators and learners, detailed in the toolkit section.

This structure also supported the establishment of a stage-based analytical framework, in which each stage integrated analysis with validation. Collecting Knowledge involved thematic coding of qualitative data; Building Knowledge drew on iterative teaching experiments to support the reflective refinement of the IEM model; and Sharing Knowledge incorporated public engagement to gather external feedback on the model's relevance and impact.

Through this integrated framework, the research process remained iterative, analytical, and critically situated within a practice-led context. Design thus operated not only as the subject of investigation but also as the structural and pedagogical foundation through which knowledge was generated, applied, and rigorously evaluated.

CHAPTER 6: Practical Experiments

Having established the context behind my teaching practices, this chapter presents the design methods embedded in traditional handicrafts and demonstrates how innovation can enhance their value. This has been achieved through a series of works that employ my practices and teaching experiments and have been developed through four exemplary models and research activities (three teaching experiments, three individual practices, and one workshop) conducted both before and during the research, to illustrate how traditional techniques - particularly embroidery - can inform contemporary jewellery design. The chapter ultimately proposes a pedagogical model for integrating traditional handicrafts into contemporary design education.

Figure 6.1 outlines the iterative development of the IEM model across six chronological stages, from preliminary research and the creation of the initial model to refinement and final validation. Each stage reflects how insights gained from practice informed subsequent improvements. The final IEM model offers a structured approach for integrating traditional handicrafts into design education. One design project and one curatorial project are examined in detail in Chapter 8 to evaluate and validate the model.
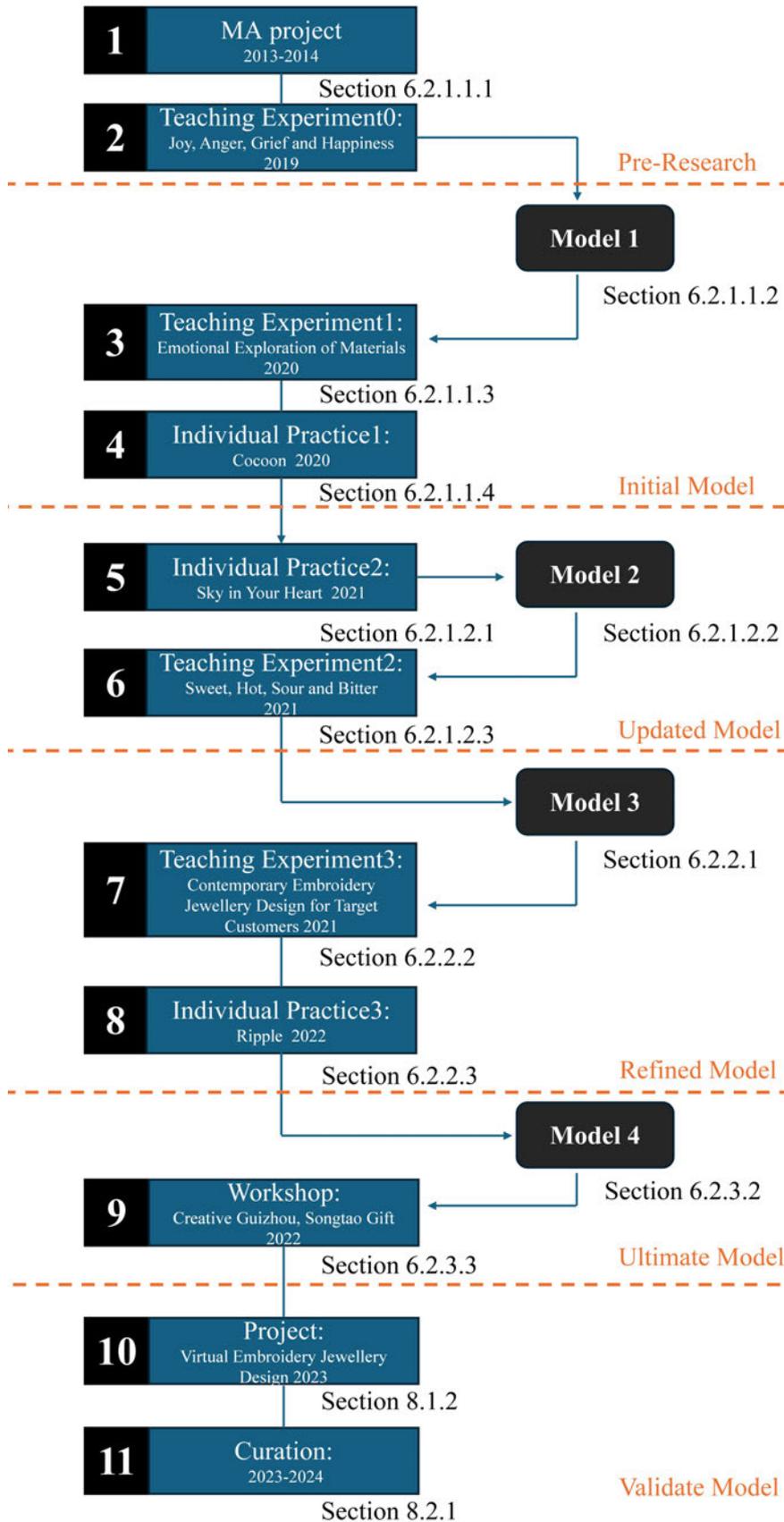
Figure 6.1 The map of the development of the models

6.1 Fundamental Components of Model

Education is the bridge that passes on the knowledge and skills of traditional handicrafts to the next generation (UNESCO, 1995, p.182). Significantly, higher education has broken the limitations of traditional handicraft inheritance and is one way to deconstruct and reconstruct the art, knowledge, and assembly of traditional handicrafts through creative methods, thus enabling traditional handicrafts to explore their development paths. It can help traditional handicrafts to achieve "[regeneration] through [their] own efforts" [12] (Papanek, 2019, p.XIX). This section aims to develop a reference for the model components by analysing the factors that influence the development of traditional handicrafts and providing a summary of key teaching points.

6.1.1 Rationale for Adopting the UK Jewellery Education Model

Through a comparative review of international craft education systems, this research identifies the UK jewellery education model as a key reference. While countries like Germany, Italy, and Japan offer structured models rooted in vocational training or heritage preservation, these often limit learner autonomy and innovation. In contrast, Greinert (2005) classifies the training model of the UK as following a market-liberal model, which prioritises learner autonomy, creativity, and adaptability rather than rigid standardisation. This approach offers greater flexibility in integrating traditional crafts into contemporary design education.

The British jewellery education model, particularly as developed at institutions such as Birmingham City University (BCU), Royal College of Art (RCA), and the Glasgow School of Art, places a strong emphasis on learning through making (Frayling, 1994, p.5), material-led inquiry (Ingold, 2013, pp.17-19), and critical reflection. Students are encouraged not only to acquire technical skills but to interrogate their cultural

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[12] The policy of Regeneration Through Our Own Efforts was proposed by Mao Tse-Tung in 1956 (Papanek, 2019, p.XIX).

significance and apply them in innovative, interdisciplinary, and personally meaningful ways. This pedagogical emphasis on developing an individual voice, rather than replicating tradition, creates a learning environment that views heritage as a creative resource rather than a static inheritance.

This shift from replication to reinterpretation has been central to my own transformation as a maker-researcher. Through my studies at BCU, I was able to move beyond the preservationist mindset often found in Chinese heritage education towards a model that empowers students to build sensory, aesthetic, and emotional connections with traditional handicrafts. A key example is the repositioning of traditional embroidery into contemporary jewellery design contexts. This not only challenged disciplinary boundaries but also enabled students to reframe their cultural heritage through novel material experiences and personal expression.

Moreover, the UK model aligns with contemporary cultural heritage theories, which view craft as an evolving system of knowledge rooted in practice but continuously shaped by new interpretations. As outlined in UNESCO's Convention on the Intangible Cultural Heritage (2003, Articles 2-3), safeguarding heritage involves not only preservation but also the creative transmission and contextual reinterpretation of heritage.

Therefore, the adoption of the UK jewellery education model in this research provided a framework that allowed me to reimagine the educational function of traditional handicrafts - not simply as objects of transmission but as dynamic catalysts for individual and cultural transformation. The pedagogical model developed in this research does not replicate the British system wholesale. Instead, it contextualises and reinterprets its core principles within the realities of Chinese higher education, merging reflective making, cultural sensitivity, and creative autonomy. This hybrid approach aims to enable students to re-engage with traditional handicrafts as meaningful,

contemporary, and sustainable design practices, fostering not only continuity but also regeneration.

6.1.2 Influencing Factors: Teaching in Higher Education

This section compares the jewellery curricula and teaching methods in British and Chinese universities, leading to the identification of three core elements for incorporating traditional handicrafts into jewellery design education.

6.1.2.1 Making: Material and Craft

Through an analysis of selected jewellery design courses in UK and Chinese universities, this section identifies 'Making', which comprises both material and craft exploration, as a key pedagogical focus that informs the proposed IEM model in this research. The investigation shows that in many programmes, engaging directly with materials through hands-on experimentation forms the foundation for critical inquiry, creative ideation, and personal expression.

In the UK, institutions such as BCU and RCA place a strong emphasis on material-led learning. At BCU, both the BA (Hons) in Jewellery and Objects[13] and the MA in Jewellery and Related Products introduce students early on to modules where a single material is explored in depth through the making of a series of objects. This process encourages students to understand the affordances, limitations, and expressive potential of materials. The BA modules also integrate discussions on sustainability, meaning-making, and cultural implications, developing students' ability to communicate concepts through materials.

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[13] BA (Hons) Jewellery and Objects. Available at: https://www.bcu.ac.uk/courses/jewellery-and-objects-ba-hons-2022-23 (Accessed: 14 December 2021).

Similarly, one of the MA units in the RCA, namely Developing Your Voice and Situating a Practice[14], focuses on developing new techniques and lines of inquiry through direct engagement with material. These examples reveal a common pedagogical pattern: students are guided to discover knowledge through hands-on exploration, whereby material investigation leads to personal, cultural, and aesthetic insight.

In China, although the framework differs, institutions such as the CAFA and SCFAI also include modules on material experimentation and the application of traditional handicrafts. These courses encourage students to challenge conventional understandings of jewellery and explore innovative applications of inherited techniques.

From these analyses, Making emerges as a fundamental component in jewellery design education across cultural contexts. It integrates both material investigation, which explores physical properties, symbolic meanings, and transformation techniques, and craft practice, which carries historical, embodied, and culturally rooted knowledge. Making enables students not only to gain technical proficiency but also to develop creative agency and critical awareness.

Therefore, this section supports the formulation of Making as a key component of the IEM model. It reflects how knowledge is constructed through practice, situated in material experience, and extended through reflective making. This hands-on approach forms the foundation for subsequent phases of exploration and meaning-making in traditional handicraft education.

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[14] Developing Your Voice and Situating a Practice. Available at: https://www.rca.ac.uk/study/programme-finder/jewellery-metal-ma/ (Accessed: 16 December 2021).

6.1.2.2 Ideation

This section identifies Ideation as a fundamental component of the IEM model, situated between making and building Knowledge. It involves not only the generation of design concepts and themes but also the development of critical, reflective, and contextual thinking.

Across different cultural contexts, pedagogical approaches to ideation vary. In China, many programmes encourage students to begin with a conceptual theme, often drawn from social events, personal memories, or cultural symbols, and then move towards material exploration to visualise the concept. In contrast, UK institutions often embed ideation within or after material experimentation. For example, RCA's Subject-Matter Project challenges students to investigate their relationship with material objects through a philosophical and phenomenological lens, fostering reflective practice. Similarly, BCU's Contextual Specialism module guides students from material interrogation to the identification of broader societal or cultural issues, enabling the formulation of personal narratives through design.

These approaches demonstrate how ideation in contemporary jewellery education is not merely about theme selection but involves developing a critical position towards one's practice. It facilitates the cognitive transformation from experimentation to intentional meaning-making. In the IEM model, this transition enables learners to articulate individual perspectives grounded in their cultural heritage, material experiences, and creative research.

6.1.2.3 Empathy

In the IEM model, Empathy refers to the capacity of designers to engage with diverse human, cultural, and material contexts. This component draws attention to how learners

connect emotionally, cognitively, and sensorially with the subject matter. Empathy in design is not only interpersonal but also experiential and situated (Ingold, 2000, p.9).

Jewellery education in the UK and China illustrates how empathy can be cultivated through three interrelated domains：

(1) Understanding Users

Market awareness and user-centred thinking are encouraged in many jewellery programmes. For example, modules at the University of the Arts London (UAL)[15] and BCU[16] [17] guide students to design for specific audiences or industry contexts. Projects include batch production, digital fabrication, and portfolio development for target clients. These pedagogies reflect human-centred design thinking, training students to understand user needs, habits, and values through iterative making.

(2) Cultural Sensitivity

Cultural context is equally vital to empathy in design. UAL's jewellery courses[18] incorporate modules in cultural studies and encourage critical reflection on socio-historical contexts. Similarly, BCU's MA project, Food Bricolage, asks students to explore personal and cultural narratives through food rituals. These examples show how design can serve as a site of cultural interpretation, in which material objects can carry encoded cultural meanings (Hall, 1997, p.19). This pedagogical emphasis enhances students' ability to engage with cultural differences and reposition traditional handicrafts as contemporary cultural expressions.

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[15] BA (Hons) in Fashion Jewellery. Available at: https://www.arts.ac.uk/subjects/accessories-footwear-and-jewellery/undergraduate/ba-hons-fashion-jewellery-lcf#course-overview (Accessed: 17 December 2021).
[16] BA (Hons) Jewellery and Silversmithing. Available at: https://www.bcu.ac.uk/courses/jewellery-and-silversmithing-design-for-industry-ba-hons-2022-23 (Accessed: 17 December 2021).
[17] BA (Hons) Jewellery and Objects. Available at: https://www.bcu.ac.uk/courses/jewellery-and-objects-ba-hons-2022-23 (Accessed: 17 December 2021).
[18] BA (Hons) Jewellery Design. Available at: https://www.arts.ac.uk/subjects/3d-design-and-product-design/undergraduate/ba-hons-jewellery-design-csm#course-overview (Accessed: 19 December 2021).

(3) Sensory Engagement and Narrative Expression

Empathy also involves embodied, material-based experience. Sweet (2013, pp.32-38) argues that through direct manipulation of materials, such as cutting, bending, and shaping, designers acquire tacit knowledge and develop heightened material sensitivity. The hands-on nature of traditional handicrafts enables a "gestural synergy" between maker, tool, and material (Ingold, 2000, p.352), allowing students to translate sensory responses into visual or narrative expressions. This form of embodied cognition enriches the design process and fosters personal, emotional connections to materials.

These dimensions of Empathy help transition learners from passive recipients of tradition to active interpreters. Within the IEM model, Empathy functions as the bridge between material experimentation (Making) and conceptual transformation (Building Knowledge), preparing learners to articulate design values that are both culturally grounded and personally meaningful.

6.1.3 Summary: Towards the IEM Model

The preceding analysis of jewellery and craft-based design education in China and the UK, along with market-oriented research, identifies three interrelated components - Ideation, Empathy, and Making - as foundational to contemporary, craft-based design pedagogy. These components collectively constitute the IEM model proposed in this research, with the acronym 'IEM' directly reflecting the initials of its three foundational elements.

As China shifts from subsistence to cultural consumption, the commodification and revitalisation of traditional handicrafts have become intertwined. Consumers increasingly value authenticity, materiality, and cultural narratives in products (Chen, 2017b, p.58), which has reshaped design education and practice. The concept of the ICH ecosystem, which comprises craftspeople, designers, consumers, and cultural

intermediaries (Zhang and Diao, 2021, p.126), illustrates how market forces influence the innovation and transmission of traditional handicrafts (Figure 6.2).
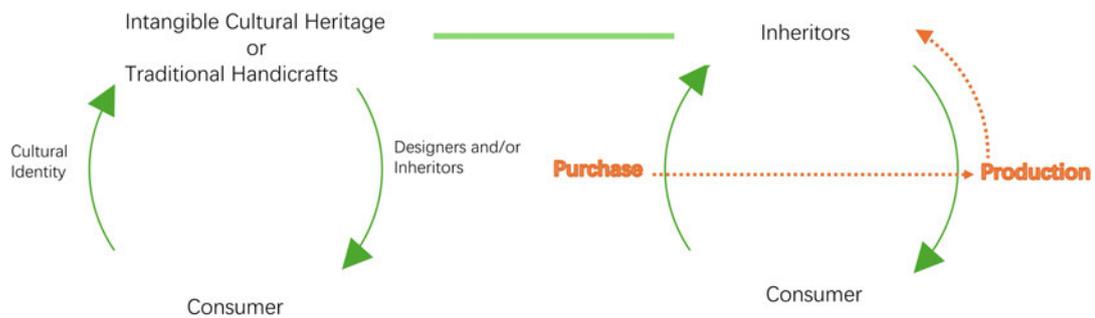
Figure 6.2 A map of the relationship between market factors for traditional handicrafts. Adapted from Zhang and Diao, 2021, p.126

Within this dynamic context, Empathy enables students to understand cultural significance and user needs; Ideation fosters the development of meaningful concepts rooted in reflection and critical inquiry; and Making grounds learning in hands-on, material-led exploration. These components form an iterative, interconnected model that aligns traditional craft knowledge with contemporary design challenges.

The IEM model proposed in this research positions traditional handicrafts not merely as cultural heritage to be preserved, but as a generative foundation for contemporary design education and innovation. By foregrounding material engagement, cultural sensitivity, and responsiveness to market contexts, the model encourages open-ended inquiry and creative exploration. In doing so, it provides a pedagogical framework that supports the sustainable revitalisation of traditional handicrafts, enabling their continued relevance and renewal within contemporary design practices.

6.2 Development and Iteration of the Model

This section explains the process of developing a model. The model demonstrates the idea of creating traditional handicrafts and how this process works. During this research,

I developed four different versions of models, each with its own logic. The aim is to outline the development process of the IEM model and the breadth, interdisciplinarity, flexibility, and adaptability of its application.

6.2.1 Formulate Model
6.2.1.1 Initial Model

The pre-research shows how I started and laid the ground for this research. The earliest model I came up with in this section was developed and tested by implementing it in two projects.

6.2.1.1.1 Pre-Research: Sensory Experience and Narrative Expression

This doctoral research builds upon two projects conducted prior to the commencement of the PhD. These projects are considered valuable case studies that demonstrate innovation in the design of traditional handicrafts and provide an important contextual foundation for the subsequent research.

The first project, undertaken during my postgraduate studies, involved a series of brooches that explored the interplay between textile threads and transparent plastic. These works offered a novel sensory experience, particularly through the contrast in texture and material qualities, and inspired the initial direction of my doctoral inquiry into material-based sensory design.

The second project was conducted in 2019 as a teaching experiment at Yanjing Technology College in China. This project investigated how traditional handicraft techniques, specifically embroidery, could evoke emotional responses (joy, anger, grief, and happiness) through different haptic sensations (Figure 6.3). By introducing students to three distinct embroidery stitches, the project encouraged a sensory-based approach to understanding and interpreting traditional handicraft.

These two projects also led to the publication of my early academic work. In *Haptic Experience of Jewelry Education Based on Sensory and Material Design,* I examined the emotional and tactile dimensions of materials in design education. In *Application of Project-Based Teaching in Contemporary Jewelry Design Education*, I reflected on pedagogical strategies and proposed improvements, particularly through a comparative analysis of jewellery education in both Eastern and Western contexts. These two papers underscore the potential of sensory design and design education to revitalise traditional handicrafts in contemporary contexts.

Additionally, one of my undergraduate students selected embroidery as the primary technique for his graduation project (Figure 6.4), further evidencing the pedagogical impact of my teaching experiments. These early explorations laid the groundwork for the doctoral research formally initiated in 2020, during which I developed the first iteration of the IEM model.

Figure 6.3 Students' work under the theme Joy, Anger, Grief, and Happiness, cited in Zi and Liu, 2019, p.84

Figure 6.4 Embroidery design graduation work by Hu Yang. Photographed by Zi in 2020

6.2.1.1.2 Proposal a Model: Model 1

Model 1 was the initial framework developed at the beginning of this research in 2020. It aimed to explore how traditional handicrafts could inform the creation of contemporary jewellery, drawing on insights from literature, two pre-doctoral projects, and my prior experience as a designer and educator.

The model consists of five interconnected components: Ideation, Empathy, Material, Production, and Traditional Handicraft. These elements form a non-linear, bidirectional loop (Figure 6.5), where each can act as an entry point for design. The model supports exploratory thinking through making, emphasising sensory engagement and emotional narratives embedded in materials. Model 1 was tested through teaching activities and personal practice from 2020 to 2021, providing a foundation for the later development of the IEM model.
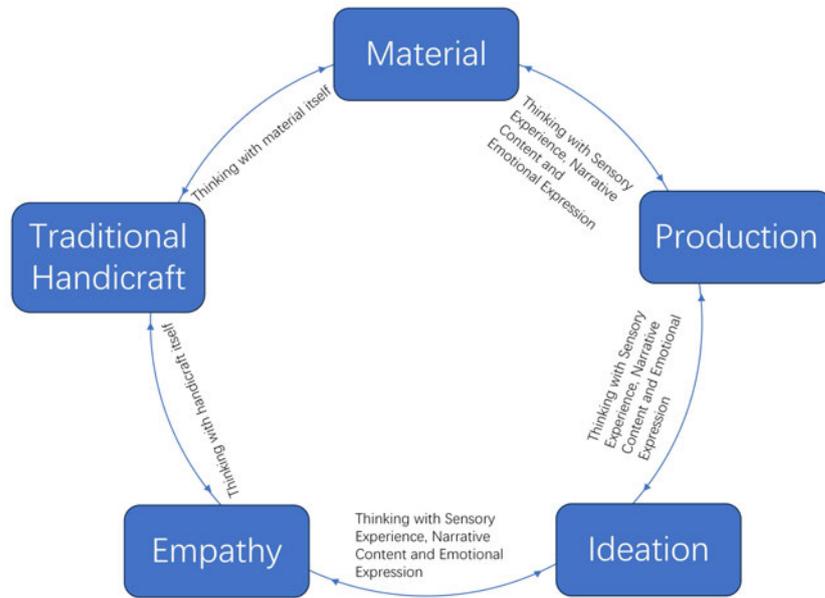
Figure 6.5 Model 1 came up by Zi in 2020

6.2.1.1.3 Teaching Experiment 1: Emotional Exploration of Materials

(1) Brief of the Teaching Experiment

Emotional Exploration of Materials

Background

As designers, we are trained on how to read the world visually and materially and how to construct visual and material 'texts' for others. Considering this from the perspective of design sensory anthropology, we can understand how this is a fundamental human practice that has shaped society, civilisation, and the planet for millennia, to give people perception and a understanding of objects.

To what extent are we, as designers, aware of the agency we possess in this world making, how might we make this visible, and how can we share this with others.

Brief

Your task is to work within a Sensory and a Culture anthropological approach, to research and explore how design mediates meaning to the viewers and how this can be done effectively.
You will be designing and testing a range of different methods and material experimentations grounded in your own preferred material practice.
What information and emotion does your design engender in different kinds of communities and audiences?
You should think about the different senses that they might explore?

You will:

-Choose one material (metal or non-metal) to create 10 pieces.

-Gain a deeper understanding about the material.

-Explore which traditional handicrafts could use this material.

-Create 10 pieces by using material and handicrafts.

-Explore what the sensory experience of the material and handicrafts.

-Explore how to enrich multisensory experience of material by using handicrafts.

-Explore what kind of emotion or affect evoked by sensory experience?

-Explore how being able to 'read' and 'construct' handicrafts and material narratives transmit design information to audiences.

-Learn how to display the works to transmits the information of implicit.

Your Outcomes:

The nature of your final outcomes will depend on your works and exhibition but may include:
-Design probes
-A discussion of research findings and analysis
-A conference paper
-A filmed outcome

Exhibition and audiences:

The works will be shown in the last week of the course. You will have the opportunity to test and develop your strategies and material outcomes.
The exhibition is open to all students and teachers, then we will get feedback from them by questionnaires.

(2) Content of the Teaching Experiment

This four-week teaching experiment was conducted in December 2020 at the SCFAI with 25 fourth-year jewellery design students, as part of a specific course, Contemporary Jewellery Art. It required students to select materials and develop innovative design concepts and techniques.

The experiment introduced the concept of sensory design which is not used currently in many Chinese universities. According to student feedback, the concept of sensory engagement in design was entirely unfamiliar to them (Zi, 2021a, p. 5). The aim of the experiment was therefore to explore how sensory design could enhance students' understanding of materials and crafts, and how it could inform the creative process in jewellery design.

To facilitate this, the components of Model 1 were translated into three instructional stages, each framed by a guiding question (Figure 6.6):

Stage 1 asked "What?", encouraging students to identify design inspirations;

Stage 2 focused on "How?", prompting exploration of sensory experiences and expression to define design themes;

Stage 3 posed the question "What do you want people to get?", leading students to refine their designs, visualise outcomes, and finalise their work.

Figure 6.7 presents the structure of the teaching schedule, while Table 6.1 outlines the detailed progress of the experiment.
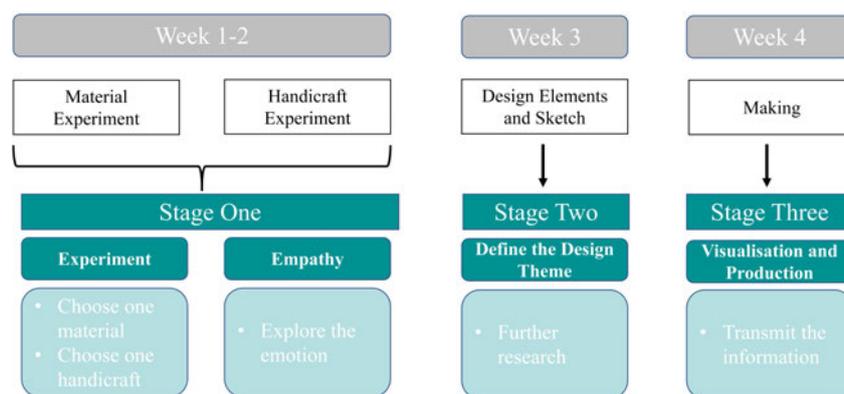
Figure 6.7 Teaching Experiment 1: teaching schedule for each week

Table 6.1 Proceeding of the experiment, tasks and questions, cited in Zi, 2021a, p.6

Part of Model	Task	Specific Questions	Proceeding	Stage
Material	Choose one material (metal or non-metal) to create ten pieces.	1.What material did you select? 2. What kind of particular qualities does the material have? 3. What kind of sensory feel does the material have? 4. What kind of particular context does the material invoke?	1. The students gain a deeper understanding of the material by analysing what senses or sensory experience the material has. 2. The students invoke what kinds of emotion or narrative.	**One**
Traditional Handicraft	1. Explore/ choose which traditional handicrafts could use this material. 2. Create ten pieces by using material and handicrafts.	1. What kind of particular qualities do the handicrafts create or add? And what sensory experience or expression?	1. The students explore how to enrich the multisensory experience of material by using handicrafts.	**One**
Empathy	Emotional expression	1. What senses or sensory experience do you want to invoke? 2. What information or narrative do you want to invoke?	1. Formulating specific scenes to let the students frame their emotional feelings. 2. The students explore what kind of emotion or affection evoked by sensory experience.	**One**
Ideation	Define the design theme or concept	1. How does the material itself come with narrative, cultural and contextual associations? (formed or manipulated)	1. The students define the theme or concept of the design and do further research.	**Two**
Production	Design visualisation and production	1. Do you want to invoke people's emotion? 2. Do you want people to have an understanding of the making experience? 3. How can you transmit the information, sensory experience, story, narrative etc. to others? a) Where are you going to display your work? b) Who is your viewer or audience? (age, background, nations, experiences, etc.)	1. Visualising the concept, students should consider three visual elements: colour, form, and texture. 2. The students should present their work by hand drawing and mention the size, colour, pattern, and material and handicrafts they choose. 3. The students have to finish the work according to the design draft, experience the sensory and make necessary modifications. 4. The students explore how being able to 'read' and 'construct' handicrafts and material narratives transmits design information to audiences and consider how to display the work to transmit the information of the work.	**Three**

First Stage:
Inspiration

Question:
What?

Second Stage:
Ideation

Question:
How?

Third Stage:
Implementation

Question:
What do you want people get?

Select one Material
- The sensory of material itself
- The narrative of material itself

Add One Traditional Handicraft

Add or enhance the sensories and/or narrative of the material

Resonate or evoke emotion/ feeling/ narrative/ information/ experience

Design
Design Theme — colour/form/pattern — Sketch of Design — Production

1. What material did you select?

2. What kind of particular qualities does the material have?
3. What kind of the sensory feel does the material have?
4. What kind of the particular context does the material invoke?

1. What kind of particular qualities do the handicrafts creat or add? And what sensory experience or expression?

1. What information or narrative do you want to invoke?
2. What senses or sensory experience do you want to invoke?

1. How the material itself comes with narrative, cultural and contextual association?

1. Do you want to invoke people's emotion?
2. Do you want people to have an understanding of the making experience?
3. How can you transmit the information to others?

Material   Traditional Handicraft   Empathy   Ideation   Production

Figure 6.6 Teaching arrangement based on the model. Adapted from Zi, 2021a, p.5

(3) Results of the Teaching Experiment

Analysis Students' Work

Five representative student works were selected for case analysis (see Tables 6.2 and 6.3), based on two primary criteria: the distinctiveness of the handicrafts chosen and the diversity of materials used.

First, the selected cases reflected a wide range of craft traditions. Some students explored traditional Chinese handicrafts, such as calligraphy brush making, while others incorporated Western techniques, such as cameo carving. Additional examples, like pokerwork, originated from other traditional craft cultures, and some techniques - such as enamel and crinkle-burning - are recognised in both Eastern and Western contexts. This variety provided a rich cultural basis for analysis.

Second, the selected works showcased a wide range of material experimentation. Students worked with both metal and non-metal materials, including found objects and everyday materials. This diversity enriched the analysis, particularly regarding the sensory potential of materials and how students interpreted traditional techniques through contemporary design thinking.

Table 6.2 Five students' work with (non)metal and handicrafts, cited in Zi, 2021a, p.7

Student	Material	Handicraft	Design Final Work
1	Common Pistache	Pokerwork	
2	Foam	Cameo	
3	Hair (Chinese Brush)	Jie Tou (One part of making process of Chinese Brush)	
4	Copper	Enamel	
5	Copper	Crinkle Burning Process	

Table 6.3 Sensory analysis cases. Adapted from Zi, 2021a, pp.7-9

Student	Sensory Analysis	Samples
2	Choosing foam as the material to create ten pieces with glue. The glue corroded the foam surface to varying degrees, giving the student a visual sense of erosion and a sense of disgust. All the senses triggered an association with decaying food. The dark green colour of the foam, coupled with the eroded surface texture, created an association from the visual to the tactile to the smell. This process of sensory experience finally prompted an emotion for the student: disgust.	
3	Using different Chinese brush materials to explore tactile richness. Notably, the various visual effects of the ink paintings presented by using different Chinese Brushes create more tactile effects.	
5	Choosing the Crinkle Burning Process as a handicraft. The student had already found a sense of the wound through the earlier ten pieces, and in the second ten pieces, the Crinkle Burning Process intensified the sensory experience and emotional expression of the wound.	 Earlier Ten Pieces Second Ten Pieces
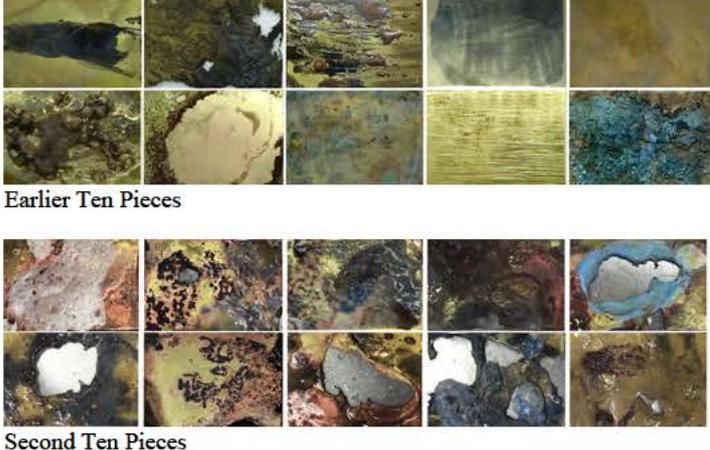
Teaching Outcomes Display

The primary method employed in this teaching experiment was narrative research. By posing guiding questions to stimulate students' thinking, they were encouraged to reflect on creating the experimental samples. This process was then showcased through

written narratives and collages, elucidating the thinking process and design workflow. Two students incorporated their work from the teaching experiment into their graduation project.

6.2.1.1.4 Individual Practice 1: *Cocoon*

In 2020, I participated in the *Guangxi Minority Dyeing, Weaving, and Embroidery Skills Inheritance and Innovative Design Seminar* organised by the Guangxi University of Arts. The programme brought together traditional craft inheritors, designers, and practitioners, offering a valuable opportunity to engage with the living traditions of minority textile practices.

This field experience provided valuable firsthand insights into the cultural and technical aspects of traditional dyeing, weaving, and embroidery. I adopted an ethnographic approach, engaging directly with craft inheritors to understand the symbolism of totems and patterns, observe embroidery techniques (Figure 6.8), try on traditional garments, and visit museums to contextualise local practices.

Figure 6.8 A demonstration of on-site embroidery production. Photographed by Zi in 2020

Resource and Work Process

A key outcome of this project was a design collaboration with Lan Yuanyuan, an embroidery inheritor of the Dong ethnic group. This partnership deepened my understanding of Dong embroidery's materials, techniques, and motifs (Figure 6.9), while also exploring challenges related to its contemporary transmission. The collaboration aimed to reinterpret traditional embroidery through contemporary jewellery design, thereby promoting cultural sustainability through design-led innovation.
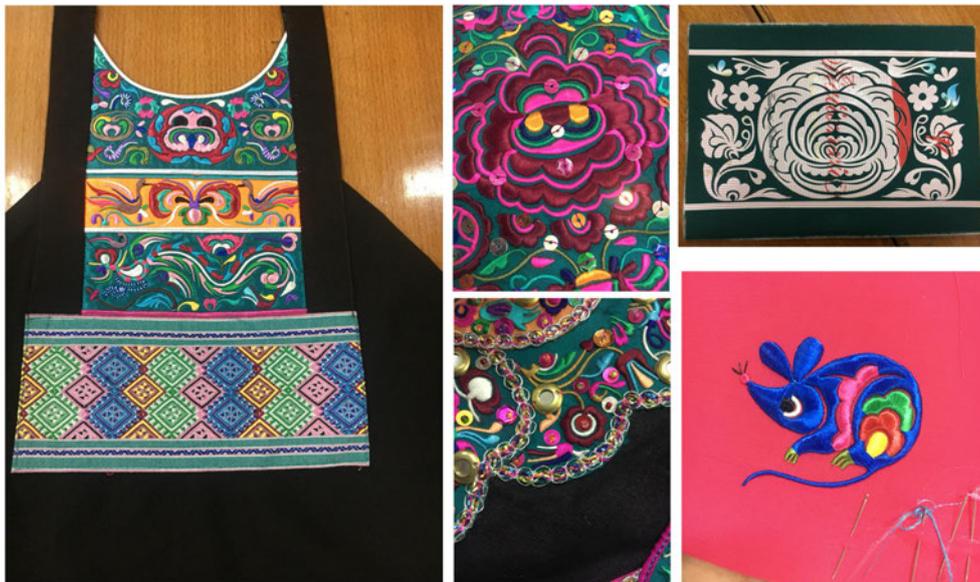
Figure 6.9 Lan Yuanyuan provided some embroidery works. Photographed by Zi in 2020

Materials Determine Techniques, Enrich Sensory Experience

Lan Yuanyuan introduced a unique fabric called Liang Fabric, crafted by the Dong ethnic group. Due to its intricate production process, it is commonly used in traditional clothing (Figure 6.10). Its surface brightness enhances colour saturation and texture, offering distinctive material qualities for contemporary jewellery design.

Another culturally significant artefact introduced during the collaboration was the Strap Cover, traditionally used by Dong women to carry infants on their backs. These covers feature richly layered patterns, created by combining various shapes and colours of fabric, and are embroidered using two types of thread. Silk threads, used for colour, are smooth and soft, while the white threads, formed by twisting two strands, have a firmer, cooler texture and greater durability. One of the most iconic motifs is the Sunflower, embroidered with white threads using the Dong lock-stitch technique, which produces a striking visual effect (Figure 6.11).

Figure 6.10 Garment production commonly uses the Liang fabric. Liu Shuying took these photos on February 24, 2024, during the Lantern Festival in Liuhe village, Qiandongnan, Guizhou province, China, and provided them to Zi as research material
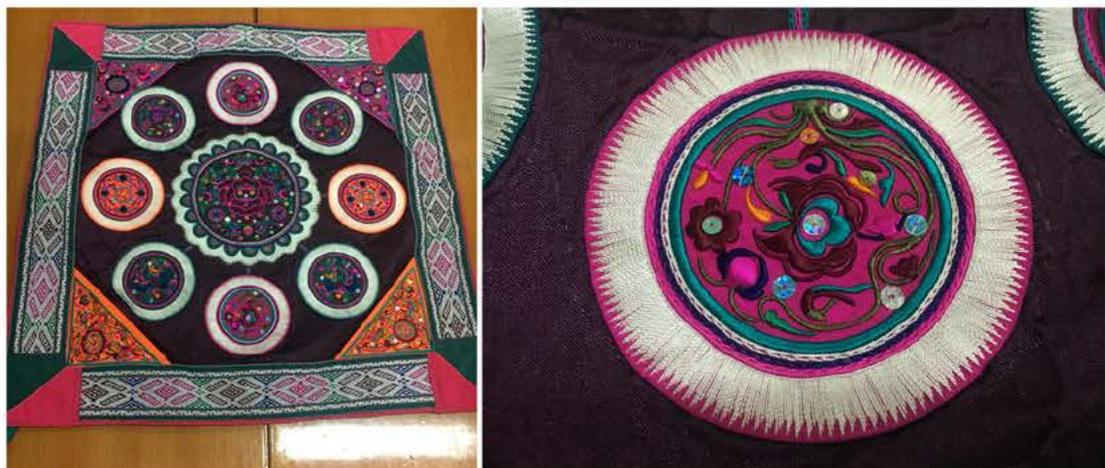
Figure 6.11 The embroidery pieces provided by Lan Yuanyuan showcase sunflower patterns in the Dong ethnic group tradition. Photographed by Zi in 2020

From Market Positioning to Design Concept

The sunflower motif in Dong ethnic embroidery shares a formal affinity with the radial line patterns characteristic of the Art Deco movement, both of which convey a strong sense of movement (Searing, 2003, p.514). Art Deco works are known for their visual impact, with diverse content and forms (Benton, Benton and Wood, 2003, pp.13-14). Drawing on this visual and conceptual resonance, I incorporated Liang fabric, embroidery threads, and Dong embroidery techniques into the jewellery design. This integration aimed to embed cultural depth into the works while enhancing their aesthetic appeal and accessibility to contemporary audiences.

The resulting series, titled *Cocoon*, carries a layered, metaphorical meaning. The term 'cocoon' refers not only to the silken casing spun by larvae but also to the concept of protective enclosure. In this context, the cocoon serves as a metaphor for safeguarding traditional handicrafts. It also symbolises transformation and renewal, akin to a butterfly emerging from its cocoon. The *Cocoon* series reflects this transition, representing the revitalisation and forward movement of Chinese traditional handicrafts.

Design and Production Phase

The production process is divided into three phases. In the first phase, I completed the modelling of the jewellery pieces. In the second phase, the digital models were sent to a jewellery factory for metal 3D printing and post-processing. In the final phase, the finished metal components were delivered to Lan Yuanyuan, who produced the embroidery elements based on the design sketches and dimensions, and subsequently assembled them with the metal frames.

A distinctive feature of the *Cocoon* earring series is its movable buckle mechanism, which enhances the flexibility and wearability of the design (Figure 6.12). During production, a significant challenge arose how to effectively assemble the embroidery

components with the metal frames. It required close collaboration and ongoing communication between the embroidery inheritor, the factory, and me. The final solution involved encasing the embroidery within a metal edge, which improved the visual coherence, durability, and overall aesthetics of the finished pieces (Figure 6.13).

Figure 6.12 The design sketch of *Cocoon* with factory serial numbers and details discussed with the manufacturing factory (highlighted in red) was drawn and provided by Zi in 2020
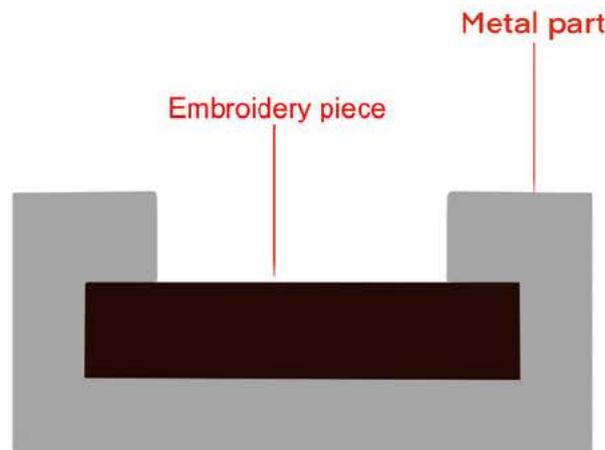
Figure 6.13 Schematic diagram of the solution. Drawn by Zi in 2020

Considering the Consumer

The *Cocoon* series was designed to appeal to a broad consumer base, striking a balance between cultural depth and contemporary aesthetics. Its versatility allows it to be worn as both everyday jewellery and as an accessory within contemporary fashion contexts. Red was selected as the dominant colour for promotional photography to maximise visual impact, highlighting both the intricate embroidery and the sculptural qualities of the jewellery forms (Figure 6.14).

Cocoon has received formal recognition in both artistic and commercial contexts. It was granted a design patent and acquired by the Art Museum of Sichuan Fine Arts Institute. The collection has also been featured in various exhibitions, publications, and award programmes (Figure 6.15). Notably, despite the absence of commercial promotion, Cocoon has attracted strong interest from buyers at jewellery exhibitions, suggesting considerable market potential for design-led cultural products that integrate traditional craftsmanship with modern sensibilities.
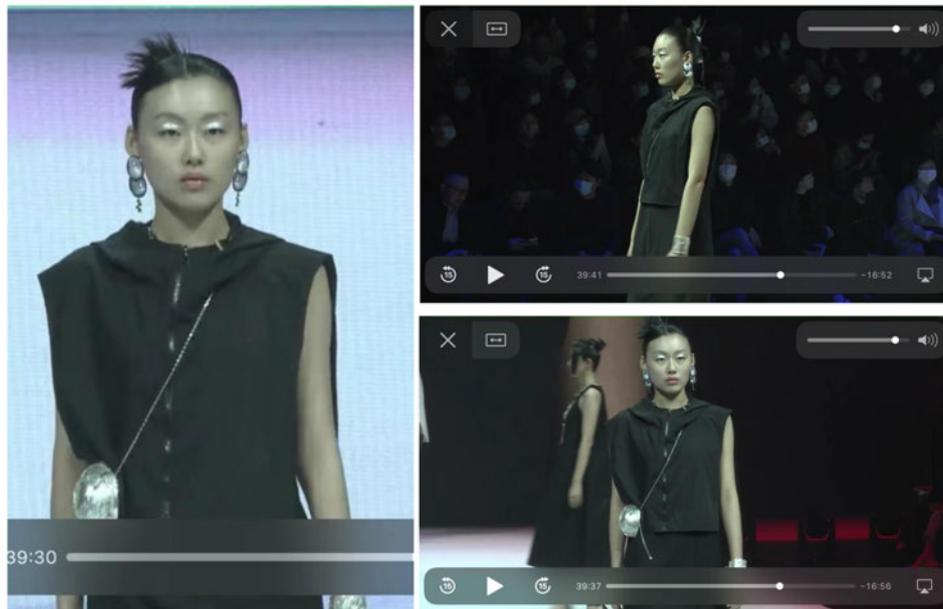
Figure 6.15 Show of the *Cocoon* series, sourced from the 2021 Beijing International Jewellery Art Exhibition livestream. Screenshotted by Zi in 2021

Figure 6.14 *Cocoon* (2020) designed by Zi, and photographed by Sheng Zhanpin in 2021

6.2.1.1.5 Summary

During the teaching experiment, the cyclical nature of the proposed model was not fully realised. I documented the experiment in two papers that examined the research from different perspectives, identifying key challenges in Chinese jewellery education - particularly in relation to student design approaches - and exploring the influence of sensory design on teaching. These findings highlighted the need for more specific and actionable guidance within the model. Although the guiding questions effectively stimulated student reflection, additional support is necessary to help students resolve and overcome the issues raised during the design process. Furthermore, these papers have been disseminated through publications in both Chinese journals and international conferences, reflecting the broad academic engagement and cross-cultural relevance of the research.

In my personal practice, I applied the workflow illustrated in Figure 6.16, which embodies the model's bidirectional and flexible nature, allowing for adaptable pathways and decision points tailored to the specific demands of each design project. Additionally, I took a leading role in coordinating a multidisciplinary team comprising embroiderers, craftspeople, and photographers. This collaborative approach, however, imposes considerable demands on the model user, requiring leadership capabilities, effective time management, coordination skills, and a broad domain knowledge base. The subsequent section will focus on refining the model to better address these challenges.
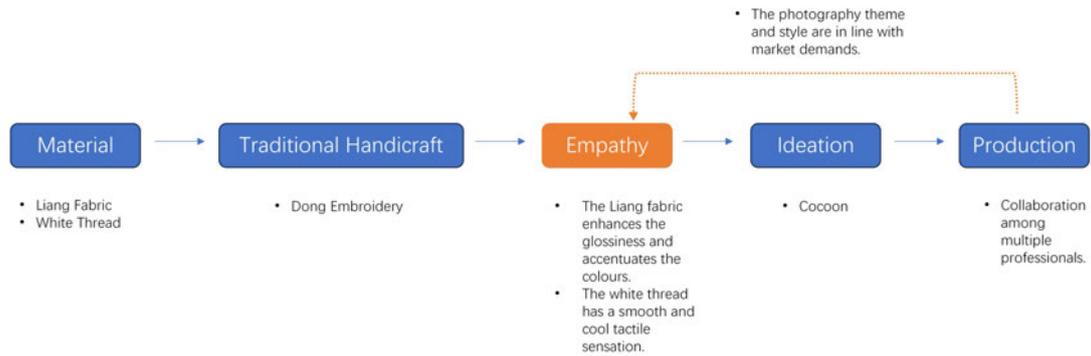
Figure 6.16 The flowchart of the individual practice using the Model 1

6.2.1.2 Updated Model

In response to feedback and practical insights, I refined the original framework and introduced Model 2 in 2021, featuring expanded components and clearer operational guidance.

6.2.1.2.1 Individual Practice 2: *Sky in Your Heart*

This section has two primary aims. The first is to explore the making process of traditional handicrafts through a focused investigation of embroidery, specifically by reinterpreting traditional mirror embroidery using plastic materials. The second aim is to evaluate the practical application of Model 1 within my individual practice and identify areas for refinement. The specific objectives of this model testing are: (1) to refine the structure and content of each module within the model; (2) to assess its usability and cyclical functionality; (3) to evaluate its capacity to support innovation in traditional handicrafts; and (4) to determine its potential to generate commercially or artistically valuable outcomes.

Traditional Handicraft as the Core of the Model

Embroidery is a traditional art form with a rich cultural heritage and long-standing history, practiced in various regions including India, the United Kingdom, and China. One of the key rationales for selecting embroidery as the representative traditional handicraft in this research is its widespread cultural presence and interpretive richness.

A central question underpinning this choice is whether individuals from different embroidery traditions can better understand the practices of other cultures, acquire the relevant techniques, and interpret the symbolic and emotional messages embedded in embroidered works. As a globally recognised handicraft, embroidery provides a common ground for comparative analysis and helps broaden the applicability and cross-cultural relevance of this research.

In this research, embroidery functions as a controlled variable across the teaching experiments, individual practices, and workshops. It allows for a focused evaluation of the model's effectiveness and limitations, particularly in the context of Chinese jewellery design education.

Mirror embroidery - also known as Shisha or Abhala Bharat embroidery - is a distinctive Indian technique that emerged in the 17th century (Utsavpedia, no date) and is not found among the various types of embroidery in China. Although mirror embroidery was a new technique to me, my extensive prior experience in embroidery enabled me to grasp and master its technical processes quickly, as well as appreciate its cultural and historical significance. Drawing on both practical expertise and academic research, I found it essential to document the making process, particularly when working with alternative materials (Figures 6.17 and 6.18). It helped sort out the design ideas and facilitated refining the design model details.
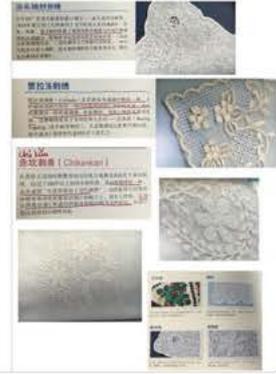
Figure 6.17 The digital design diary log. Written by Zi in 2021
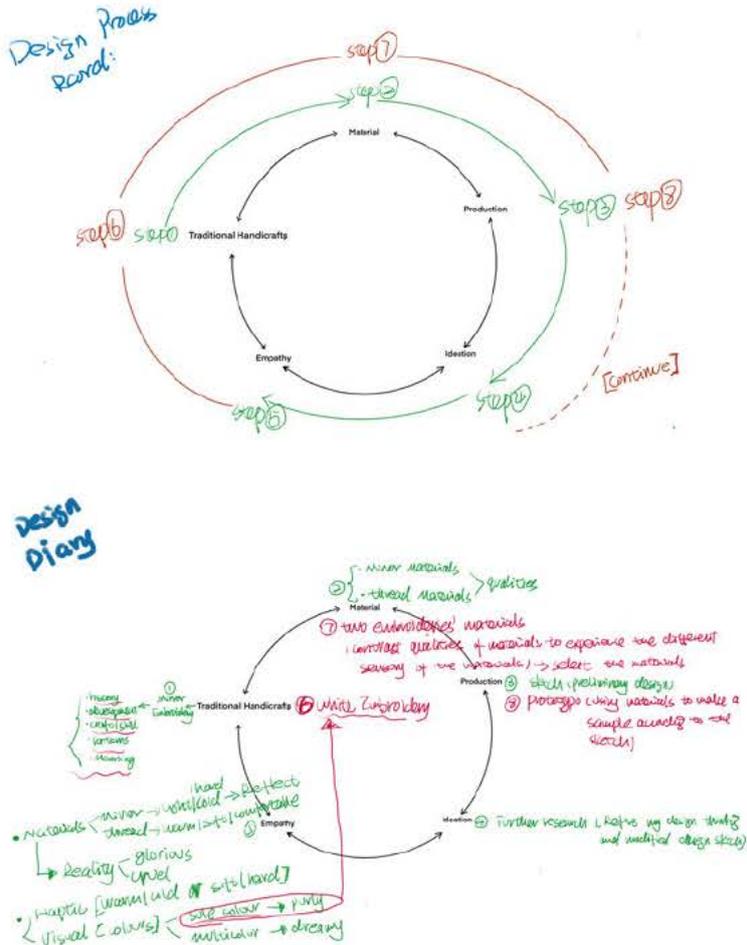
Figure 6.18 Numbers represent the steps of the design process for individual practice. Green indicates the first cycle operation of the model, while red indicates the second cycle operation. Drawn by Zi in 2021

Experimentation with New Materials

In exploring mirror embroidery, which traditionally involves attaching small, typically round mirrors to fabric, I experimented with reflective luminescent materials as alternatives to mirrors. I further investigated the use of various threads, integrating them into reflective materials rather than merely stitching onto the fabric (Figure 6.19). For my postgraduate project, I applied vacuum forming to shape PVC sheets and embroidered directly onto them to achieve visual effects from multiple angles. Despite challenges posed by the material's transparency and fragility, the contrast between the texture of the threads and the smoothness of PVC enhanced the sensory experience (Figure 6.20). I also tested PVC of varying thicknesses and textures, evaluating the feasibility, aesthetic potential, and functional performance of each sample (Figure 6.21), which informed subsequent design decisions.
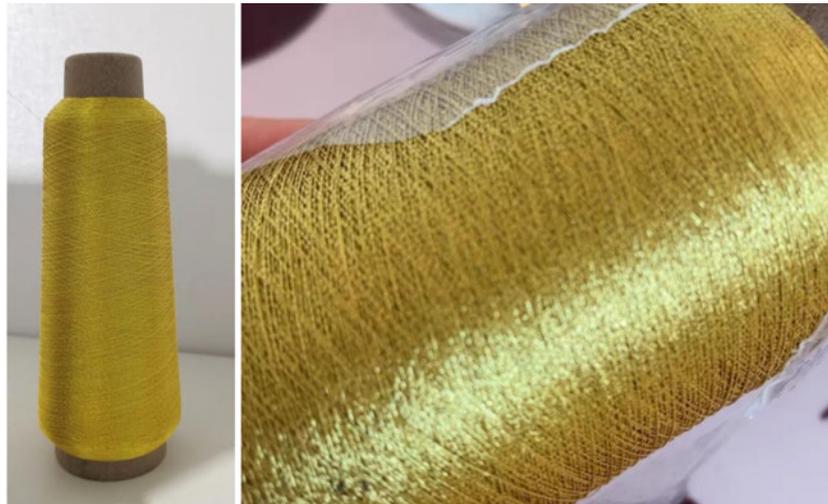
Figure 6.19 Yarn, which is used for computerised embroidery. Photographed by Zi in 2021
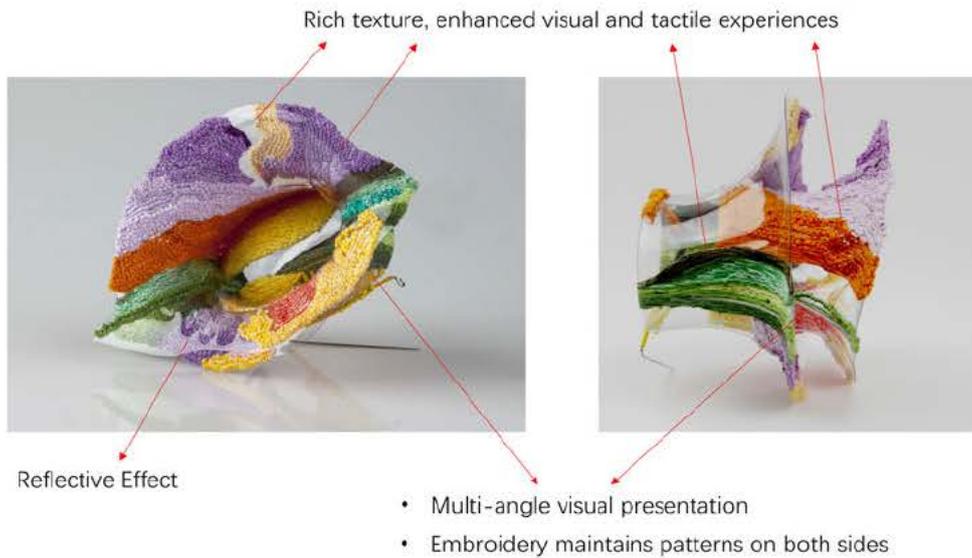
Figure 6.20 Embroidery and PVC effect analysis

Figure 6.21 Embroidery samples. Made by Zi in 2021

Emotional Engagement and Public Resonance

The process of selecting and reflecting on embroidery samples, particularly the emotional shifts experienced during making, served as a source of creative inspiration. The use of thread, especially around the edges, provided tactile comfort and a sense of emotional security.

Engaging with reflective materials during the embroidery-making process allowed me to become deeply immersed, temporarily detached from my surroundings. The reflective materials captured overlooked details from everyday life, prompting viewers to pause and reflect on their own environments. This interaction between material,

maker, and viewer formed the conceptual foundation for *Sky in Your Heart*, a work that evokes emotional resonance through shared experiences. The process also enabled me to clarify personal emotions and creative intentions. The strong connection between the work and contemporary audiences, particularly those in fast-paced urban settings, demonstrates the practical development of the Empathy module within the model, encompassing material sensitivity, emotional awareness, and social resonance.

Skill Acquisition and Material Innovation

Due to my prior embroidery experience, I was able to acquire new techniques through online tutorials and resources quickly. It allowed greater flexibility in material exploration, which proved critical in aligning technical choices with design theme. Material innovation in traditional handicrafts addresses not only aesthetic and cultural dimensions, but also practical demands such as lifestyle relevance and functionality. Compared to Cocoon, which holds greater commercial value, *Sky in Your Heart* is positioned as a work of high artistic value (Figure 6.22).
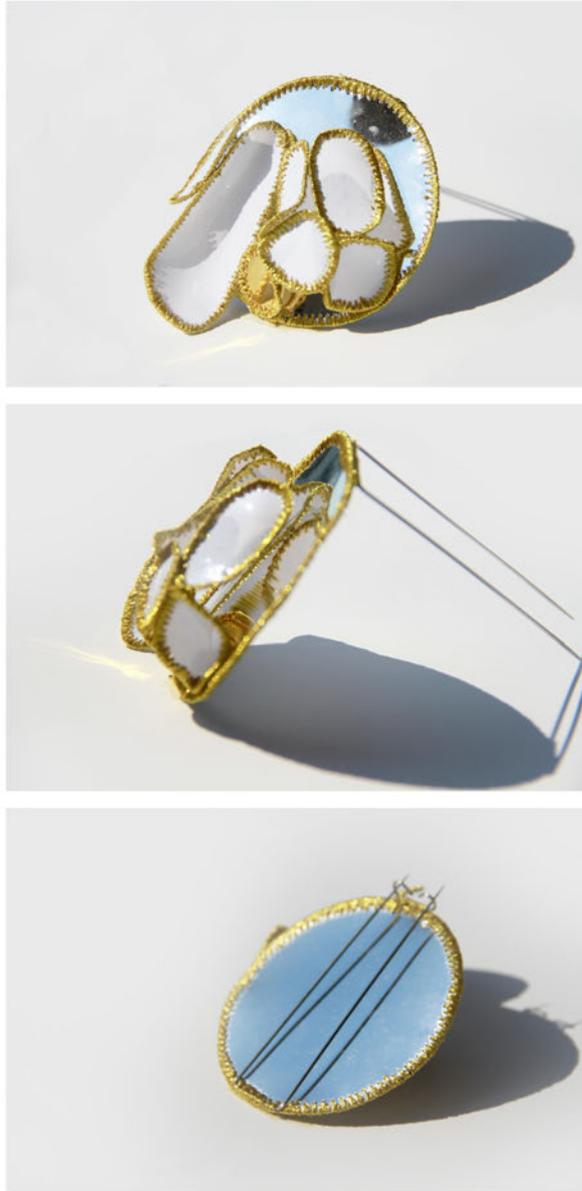
Figure 6.22 *Sky in Your Heart* (2021). Designed and photographed by Zi in 2021

6.2.1.2.2 Introduction to the Components of the Model: Model 2

After being tested and implemented within the *Sky in Your Heart* project, Model 2 was refined in 2021. The revisions were incorporated into each module of the model, indicating that the five modules now present more specific content and the primary questions for consideration (Figures 6.23 and 6.24).
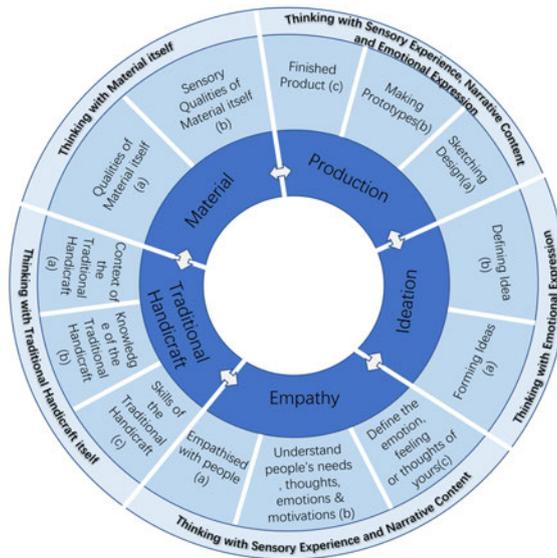
Figure 6.23 Updated version of the model: Model 2. Designed by Zi in 2021
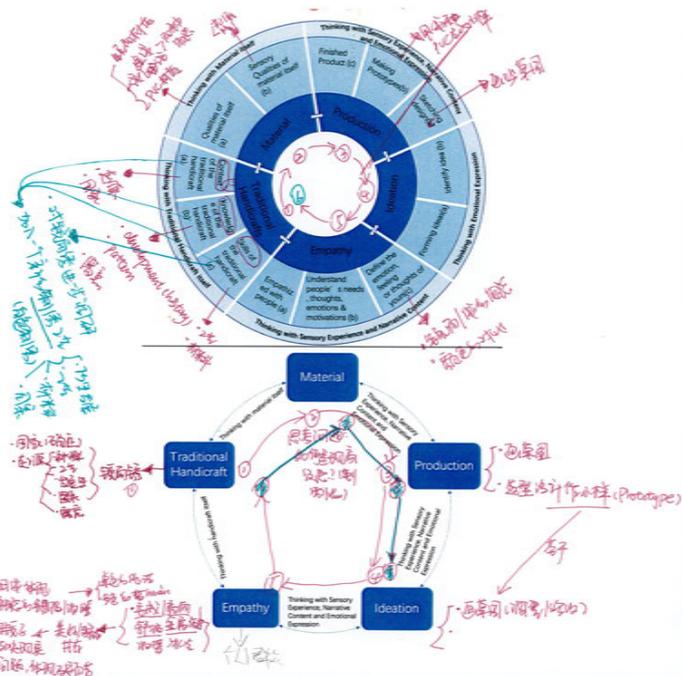
Figure 6.24 Notes for testing the new and old version models. Noted and photographed by Zi in 2021

(1) Traditional Handicraft

As the core component of the model, understanding traditional handicrafts is a fundamental first step. Innovation in traditional handicrafts requires a comprehensive grasp of their origins, development, history, and cultural significance.

A thorough command of professional knowledge related to traditional handicrafts facilitates a nuanced understanding of ongoing research trajectories and emerging trends. This equips model users to generate informed creative responses and explore innovative possibilities within the field. Such knowledge is primarily the result of scholarly work conducted by experts and researchers and is accessible to model users through literature reviews, academic publications, and other relevant resources. For example, Huang Qingsui [19], founder of Wenzang(纹藏) China, systematically documented and classified embroidery patterns from ethnic minority textiles, creating widely used reference books and an online pattern museum.

For model users engaging directly and independently with traditional handicrafts, acquiring the necessary making skills specific to the chosen craft is essential - particularly when working with a traditional handicraft for the first time. Even in collaborative contexts, understanding the making process and technical possibilities enables more effective communication and helps ensure alignment between design concepts and production feasibility. Otherwise, gaps between design and production may arise, as illustrated by a respondent in Zhang (2022, p.148):

We used to collaborate with design research teams at university, but the output [of new pattern designs] was problematic. For some beautiful patterns illustrated by them, they cannot be produced by embroider. Even though some design ideas could be realised, the final presentation was not good. This is because, for the designer and the embroider, they have different understandings on patterns. For embroiders, when outlining a new design, different embroidery stitches are given the first priority by helping ensure they are technically feasible; while the designer [collaborated with us] obviously lack such considerations...Therefore, now we highlight our design team should closely work with the embroider. Our head of design has learnt embroidery for eight years.

For first-time users of a specific craft, it is advisable to follow the module sequentially, engaging with each step to build a comprehensive understanding. In contrast,

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[19] Huang Qingsui website: https://baike.baidu.com/item/黄清穗/60515961?fr=ge_ala (Accessed: 12 December 2022).

experienced practitioners - such as myself with embroidery - may selectively engage with relevant components of the model based on their design objectives.

Figure 6.25 The components of Traditional Handicraft in Model 2

(2) Material

Materials are an essential component in the execution of traditional handicrafts and form an integral part of the final product. While craft techniques may limit material choices, materials themselves can inspire innovation and expand creative possibilities. As Zhang (2022, p.130) notes, the development of traditional handicrafts today must "suit contemporary market ... to cater for customers' needs, to cater for public aesthetic preference. This means it will be necessary to change current forms of design or materials used for craft making". By incorporating materials with varied textures, practitioners can create sensory experiences that transcend the physical object and evoke emotional engagement, enhancing the appeal to contemporary consumers.
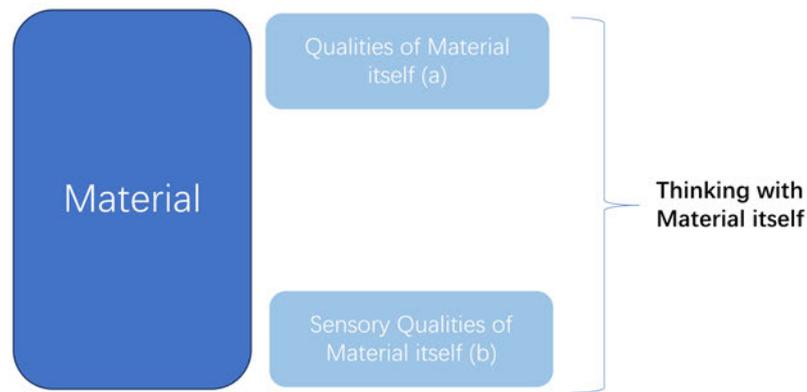
Figure 6.26 The components of Material in Model 2

(3) Production

The Production module encompasses design sketching, prototype development, and final product completion. Initial sketches capture fleeting ideas and inspirations, laying the groundwork for prototyping. Prototypes serve as experimental samples for skill practice, concept development, and critical reflection, all of which contribute to the final product.

This module prioritises doing by hand and thinking through practice. The integration of traditional handicrafts and materials generates diverse textures, enriching both visual and tactile sensory experiences and potentially eliciting emotional responses. Such effects influence not only the maker's creative process but also the audience's engagement with the work. Model users can follow the module sequentially or adapt the steps according to their specific design needs.
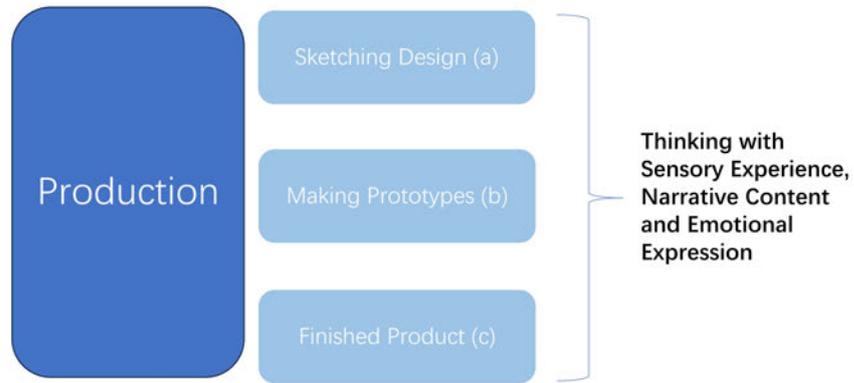
Figure 6.27 The components of Production in Model 2

(4) Ideation

The Ideation module facilitates the development, testing, and refinement of design ideas, transitioning from abstract concepts to more defined expressions of form and emotion. For instance, the Sketching Design sub-module in Production can support Forming Ideas in Ideation, while Making Prototypes can contribute to the Defining Idea sub-module.
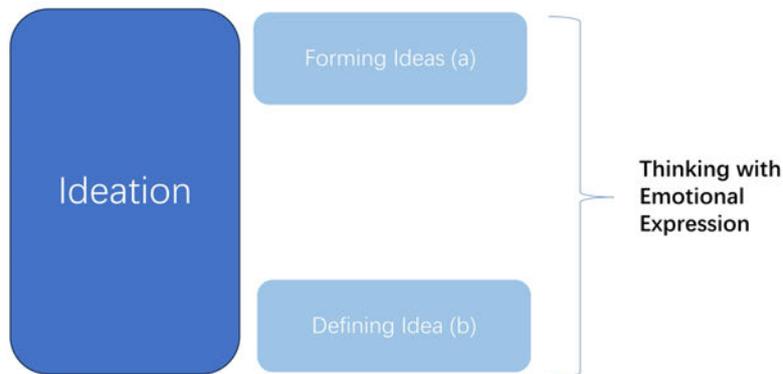
Figure 6.28 The components of Ideation in Model 2

(5) Empathy

The transition from Ideation to Empathy supports the clarification of emotional intent, the development of resonance with others, and the identification of target audience needs. If the audience has been defined and relevant research has been conducted, model users may return to Ideation to generate design proposals. Alternatively, the

process can shift from Traditional Handicraft to Empathy, for example, after exploring a craft's cultural background, one may consider its market relevance or potential user groups.
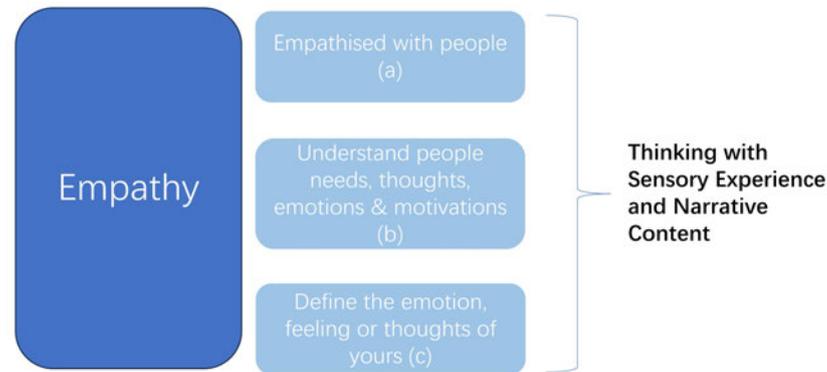
Figure 6.29 The components of Empathy in Model 2

The model's modules are bidirectional and interconnected. While the sequence of sub-modules supports novice users, experienced users can selectively engage with modules and sub-modules based on specific design needs. The model emphasises emotional engagement, evocation, and resonance, enabling users to express their emotional responses to traditional handicrafts. In doing so, it supports the dissemination of traditional craft practices, cultural values, and symbolic meanings.

6.2.1.2.3 Teaching Experiment 2: Sweet, Hot, Sour, and Bitter

The revised Model 2 was implemented as a framework in teaching experiment 2 to evaluate its effectiveness. Conducted in March 2021 at SCFAI, the experiment involved 27 second-year jewellery students enrolled in the Jewellery Design and Composite Materials course. The primary objective was to explore innovative applications of composite materials in jewellery design. To support this, the course began with the Traditional Handicraft module of Model 2, encouraging students to explore material possibilities through craft-based experimentation.

The experiment further aimed to stimulate sensory expressions beyond taste, evoke emotional and narrative depth, and support the development of more meaningful design

concepts. The design theme - sour, sweet, bitter, hot - was inspired by a Chinese idiom that metaphorically captures life's emotional spectrum, from joy to sorrow. Students developed jewellery works based on this theme, translating personal and emotional associations with each flavour into material forms.

(1) Warm-up

As second-year undergraduate students transition from foundation studies to professional courses, a warm-up phase is essential. It acts as a buffer, enabling students to engage with the complete design process, develop methods for sourcing inspiration and extracting design elements, and explore how sensory experiences can inform emotional expression.

Figure 6.30 outlines the introduction of sensory design through a brief lecture, featuring artworks by artists and researchers to enhance students' understanding of sensory-based expression. This was followed by an auditory exercise, in which three everyday sounds were played without visual accompaniment. Students were asked to respond by using geometric shapes to visually represent their perceptions - for example, drawing a triangle in response to a car horn or expressing their feelings upon hearing the sound, like harshness, irritability, or joy. They then selected up to three colours and combined them with the shapes to create abstract patterns reflecting their overall emotional interpretation (Figure 6.31).

Throughout the process, I, as a teacher, facilitated reflective thinking by posing guiding questions and offering illustrative examples. Rather than simply assigning tasks, the aim was to foster independent exploration and critical engagement. In the final step, students extracted design elements from their drawings and were tasked with rapidly producing a jewellery piece using paper as the primary material (Figure 6.32).

1. Play three sounds and ask students to draw geometric shapes that express their feelings or ideas based on the sounds they hear.

2. Combine geometric shapes and colours to create a picture to express their emotions or feelings.

3. Extract part of the picture as design elements.

4. Design jewellery through selected design elements.
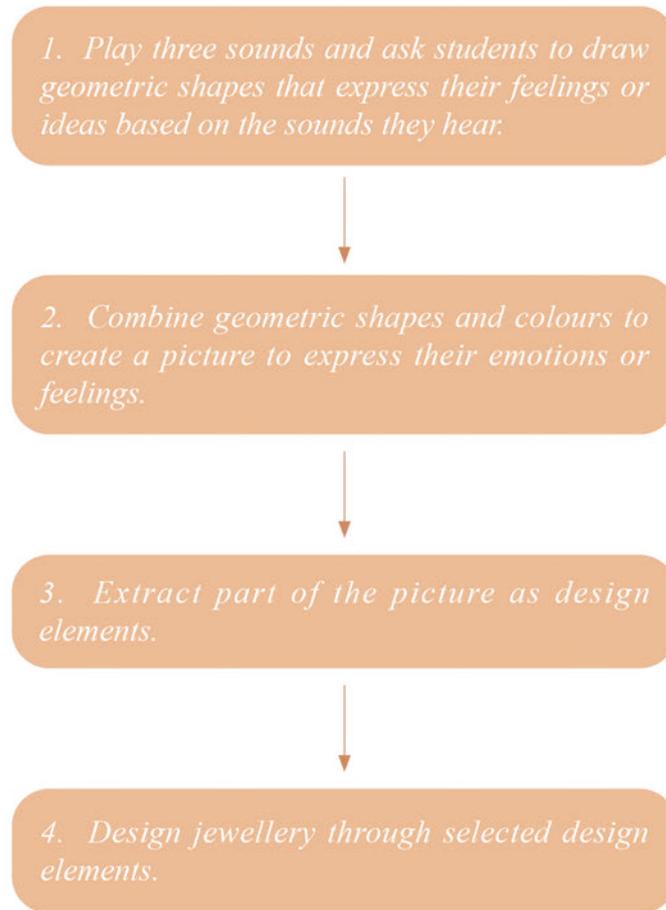
Figure 6.30 The process of the warm-up
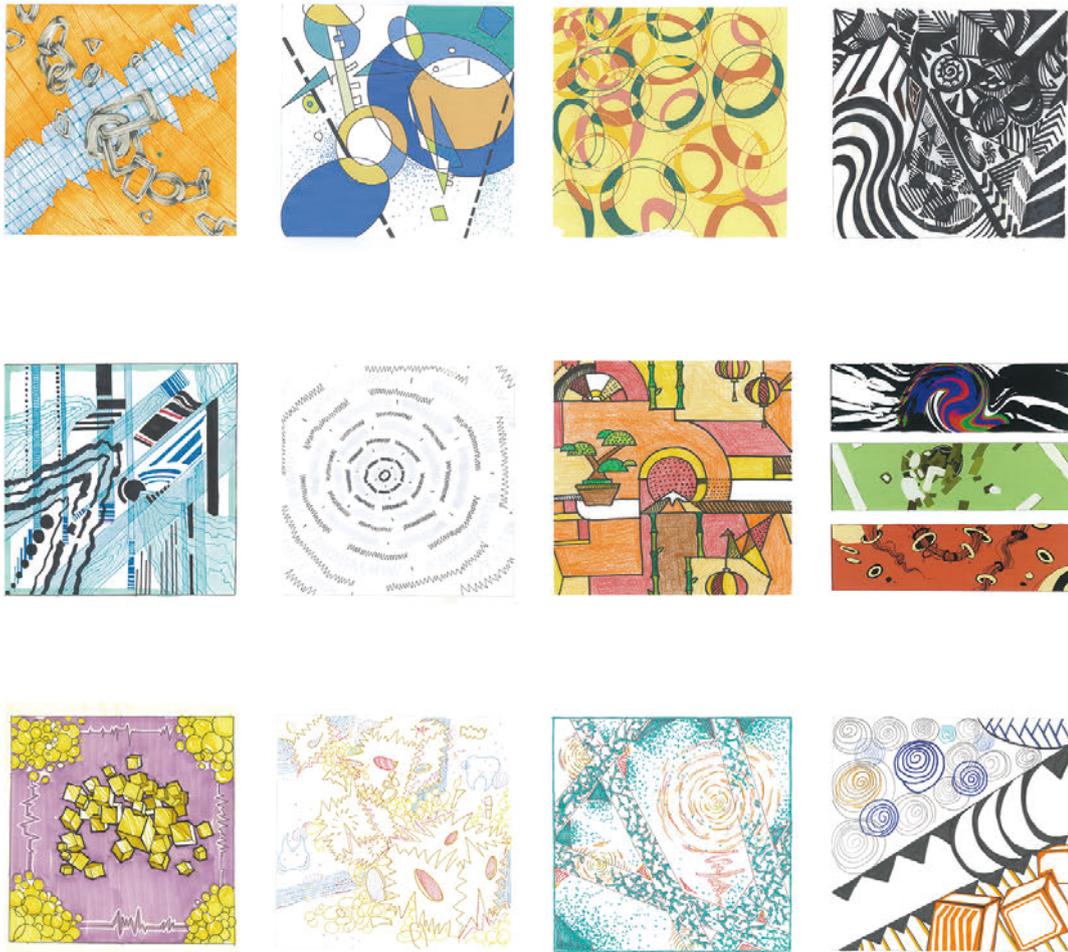
Figure 6.31 The students' two-dimensional design drawings. Photographed by Zi in 2021

Figure 6.32 Students are wearing their self-made jewellery. Photographed by Zi in 2021

(2) Content of the Teaching Experiment

The teaching task was divided into four stages: experiment, empathy, design theme definition, and visualisation and production. As shown in Figure 6.33, the design process followed the Model 2 structure, progressing from the Traditional Handicraft module to the Empathy module, completing a full cycle before returning to the Ideation module to define the design theme and proceed to jewellery making.

The weekly teaching schedule (Figure 6.34) assigned stage-specific tasks, emphasising hands-on practice and critical reflection through guiding questions. Group work encouraged active participation and collaborative learning. Every student engaged directly with traditional handicrafts, guided by three pedagogical strategies: experiential learning, inquiry-based learning, and participatory action.

The teaching process was grounded in participatory action, which, as Reason (2001, p.184) explains, stems from participants' critical and practical engagement with real-life contexts. It also reflects Selener's definition of participatory action as a process of identifying problems, collecting and analysing information, and taking action to generate solutions (Reason and Bradbury, 2001, p.1). Students were therefore invited to conduct group research, share findings, and participate actively in discussion, making, and investigation.

Material and craft experimentation formed a core component of the course, encouraging learning through doing. Experiential learning played a central role in this phase, prioritising direct sense experience and in-context action over objective data (Kolb, 2015, pp.xviii-xix). Through making and reflecting, students explored alternative methods and generated original ideas.

In Week 1, each group selected a flavour - sweet, hot, sour, or bitter - as the basis for sensory and emotional exploration. In Week 2, inquiry-based learning supported

students in identifying problems, conducting preliminary research, and deepening emotional expression. Using guiding questions (Table 6.4), students explored subconscious associations and translated them into early design concepts based on hands-on experimental samples. I provided support in expanding ideas and refining material tests through collage and visualisation (Figures 6.35-6.36).

In Week 3, students refined their design themes through research into colour, texture, material, and structure, further guided by inquiry-based strategies to develop coherent design directions (Figure 6.37). In Week 4, students translated their concepts into final physical artefacts, producing jewellery, specifically necklaces (Figures 6.38-6.39).
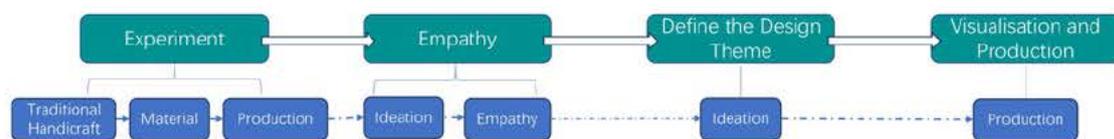
Figure 6.33 Teaching experiment stages
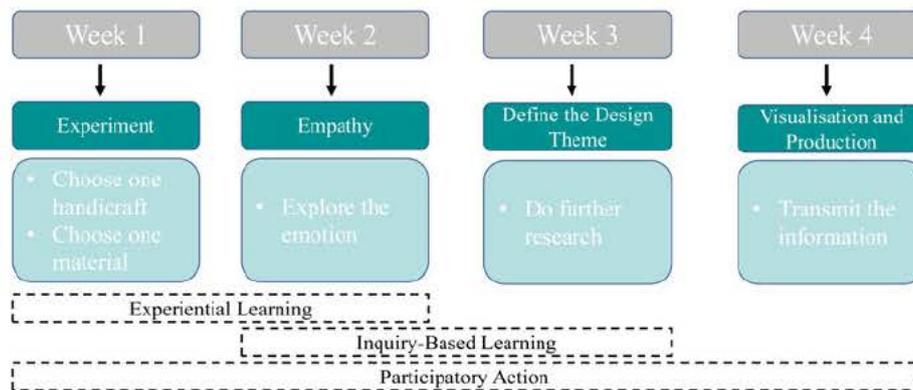
Figure 6.34 Teaching Experiment 2: teaching schedule for each week. Adapted from Zi, 2021b, p.135

Table 6.4 The guiding questions, cited in Zi, 2021b, p.137

	Materials	Handicrafts	Design
Guiding Questions	1. What material did you choose? 2. What properties does the material itself have? 3. What sensory experiences do these properties give you? 4. What kind of feelings or associations do these sensory experiences trigger? Do they relate to specific stories or things? 5. Are these sensory and narrative elements consistent with what you intended to convey in your initial mind map? 6. What kind of sensory experiences do the samples present? (Vision/ Haptic/Taste etc.) 7. What sense/ story/ narrative content gave or triggered to you by the sensory experience of these experimental samples? 8. Did the material or narrative content change before and after the experiment? Were these changes triggered by the sensory experiences? 9. Did your emotions change throughout the process? 10. Did your emotional change resonate with others?	1. Which handicraft did you choose? 2. Did the handicraft work well with your material to realise your design sketch? 3. Did the handicraft add new sensory experiences or enhance the existing ones? 4. Did the handicraft work with the material to reflect your design theme more fully and comprehensively? 5. How did the combination of handicraft and material better interpret the content and message of your work? Did the handicraft increase the emotional expression of your work? 6. Will the application of the handicraft increase the audience's understanding of your work? / How to convey the information of your work through this handicraft? 7. How does your work help the audience understand the (traditional) handicraft, its history, and its production process? 8. What is the relationship between handicraft and material in your design?	1. How to present design elements/themes through a combination of handicraft and material? 2. How to realise the form of design work through handicraft production?

Figure 6.35 Group collaboration to complete the collage. Photographed by Zi in 2021
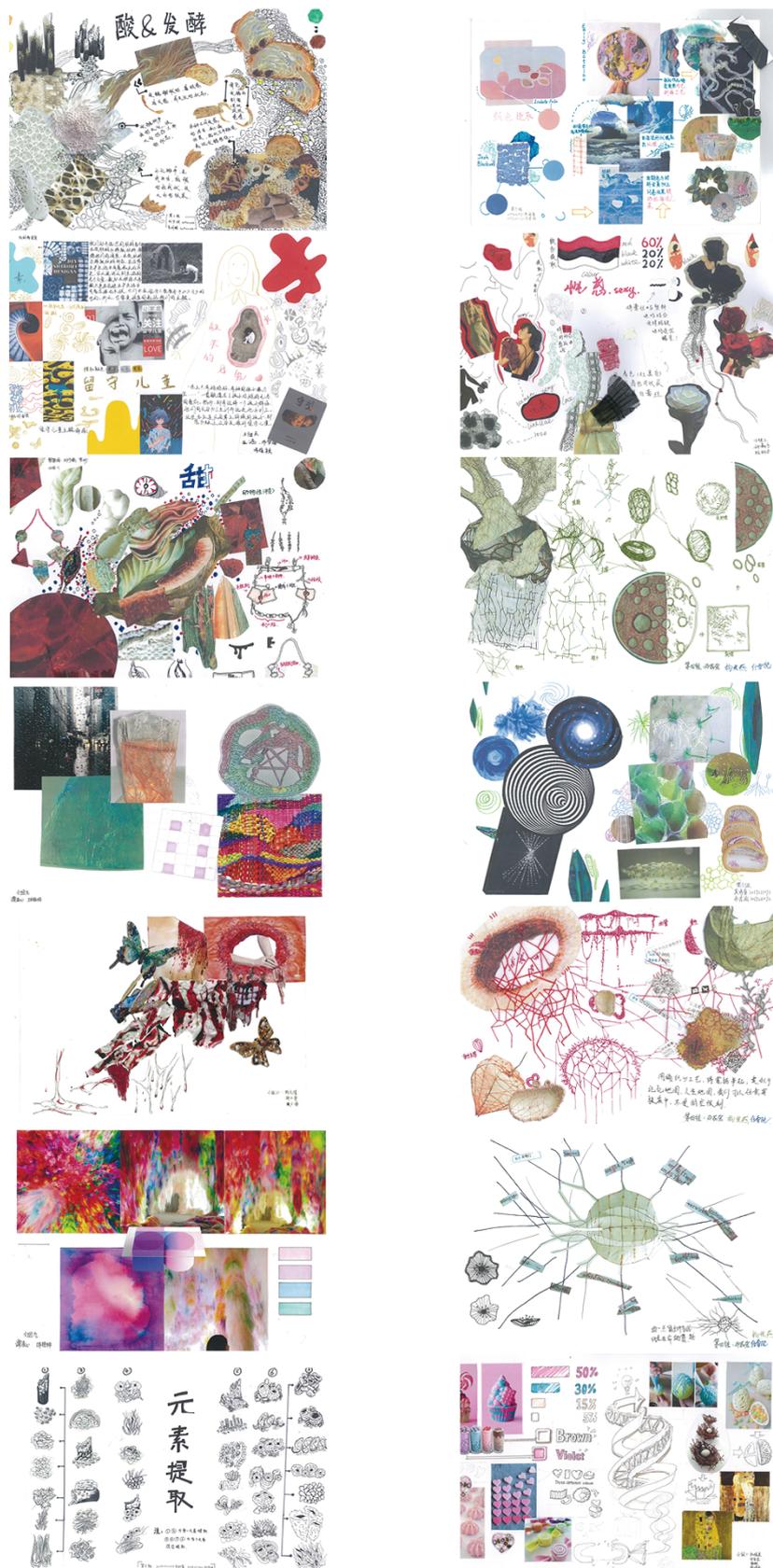
Figure 6.36 The collage results from each group. Photographed by Zi in 2021
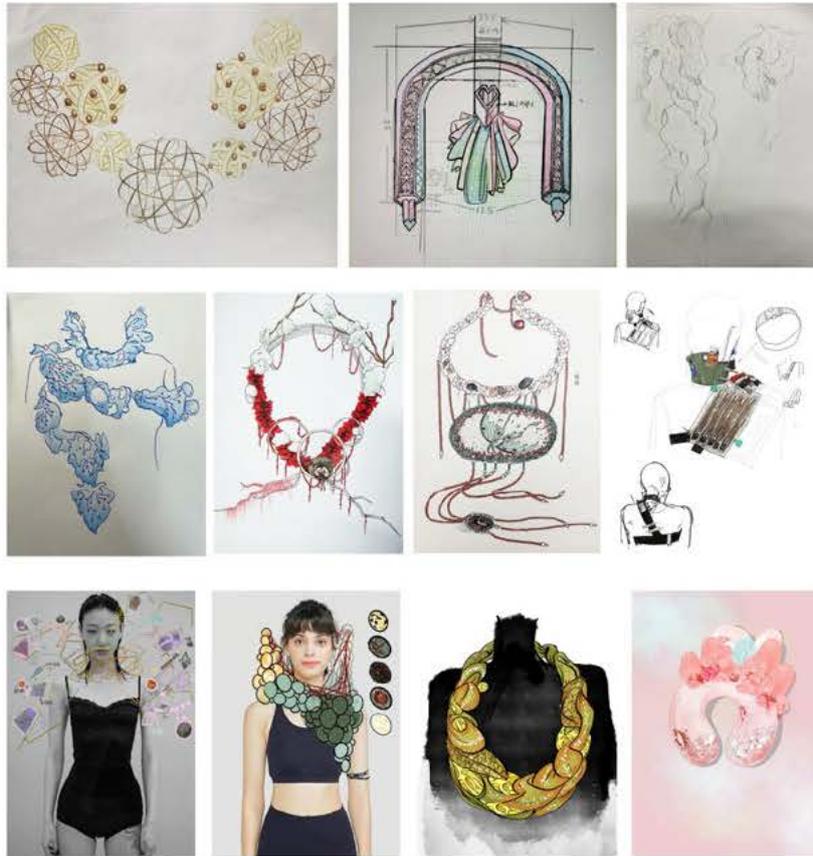
Figure 6.37 Sketches of the final design by each group
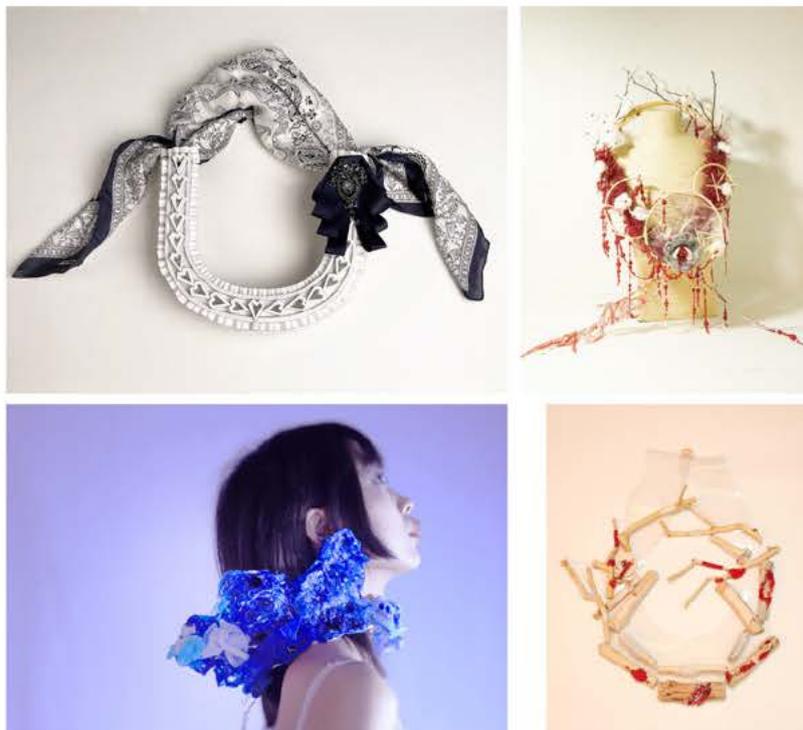
Figure 6.38 Groups' work under the theme 'Sweet'

Figure 6.39 Groups' work under theme 'Bitter'

(3) Results of the Teaching Experiment

Five representative groups were selected for case analysis based on the following reasons: (1) all employed non-metal materials; (2) the selected cases covered all four thematic flavours; and (3) three groups adopted knitting techniques, while the other two applied embroidery (see Tables 6.5 and 6.6).

A comparative analysis highlights a key finding: the same traditional handicraft technique yields diverse experimental outcomes when applied to different materials. In Groups 1, 2, and 3, material variation produced distinct sensory effects and emotional expressions. Additionally, in Groups 3 and 4, combining different traditional handicraft techniques and materials under the same theme resulted in varied visual outcomes and final product forms.

Table 6.5 The experimental samples. Adapted from Zi, 2021b, pp.138-139

Group	Material	Traditional Handicrafts	Sample	Design Theme (Chinese idiom)
1	Plastic Bottle	Knit		**Hot**
2	Clay	Knit		**Sour**
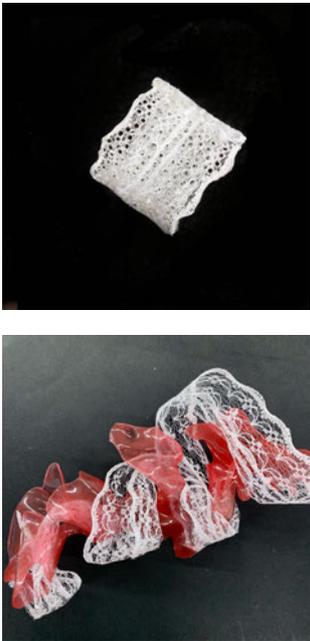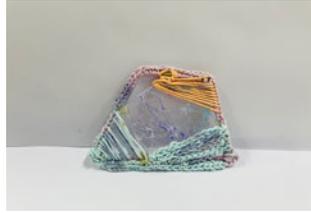
3	Stalinite	Knit		Sweet
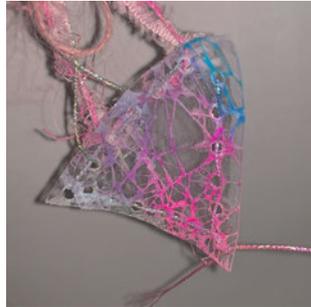
4	Cotton Candy	Embroidery		Sweet
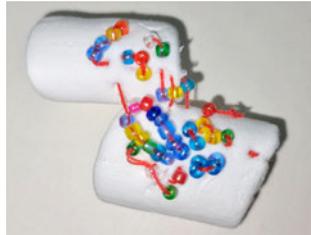
5	Gauze	Embroidery and Tie-dye		Bitter

Table 6.6 The final work of the five student groups

Group	Final Work	Design Theme (Chinese idiom)
1		Hot
2		Sour
3		Sweet
4		Sweet

6.2.1.2.4 Summary

Two testing projects demonstrated the cyclic nature of the model. The individual practice test showed the clockwise cycle of the model (Figure 6.40), while the teaching experiment effectively validated its applicability in reverse. In the warm-up phase, students completed tasks independently, whereas in the teaching experiment, they collaborated in groups to foster teamwork, enhance communication skills, and broaden design thinking. The model's flexibility allows it to be applied either individually or collaboratively, depending on the user, resulting in varied outcomes.

I presented the process and outcomes of the teaching experiment at the 3rd International Conference on New Approaches in Education, held in Oxford, UK, from July 2 to 4, 2021. The results were positive, highlighting the significant influence of sensory design in jewellery education and its potential to support critical and reflective thinking among students.

Colleague feedback on the model diagram - presented without explanation - revealed two key issues: (1) the diagram appeared overly complex, and (2) users were unsure where to begin or how to interpret and apply the model. In response, the following

section presents a simplified version to improve clarity and usability. This feedback also prompted the development of a supporting toolkit to assist users.
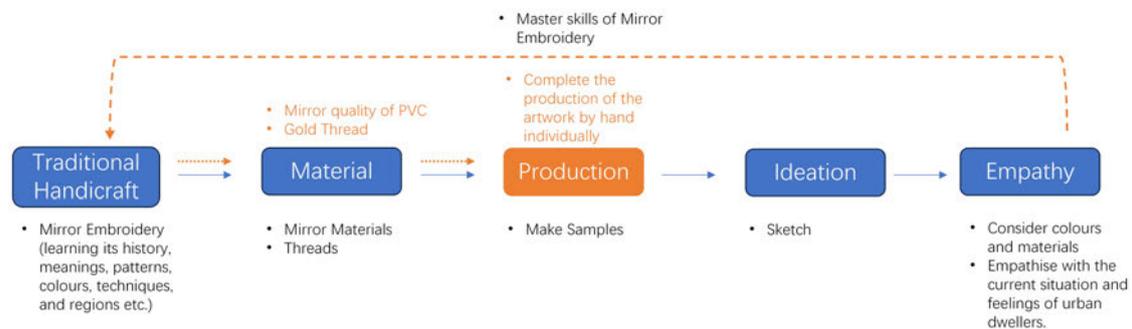
Figure 6.40 The flowchart of the individual practice using the Model 2

6.2.2 Refined Model

In response to the feedback discussed in the previous section, Model 2 was revised at the end of 2021. The updated version, referred to as Model 3, was subsequently applied and tested in two projects. This section focuses on refining the model, highlighting the development of its underlying knowledge framework and the application of three design strategies.

6.2.2.1 A Model with Traditional Handicraft as Core: Model 3

Establishing clear and consistent terminology within the model is essential for ensuring user comprehension and ease of application. The use of concise and lucid terms ensures that users accurately comprehend their meanings, avoid confusion and ambiguity, and support the model's adaptability for future development and expansion.

(1) Making

Traditionally, jewellery design comprises two distinct yet interrelated components: design (often in the form of drawing) and making. While these are often executed by different individuals, jewellery design emphasises the making process (Siu and Dilnot, 2001, pp.704-705; Bernaberi, 2011, p.3). In this context, 'making' refers to the realisation of a design by craftspeople based on design drawings. Accordingly, the Making module in Model 3 incorporates the Production module from Model 2.

Making involves experimenting with materials and techniques to support design innovation (see Section 6.1.2.1). Through iterative trial and error, students refine concepts and enhance skills, developing prototypes that not only consolidate their experimental work but also allow for feedback from tutors, peers, or clients. This supports students' continuous improvement and fosters an integrated learning process that bridges design, handicraft, and making processes.

Making is a dialectical process that involves designing and projecting both the understood subject and the understood object (Astfalck, 2007, p.29). "[A]n evolving and positive attitude towards the interactive dynamics between making and critical reflection" could help students shift and formulate ideas (Astfalck, 2007, p.28) and "create new solutions of a higher order of design knowledge that succeeds in enlarging the body of design knowledge" (Swann, 2002, p.60).
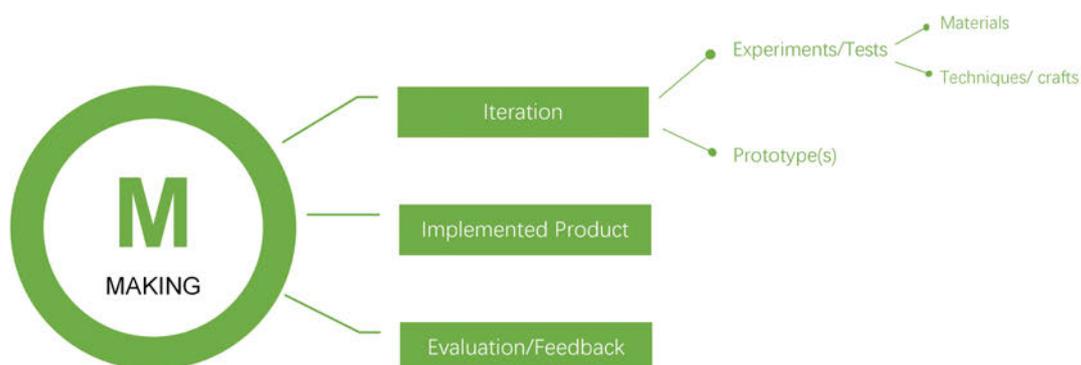
Figure 6.41 The components of Making in Model 3

(2) Empathy

Section 6.1.2.3 discusses the role of consumers/users in design. However, it is also important to consider non-consumer groups within the market, as they may engage with products in alternative ways. In addition, this section implicitly identifies another key group: those involved in the design and production of jewellery. Their direct

engagement with materials and techniques can evoke emotional responses, which are subsequently communicated to consumers and others through their work (Figures 6.42 and 6.43).

Figure 6.42 The interlinkage within empathy of the Model 3
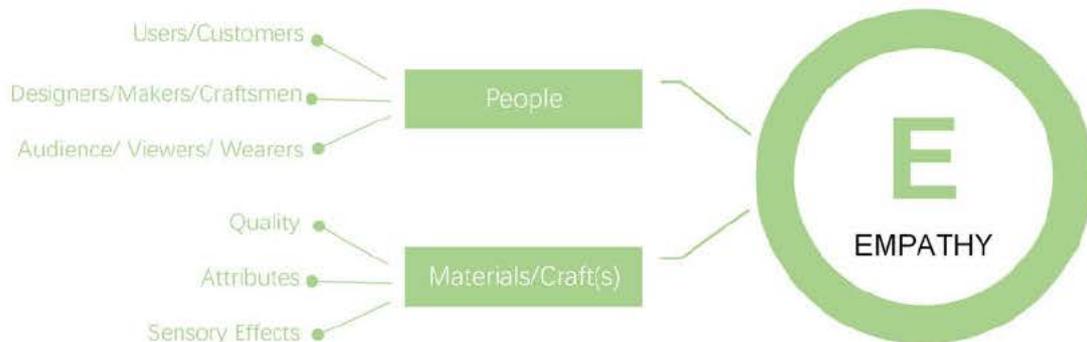
Figure 6.43 The components of Empathy in Model 3

(3) Ideation

In Section 6.1.2.2, ideation involves critical thinking and reflection. In the updated Model 2, idea formation is an iterative process of testing and refinement, supported by input from other modules. Feedback and information from these modules are reflected upon and synthesised, enabling the exploration of innovative directions. Identifying innovative aspects helps drive the development of design concepts.
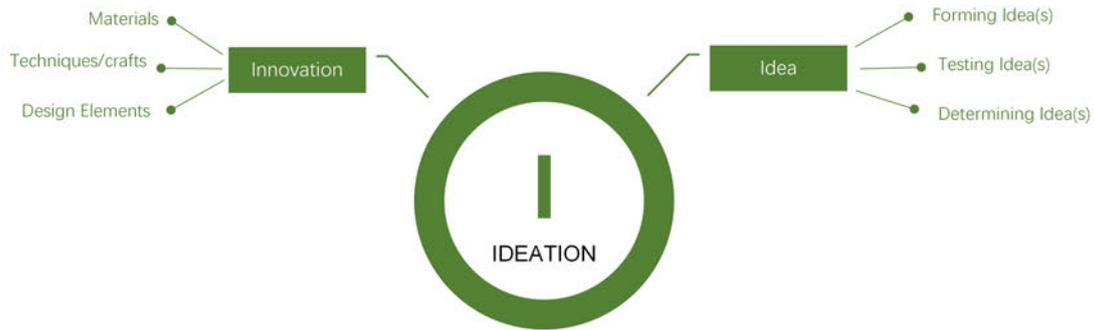
Figure 6.44 The components of Ideation in Model 3

(4) Traditional Handicraft at the Heart of the Model

Making primarily represents the operational dimension of traditional handicrafts, but it may also involve a degree of sensory engagement and intuitive decision-making during the process. Empathy involves contemplation and reflection on the sensory qualities of traditional handicrafts or emotional resonance with others. Ideation focuses on generating and refining innovative design concepts. Together, these three elements form a closed-loop model with bidirectional circulation centred on traditional handicrafts (Figure 6.45).
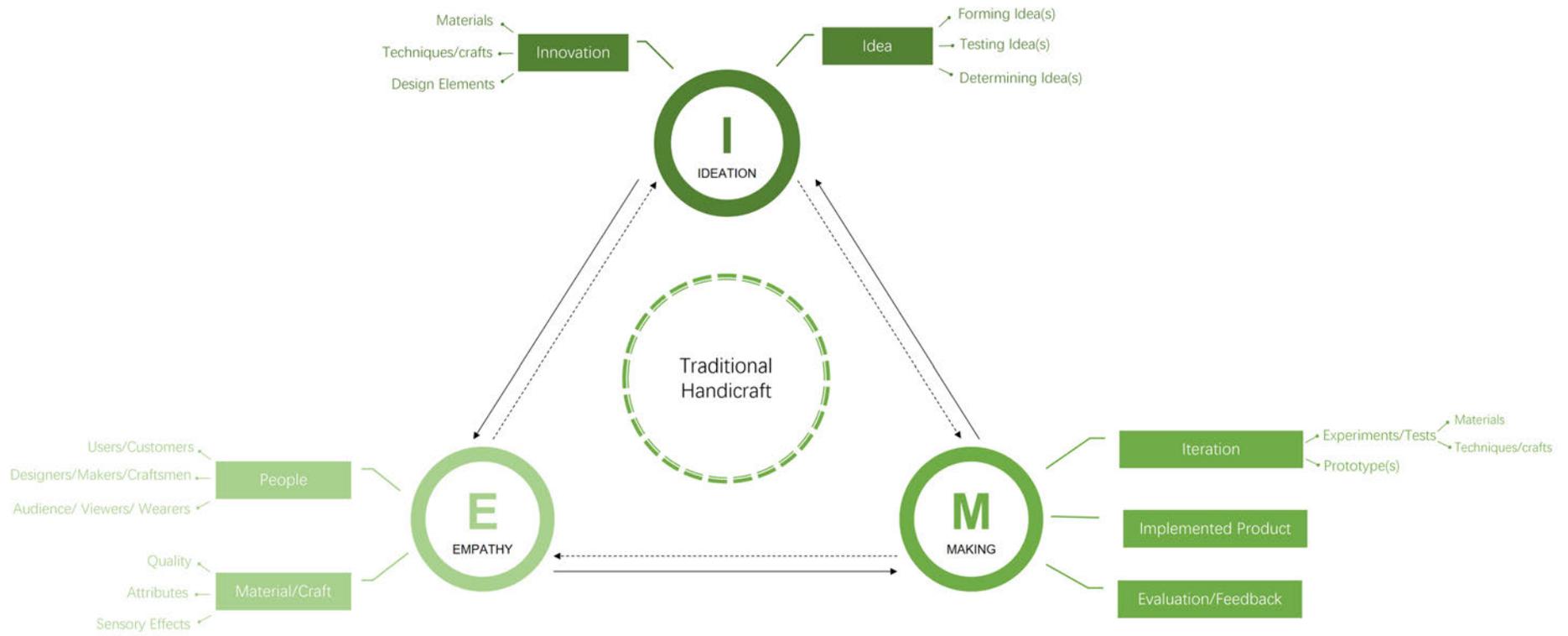
Figure 6.45 A model centred around traditional handicraft and the detailed introduction of Model 3. Designed by Zi in 2021

6.2.2.2 Teaching Experiment 3: Contemporary Embroidery Jewellery Design for Target Customers

(1) Content of the Teaching Experiment

In December 2021, 29 fourth-year jewellery students at SCFAI participated in a five-week course titled Contemporary Jewellery Art. As embroidery was not part of the existing curriculum, all students began with the same foundational knowledge and learning conditions. The teaching experiment started with the Empathy module of Model 3, aiming to explore viable design proposals for the sustainable development of traditional handicrafts in response to current societal and market demands (Figure 6.46).
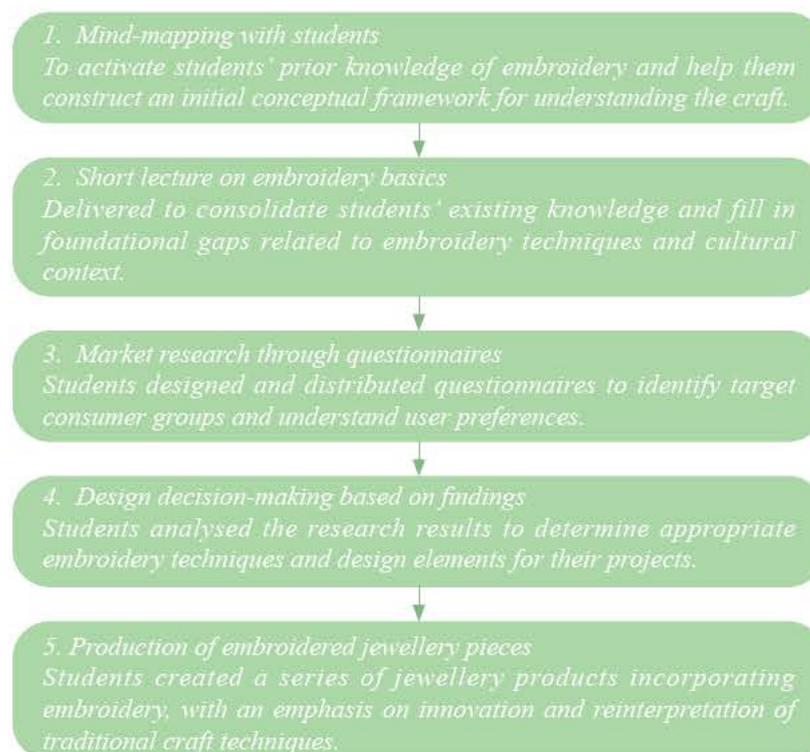
Figure 6.46 The requirements and process of the teaching experiment

Students began by brainstorming around the keyword embroidery, drawing on their existing knowledge and identifying gaps through mind mapping (Figure 6.47). Their active participation fostered an engaging learning environment and stimulated peer enthusiasm, demonstrating the effectiveness of participatory teaching. I then delivered

a brief lecture to consolidate foundational embroidery knowledge and reinforce the outcomes of the initial activity.

Figure 6.47 Brainstorming (top two photos) and students' mind-mapping (rest photos).
Photographed by Zi in 2021

Students collaborated to identify the target customer group for their embroidery designs through questionnaires. Analysing and interpreting the questionnaire results was equally significant, as it enabled the extraction of design-relevant insights. I provided tailored guidance to support each group in interpreting the data and identifying key design elements, including target users, market positioning, pricing strategies, and material and labour costs (Figure 6.48). The information gathering focused on embroidery and its design market positioning, representing the Knowledge Retrieval phase (Figure 6.49). Then, students need to "synthesise the numerous factors and create a solution" (Swann, 2002, p.53).
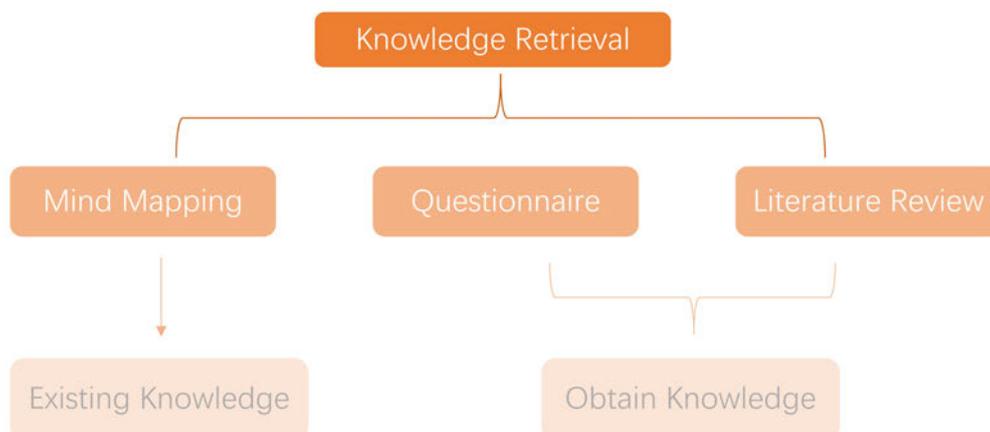
Figure 6.49 Knowledge Retrieval stage
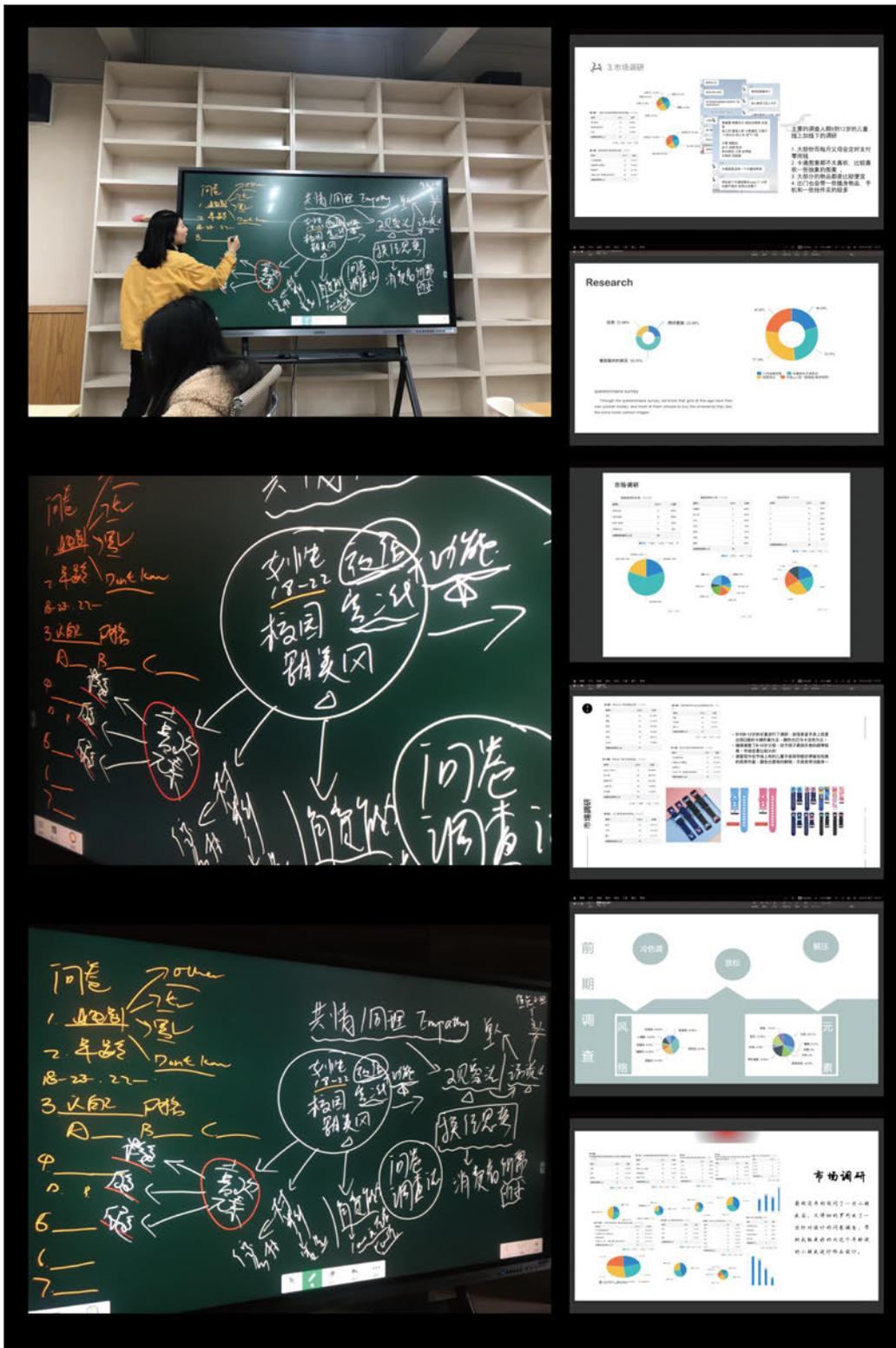
Figure 6.48 Zi helped students analyse their questionnaires (left photos) and presented the results in the right photos. Photographed by Zi in 2021

Students applied their knowledge to select embroidery stitches, patterns, textures, and colours, developing creative embroidery designs and conceptualising initial ideas

(Figure 6.50). Visualising concepts through sketches, videos, or text enhances problem-solving and supports information management (Seitamaa-Hakkarainen, 2000, p.172). As Swann (2002, p.52) notes, visual form constitutes a form of knowledge and serves as an effective medium for expressing and conveying design concepts. Finally, students consolidated and refined prior knowledge to formulate coherent design proposals, integrating their learning process.
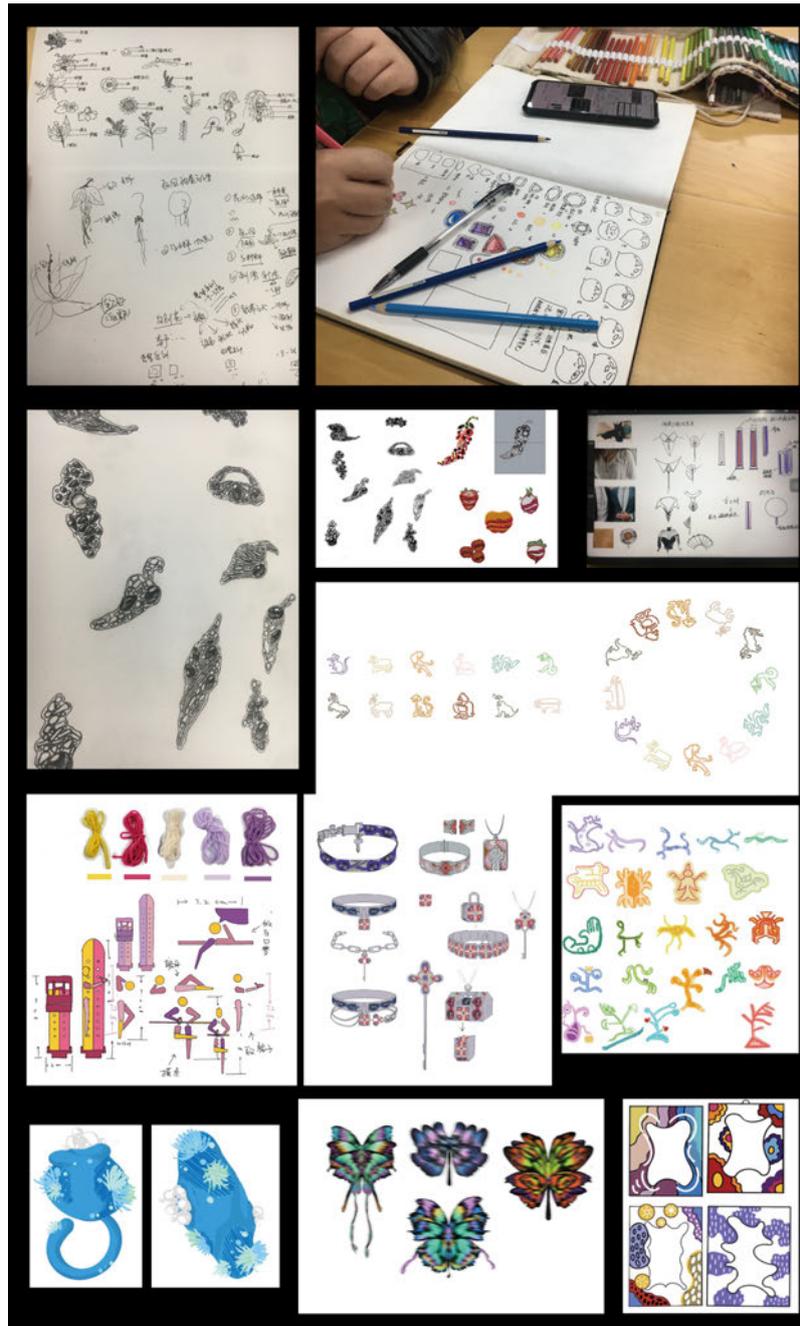
Figure 6.50 Students' design sketches. Photographed by Zi in 2021

Subsequently, students implemented their design plans and produced final outcomes. This stage primarily engages the Making module of Model 3, emphasising hands-on experimentation and material exploration (Figure 6.51). Practical engagement fosters students' active learning through ideation, prototyping, problem-solving, and evaluation of potential outcomes (Pöllänen and Urdzia-Deruma, 2017, p.120). Students also considered aesthetics, functionality, technology, cost, materials, time consumption, and tools (Pöllänen, 2009, p.252). Systematic documentation of key materials and processes supported the acquisition of new skills and knowledge, enabling refinement of both techniques and visual outcomes. This process reflects the Knowledge Concretisation phase, where students deepen their understanding by transforming abstract ideas into tangible designs (Figure 6.52).
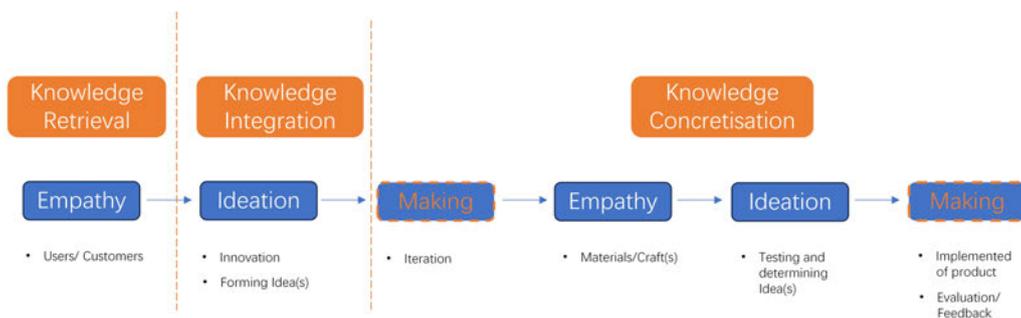
Figure 6.52 The flowchart of the teaching experiment using the Model 3

As a teacher, I encouraged students to adopt a trial-and-error approach in embroidery production, providing on-site guidance to resolve technical challenges and support project success.

Figure 6.51 On-site fabrication. Photographed by Zi in 2021

(2) Results of the Teaching Experiment

Analysis Students' Work

Analysis of students' work reveals a range of outcomes. Some pieces are practical accessories, such as keychains with names, cardholders, and watch straps (Figure 6.53). Others demonstrate cultural significance and commercial potential, including brooches with dragon motifs, Chinese zodiac animals, and food-themed embroidery (Figure 6.54). Notably, several students have integrated the embroidery techniques acquired in this experiment into their graduation projects, further exploring innovative forms and methods (Figure 6.55).

Figure 6.53 Accessories jewellery work

Figure 6.54 Embroidery brooches

Figure 6.55 Cao Ying's work: teaching experiment outcome (left photos) and graduation project (right photos)

Experiment Feedback from Students

All participating students (aged 20-24; 7 males, 22 females) completed pre- and post-experiment questionnaires[20]. Comparative results indicate significant improvement in

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[20] The questionnaire on 21st December 2021: https://www.wjx.cn/vj/me6NdcL.aspx and the questionnaire on 14th January 2022: https://www.wjx.cn/vj/QJnFEg3.aspx

students' understanding of embroidery and proficiency in traditional handicraft techniques, demonstrating the effectiveness of the teaching experiment.

Prior to the experiment, the students' lack of knowledge about traditional handicrafts affected their understanding of jewellery-making handicrafts, making innovation more challenging. Over half of the students had their own design methods or processes, which might not be suitable for innovative designs in traditional handicrafts. Notably, 72.41% of students embedded symbolic meaning in their work, while 31.03% positioned their designs as cultural and creative products. Some students identified their work as one-off pieces (24.14%) or suitable for small-batch production (20.69%); however, none described their work as bespoke.

After the teaching experiment, students expressed varying levels of satisfaction with their work. Students stated a reduction in the difficulty of innovating traditional handicrafts. 20.69% believed the teaching model positively influenced their creative process, and 13.79% developed personal design workflows to support future innovation. Overall, the model effectively enabled students to innovate within the context of traditional handicrafts.

The Formation of Knowledge Framework

The teaching experiment emphasised experiential learning, inquiry-based learning, and participatory action. These approaches encourage students to learn through doing, identify problems, and propose solutions. They also activate prior knowledge, support the acquisition of new knowledge, and foster the generation and application of ideas, forming a coherent design-based knowledge framework (Figure 6.56).

Knowledge
Retrieval

Knowledge
Integration

Knowledge
Concretisation
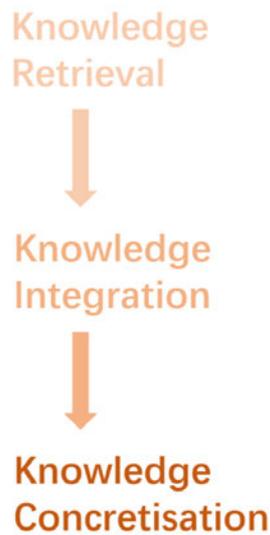
Figure 6.56 Knowledge generation process

Design involves not only the visible process of creating a product but also the implicit generation and development of knowledge, which designers often overlook. They may not realise how this process of knowledge generation shapes their thinking and outcomes. Craft practitioners or makers often overlook the fact that reflection-in-action makes an area of their knowledge explicit, which helps generate new knowledge (Swann, 2002, p.60; Hawson, 2006, p.129).

The forms and significance of knowledge generation, embodiment, and dissemination in practice:

> *Creative practice in a research context can generate new knowledge, which is embedded in the practice and embodied in and by the practitioner. This knowledge can be found not only in the practitioner making the artefact, but also in the artefact created, the process used to make it, and the culture in which it is made and viewed or used. Understanding all of these elements of practice in an actual artistic experience can begin as personal awareness, which may be detailed, proven and generalized, so that a new way of understanding in the field emerges and can be disseminated.* (Nimkulrat, 2010, p.82)

Knowledge integration in this research combines theory and practice to foster a holistic understanding of traditional handicrafts. During the testing phase, students apply new knowledge to solve problems, which encourages exploration, reflection, and

reinterpretation of concepts. This iterative engagement supports knowledge generation. In the prototyping phase, knowledge management consolidates accumulated experiences and ideas, which are ultimately embodied in the final product. Through this progression, knowledge emerges, solidifies, and "becomes the building blocks for developmentally higher levels of knowing" (Kolb, 2015, p.68).

This understanding aligns with Reason and Bradbury's (2001, p.1) definition of action research as:

> *[participatory] action research is a ... process concerned with developing practical knowing ... It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues.*

Knowledge is "a transformation process, being continuously created and recreated, not an independent entity to be acquired or transmitted" (Kolb, 2015, p.49). Art and design universities bear the responsibility of cultivating students' ability to generate new knowledge through critical thinking, which is a key contribution to both society and scientific advancement. Accordingly, the effective teaching methods summarised in Table 6.7 are designed to guide students in acquiring, contemplating, and developing knowledge through practice.

Table 6.7 The use of research methods in Teaching Experiment 3

Model Part	Experiment Steps	Methods	Aims	Process
Empathy	1. Customer Research	• Mind-Mapping • Questionnaire • Focus Group/ Interview	To identify the needs and perceptions of current users and consumers in the context of embroidery handicrafts. This will be achieved through both primary and secondary research to gain an in-depth understanding of embroidery practices, supported by additional investigative methods where appropriate.	**Target Group (Group Work)**
Ideation	2. Innovation 3. Framing Idea	• Brainstorming • Case Study • Group Discussion	To develop preliminary design ideas or hypotheses informed by customer feedback, to identify opportunities for innovation. These ideas may be expressed through sketches, video recordings, and written reflections.	**Design Development Process (Individual Work)**
Making	4. Iteration	• Trial and Error	To validate proposed ideas through prototyping, experimentation, or other suitable methods, depending on the specific focus of innovation within the students' design projects.	
Empathy	5. Materials/Craft(s)	• Guiding Questions	To select appropriate materials based on embroidery techniques and design themes, with consideration for enhancing sensory experience, evoking emotional resonance, and meeting market expectations.	
Ideation	6. Testing and determining Idea(s)	• Focus Group • Trial and Error	To refine and optimise design solutions by addressing identified issues and ensuring alignment with customer needs and preferences.	
Making	7. Implemented of product 8. Evaluation/ Feedback	• Questionnaire • Focus Group/Interview • Oral Presentation	To complete the final product and collect evaluative feedback from teachers, peers, or customers to inform further improvement and reflect on outcomes.	**Final Products (Individual Work)**

6.2.2.3 Individual Practice 3: *Ripple*

I explored various approaches and forms of expression for innovative embroidery by integrating new materials and technologies. Figure 6.57 illustrates my practice process for achieving this goal.
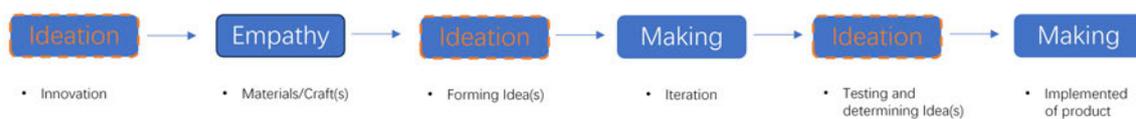
Figure 6.57 The flowchart of the individual practice using the Model 3

From Materials to Emotional Resonance

The act of embroidering became a meditative experience, allowing me to engage deeply with the tactile and visual qualities of thread, beads, and plastic. The transparency of PVC allows for light transmission, creating dynamic shadow effects. These evoke the shimmer of sunlight on a lake's surface or the concentric ripples caused by a falling stone, eliciting a sense of calm and contemplation. This piece was therefore titled *Ripple*.

Traditional Handicraft Encounters New Technology

By applying flat stitch and bead embroidery to PVC, I achieved a double-sided visual effect and enhanced tactile interaction, particularly through the cool surface texture of the beads (Figure 6.58). The splash-like form was modelled using Rhinoceros software and fabricated through 3D printing (Figure 6.59).

Throughout the process, I addressed challenges such as material compatibility and colouration in 3D printing, ultimately developing a method for combining embroidered elements with printed components. The completed piece exhibits a subtle blue sheen under light, illustrating the visual potential of combining embroidery with PVC and digital fabrication techniques (Figures 6.60-6.61).
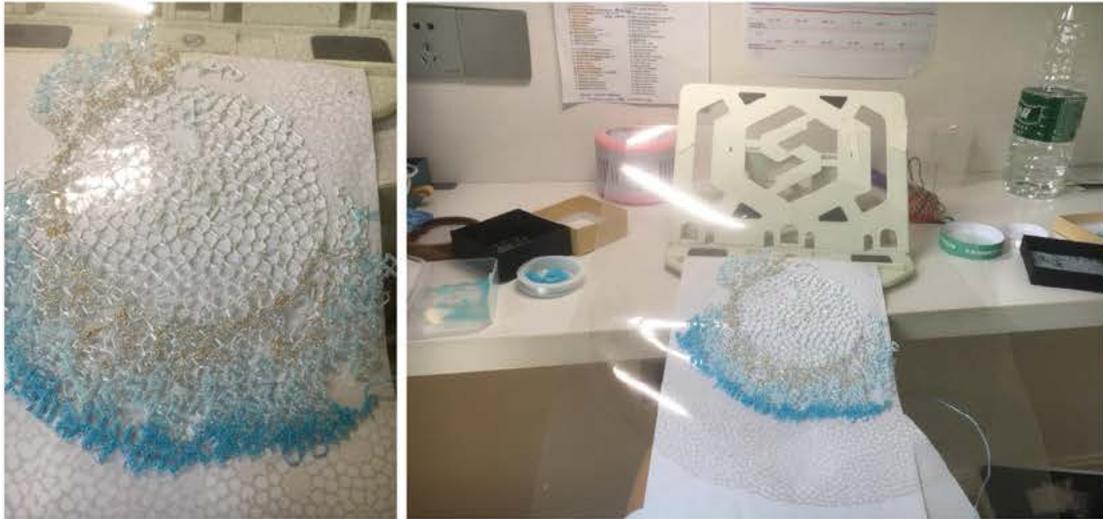
Figure 6.58 The making process of using flat stitch and bead embroidery on PVC.
Photographed by Zi in 2022
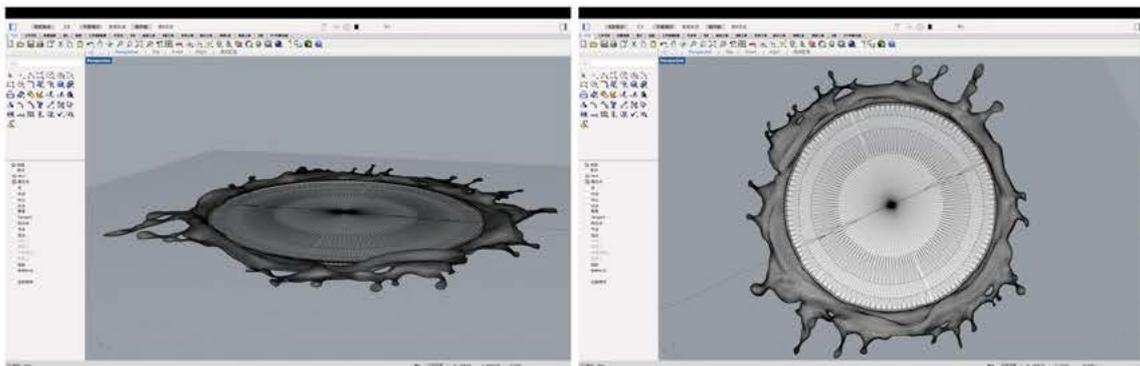
Figure 6.59 Illustration of software modelling effects. Completed by Zi in 2022
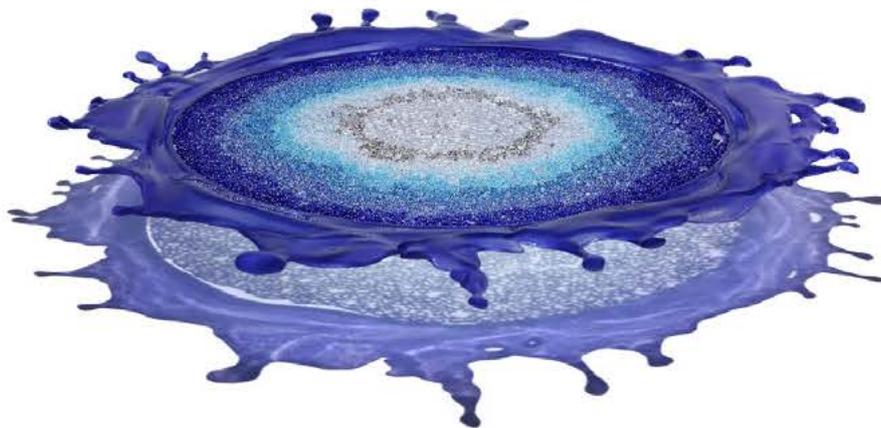
Figure 6.60 *Ripple* (2022): PVC, Thread, Resin. Size: 45 cm * 43cm *4cm. Designed by Zi
in 2022

Figure 6.61 Details of the *Ripple*

6.2.2.4 Summary

Teaching experiment 3 and individual practice 3 were employed to examine the current iteration of the research - Model 3 - which comprises three components designed to enhance clarity and conciseness.

The primary aim of teaching experiment 3 was to explore how traditional handicrafts can be produced to meet customer demands, involving two clockwise iterative cycles based on Model 3. The *Ripple* project, showcased in two exhibitions in 2024, further exemplifies the integration of traditional techniques with new technologies, introducing new design elements inspired by traditional handicraft skills. These two projects aimed to evaluate the effectiveness and practical applicability of Model 3, particularly its multifunctional, cyclic nature.

In June 2022, I presented and published a paper on teaching experiment 3 at the 4th World Conference on Teaching and Education in Oxford, UK. The paper reflected the findings of this research and revealed a key challenge: students' unfamiliarity with, or misapplication of, research methods in the design context. This prompted a deeper

investigation into suitable research methods for bridging design, traditional handicraft, and making.

Teaching experiment 3 also introduced three design strategies and proposed a preliminary knowledge formation framework within Model 3. Building on these insights, Sections 6.2.3 and 8.1.2 further develop this framework and provide recommendations for pedagogical approaches.

6.2.3 Ultimate Model

This section aims to formulate the final model to solve the new problems of traditional handicrafts in Chinese jewellery design education.

6.2.3.1 The Current Situation of Traditional Handicrafts in Jewellery Design Education of China

This section presents feedback from teachers and students on the teaching of traditional Chinese handicrafts, gathered through a questionnaire and a focus group interview. The questionnaire, designed in Chinese, was distributed via the Wenjuanxing platform, while the focus group interview was recorded for documentation and further analysis.

The objectives of these methods are threefold: 1) to examine how the role of traditional Chinese handicrafts in jewellery design education evolved between 2020 and 2022; 2) to evaluate the extent to which the proposed model addresses emerging challenges and to offer reference data for its refinement; and 3) to inform the development of a follow-up project based on insights from the focus group interview.

(1) The Voice from Teachers

The questionnaire[21] targeted jewellery design educators in Chinese universities, with 18 anonymous responses collected by 20 April 2022. Its objectives were: 1) to validate

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[21] Question list: https://www.wjx.cn/wjx/design/previewmobile.aspx?activity=160624909&s=1

the universality of the Chinese jewellery design education system (see Section 4.1.1); 2) to examine the current status of traditional handicraft teaching within this context; and 3) to gather opinions and suggestions regarding relevant pedagogical approaches.

The first part of the questionnaire focused on respondents' teaching backgrounds and their familiarity with traditional handicrafts. The second part addressed the first objective, confirming that craft-based courses are typically offered in the second and third years, followed by critical thinking and creative design training in the fourth year. These findings support the training system of Chinese jewellery education outlined in Section 4.1.1 and highlight the emphasis placed on craftsmanship.

The third part responded to the second and third objectives by exploring both the current practice and challenges of integrating traditional handicrafts into teaching. The primary challenge in teaching traditional handicrafts lies in rationalising the course content. Factors such as the time required for craft learning, the adequacy of tools and equipment, and the professional and instructional capabilities of teachers need to be considered when structuring course content.

Assessment of student work tends to prioritise craftsmanship, followed by design concepts. However, a strong grasp of the cultural and traditional context of traditional handicrafts was found to enhance the quality of students' work significantly. Both teachers and students prioritise customer-centred design, considering its relevance to employment prospects.

In summary, the integration of traditional handicrafts into jewellery design education remains a critical area for further pedagogical development. Future efforts should focus particularly on enhancing the instructional capacity of educators, including their subject knowledge, practical skills, and ability to engage and motivate students. Well-structured teaching schedules and context-sensitive methodologies are essential for addressing the complexities of handicraft education. Continued exploration in this area

will be vital for sustaining and evolving the role of traditional handicrafts within contemporary design education.

(2) The Voice from Students

On June 18th, 2022, I conducted a focus group at SCFAI with eight outstanding BA graduating students. This was followed by a student questionnaire, distributed via the Wenjuanxing platform on November 29th, 2022, targeting current and former jewellery students from various institutions. The aims were: 1) to identify core challenges in traditional handicraft teaching; 2) to gather feedback on students' learning experiences; and 3) to encourage students to think creatively about innovative designs within traditional handicrafts in preparation for the upcoming Songtao workshop.

Questionnaire Findings

The questionnaire[22] comprised 11 questions. Questions 1-3 collected demographic information, indicating that 30% of respondents were current students and 70% were graduates. Questions 4-7 explored the content and methods of traditional handicraft teaching, revealing a strong focus on metalworking, while only 6.67% of courses included embroidery. Demonstration (56.67%) and step-by-step instruction (73.33%) were the most common teaching approaches, though over half (53.33%) of teachers encouraged innovation.

Questions 8 and 9 assessed the impact of these courses. While most students acknowledged the influence of their learning experiences on creativity and employment, 16.67% reported no lasting effect. Regarding graduation projects, 30% incorporated traditional handicrafts, 43.33% considered doing so, and 26.67% did not. Enamelling, stone setting, and filigree were the most commonly used techniques in graduation projects.

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[22] Question list: https://www.wjx.cn/wjx/design/previewmobile.aspx?activity=198169211&s=1

Questions 10 and 11 examined perspectives on innovation. Most students found it difficult to innovate within traditional handicrafts to varying extents; only 3.33% found it easy. Key factors for innovation included technique, materials, and form, with 53.33% highlighting the importance of aligning with popular aesthetics.

Focus Group

Teachers typically adopt a step-by-step approach in handicraft teaching: beginning with PowerPoint presentations and videos, followed by live demonstrations, and culminating in hands-on student practice. However, limited attention is given to fostering innovation within traditional handicrafts. Students noted that teaching quality is sometimes influenced by the teacher's mood or workload.

Additionally, rational course scheduling and coordination between crafts courses were highlighted as significant challenges. For example, the time allocated for each craft usually ranges from four to six weeks. Students often lack sufficient time to complete tasks, prioritising assignment submission over skill mastery. However, inconsistencies in teaching approaches and assignment structures across courses hinder students from developing a continuous learning experience and applying previously acquired craft skills progressively.

Teacher-assigned group projects also restrict individual creativity to some extent. Students proposed starting with theoretical instruction to clarify purpose and context, followed by hands-on practice. Some also recommended co-teaching by craftspeople and university staff to strengthen critical thinking. Despite these challenges, students recognised the importance of personally learning and mastering craft skills, which they considered essential for creative development and generating design ideas.

Several students shared graduation projects rooted in traditional handicrafts, offering insights into innovative methods such as experimenting with materials and forms, broadening application contexts, and encouraging interdisciplinary collaboration. The

discussion critically assessed these strategies to guide future innovation in preparation for the upcoming Songtao workshop.

In conclusion, teachers' methods and curriculum structure have a significant impact on learning outcomes. Students tend to emphasise material and stylistic innovation, whereas teachers prioritise innovation in craft techniques and thematic development. Both teachers and students recognised the need for better course planning. Building on findings from previous teaching experiments, this research proposes a practical model to support teachers in designing structured, theory-practice integrated courses, logically arranging student learning tasks, and providing guidance on teaching methods to enhance learning efficiency and satisfaction.

6.2.3.2 A Pedagogical Model Embedded with a Knowledge Framework: Model 4

The design process is iterative. It can only be effective if it is a constant process of revisiting the problem, re analyzing it and synthesizing revised solutions … the designers tended to suggest a variety of possible solutions until they found one that was good or satisfactory. (Swann, 2002, p.53)

Model 4, developed at the end of 2022, represents a holistic and iterative design process, accompanied by a process of knowledge generation (Figure 6.62).
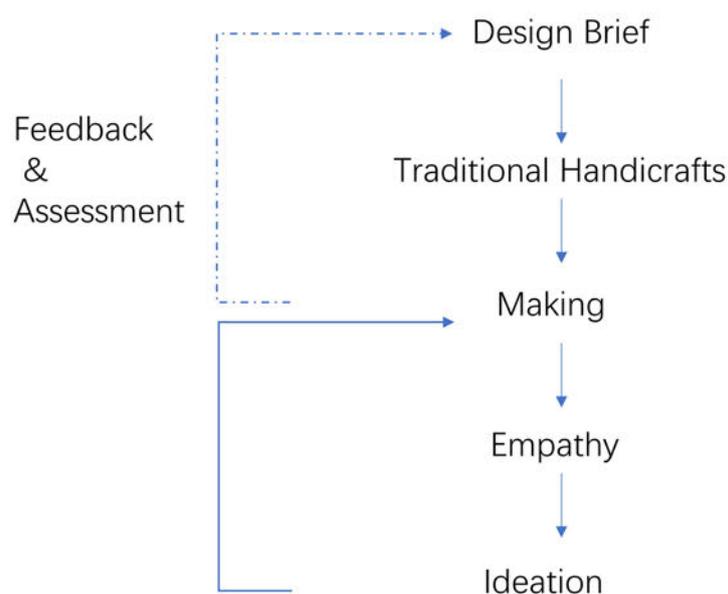
Figure 6.62 IEM model: Model 4

This updated model begins with a design brief and comprises two main parts (Figure 6.63):

(1) Problem Identification

Rooted in the Design Brief and research into Traditional Handicrafts, this part focuses on identifying and exploring design problems. This part focuses on utilising traditional handicrafts to explore solutions in response to research questions from the design brief. Traditional handicrafts are used as a lens to expand perspectives and inform the inquiry process, laying the groundwork for subsequent design phases through knowledge gathering.

(2) Problem Solving

Informed by project-based learning, this part employs guiding questions as a primary teaching method. The model incorporates the three components outlined in Section 6.1.2 - Ideation, Empathy, and Making (IEM) - along with the sub-components introduced in Section 6.2.2.1.

In this research, the term *guiding questions* refers to prompts provided by educators to stimulate students' critical reflection and creative exploration. These questions - whether verbal or written - are carefully tailored to the design context or specific scenarios, encouraging students, particularly those at lower levels or in junior grades, to articulate detailed, sensory-rich responses based on their own research and practical experience. This approach aims to help students examine their work critically and determine their next steps.
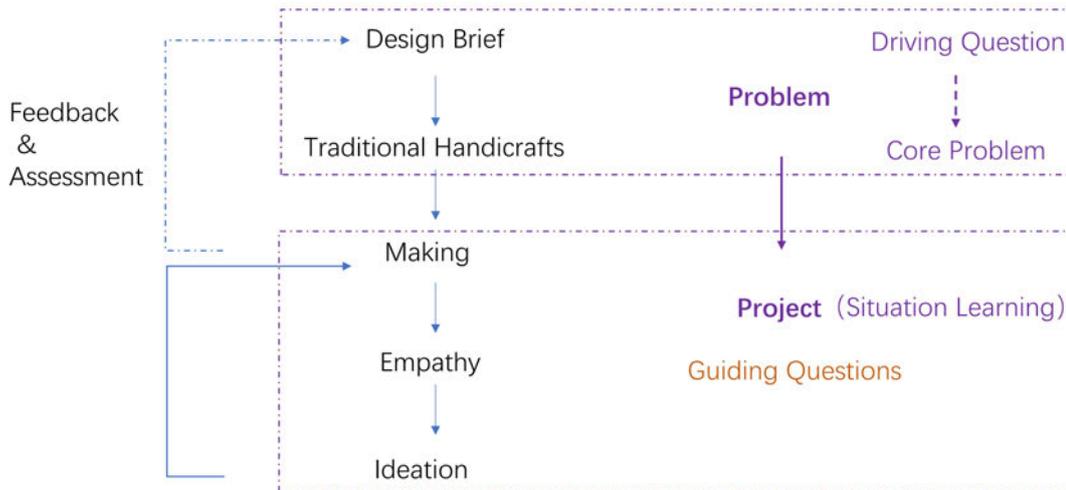
Figure 6.63 The process of problem-solving within the IEM model

The model integrates inquiry-based learning, experiential learning, and participatory action, forming a continuous cycle of questioning, investigation, discovery, and solution-building (Figure 6.64).
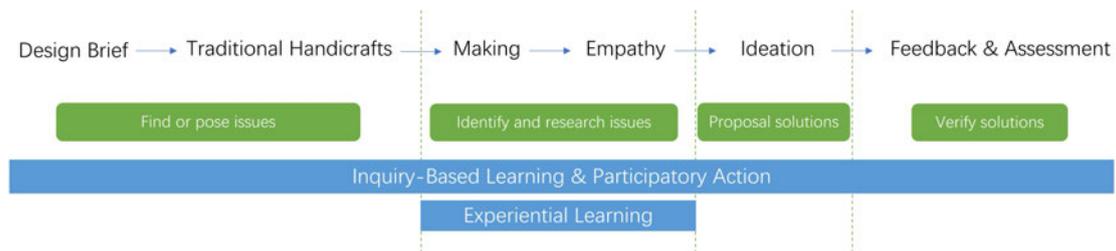
Figure 6.64 The involvement of the three design strategies in the problem-solving process within the IEM model

The act of making traditional handicrafts generates both physical and emotional experiences, which can be interpreted from personal or external perspectives, and through material or technical analysis, finally expressed in various forms. These reflect the two steps of knowledge integration and concretisation (Figure 6.65).
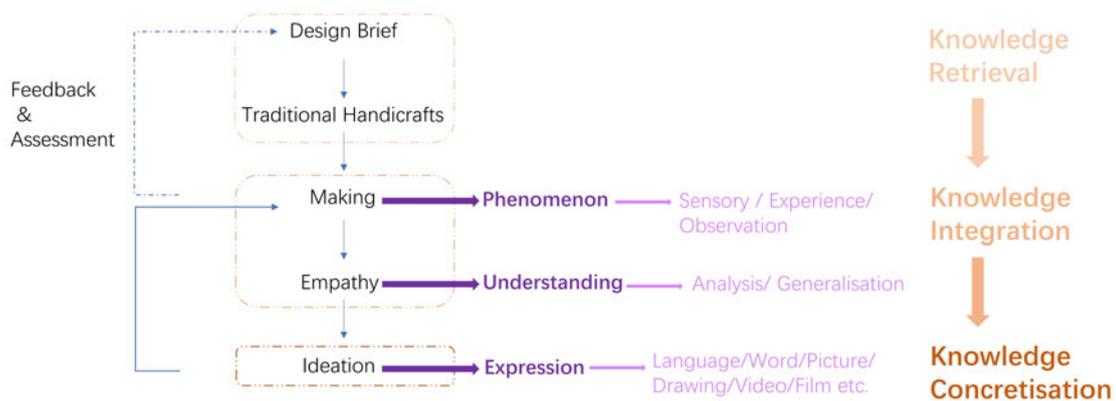
Figure 6.65 The three stages of the knowledge framework correspond to the modules of the IEM model

6.2.3.3 Workshop: Creative Guizhou, Songtao Gift

This ection outlines the application of the IEM model in the workshop and evaluates its effectiveness by 1) testing its feasibility and flexibility in practice; 2) assessing outcomes of collaborative teaching; 3) examining its suitability for group and/or individual learning formats; 4) exploring its applicability beyond craft courses; and 5) offering insights for the development of the toolkit.

(1) Design Brief: Introduce of Competition as a Project

Guided by the UN 2030 Agenda for Sustainable Development, UNESCO's Culture Conventions, and China's 14th Five-Year Plan, the 'Conservation and Management of World Heritage Sites in China' Phase IV project (2021-2024) included a pilot initiative to promote sustainable livelihoods through Miao embroidery at the Fanjingshan World Heritage Site. As part of this initiative, the 2022 Creative Guizhou - Songtao Gift design competition invited civil society to submit cultural design proposals in three categories: packaging, souvenirs, and guesthouse design.

This workshop centred on Songtao Miao embroidery and silversmithing, aiming to develop creative cultural products, such as gifts, souvenirs, and stationery, while further refining the IEM model.

(2) Teaching Content

Before the workshop, I conducted field research in Guizhou province in July 2022 with a group of focus group students, aiming to gather design inspiration and elements from museums, scenic sites, and traditional architecture.

From October 20 to December 31, 2022, my allocated workshop role was to serve as the primary teacher and collaborate with a teacher to guide 20 second- and third-year students from the Bachelor of Jewellery programme at SCFAI. The workshop was based on the Jewellery Expression course, which focuses on developing students' ability to articulate their jewellery design concepts visually. Incorporating the design competition into the course aimed to enhance students' practical skills and better prepare them for their careers.

Throughout the workshop, I documented progress, gathered feedback, and collected student work to monitor learning outcomes. This process enabled timely adjustments to the teaching approach and informed subsequent refinements of the model and toolkit. The detailed structure of the workshop is illustrated in Figure 6.66.
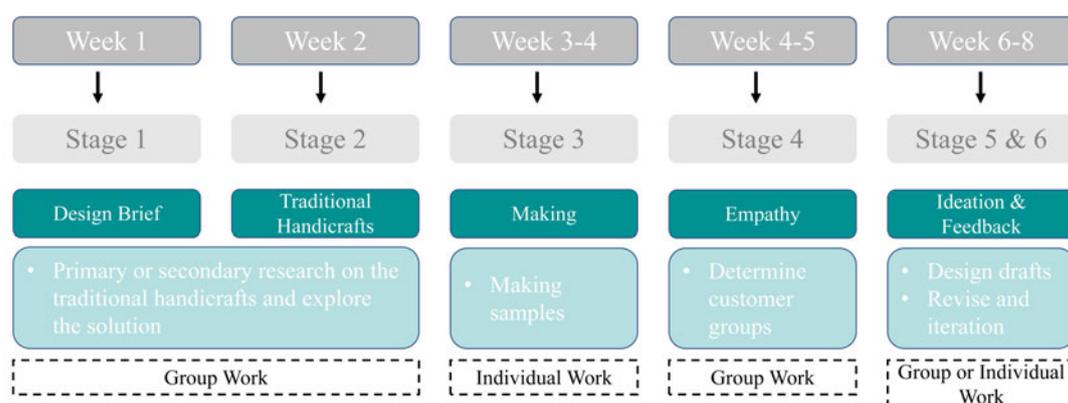
Figure 6.66 Workshop: teaching schedule for each week

In the first two stages, students were divided into six groups to conduct preliminary research and develop initial concepts. In the third stage, they worked individually to experiment with materials and techniques, producing ten samples (Figure 6.67). These

experiments offered new insights into traditional handicrafts and provided multisensory experiences - including touch, sound, and smell - beyond the visual, thereby facilitating incremental knowledge acquisition.

In the fourth stage, students returned to group work to carry out customer research through questionnaires and other methods, extract design elements, and identify market positioning. Teachers guided the analysis of the experimental samples by posing tailored guiding questions. Students documented their processes and reflections using narrative research methods to articulate their thoughts, emotions, and insights.
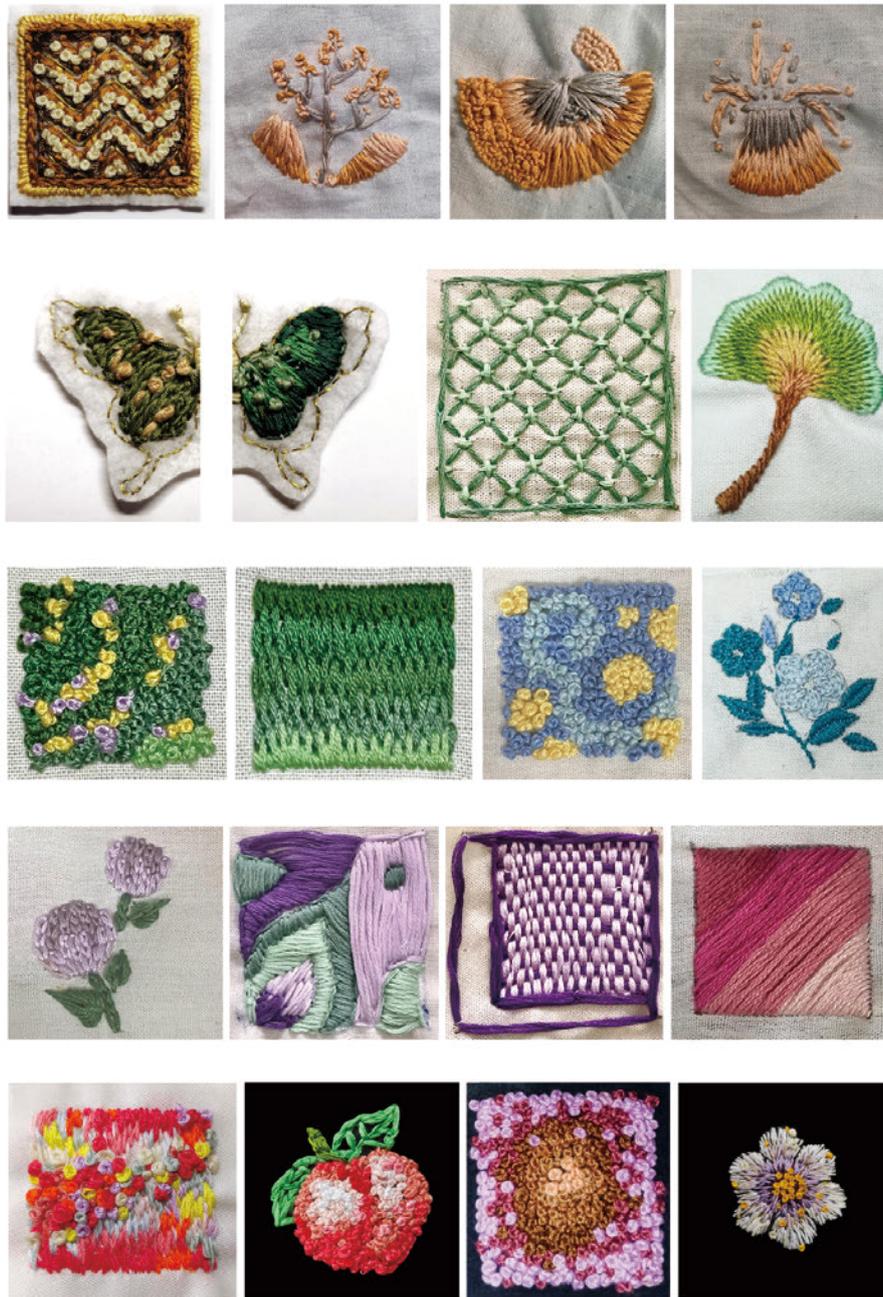
Figure 6.67 Experimental samples made by students

During the final stage (November-December 2022), all students received online tutorials from home due to government-imposed COVID-19 restrictions. Consequently, they were unable to conduct in-person research or complete physical prototypes. Instead, students refined their design drafts through iterative online guidance and submitted their final proposals digitally (Figure 6.68).
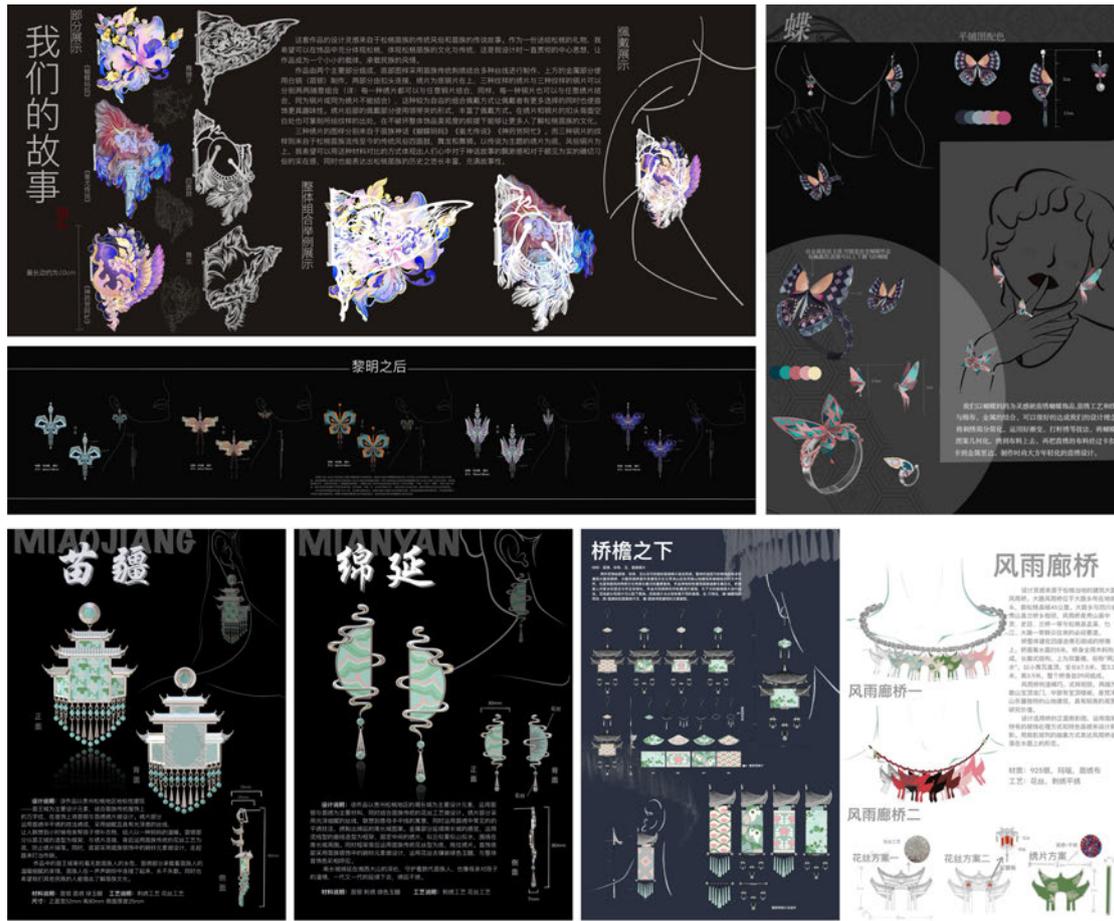
Figure 6.68 The students completed the digital version of the design drafts according to the competition requirements

(3) Results of the Workshop

Workshop Feedback

A questionnaire[23], comprising of three parts and 10 questions, was distributed through the Wenjuanxing platform on February 11th, 2023, to gather students' feedback on the workshop.

The results revealed that students did not fully recognise the importance of the Making module, which indicates that students often overlook the assistance and inspiration brought by hands-on practice and instead confine themselves to theoretical design

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23 Question list：https://www.wjx.cn/wjx/design/previewmobile.aspx?activity=208126179&s=1

concepts. This lack of emphasis on practical skills hinders innovation in traditional handicrafts. The inability to conduct in-person research due to COVID-19 restrictions may have further affected students' understanding of the role of making in the design process. However, students did acknowledge the importance of considering customer needs in the development of traditional handicrafts, highlighting the significance of both the Making and Empathy modules in the IEM model.

Teaching Outcomes

Six groups submitted entries to the competition, with three receiving awards (Figure 6.69), demonstrating the model's effectiveness. After the workshop, I encouraged students to complete the final stage of production to: (1) test the Implemented Product sub-module in the Making module; (2) enable students to experience the whole design and fabrication process and enhance problem-solving skills; and (3) prepare for the research exhibition (see Chapter 8) (Figure 6.70).

Figure 6.69 Award-winning design drafts by students

Xiaoge Zhu, kangran Zhao, Zibin Ren, Jialin Mao

Qiyue Zhang

Ling Ge(Earring)
Silver-plated copper, Glass
45x40mm

Ling Ge(Earring)
Silver-plated copper, Glass
30x30mm

Our Story(Object)
Cupronickel, Miao embroidery
280x160mm

Ling Ge(Earring)
Silver-plated copper, Glass
70x20mm

Ling Ge(Necklace)
Silver-plated copper, Glass
50x30mm

Our Story(Object)
Cupronickel, Miao embroidery
270x280mm

Jing Luo, Qiusha Meng, Huiwen Ma

Xiangyi Pan

Zhuan Ji(Earring)
925 Silver, Silk thread, Fabric,
Miao embroidery
30x30x60mm

Miao Territory(Earring)
925 Silver, Silk thread, Fabric,
Miao embroidery
80x52x25mm

Yuxin Xiang

Nanjiang Liu

Walking in Thousands of Miles(Earring)
Silver, Jade, Enamel, Dongling stone, Chalcedony, Fabric, Thread
Miao embroidery
35x120mm

The Way Home(Earring)
925 Silver, Pearl, Chalcedony, Fabric, Thread
Miao embroidery
28x80mm

Figure 6.70 The final physical presentation of students' jewellery design work, as documented in *Catalogue 1: Walking alongside the handicrafts Working alongside the Handicrafts* (see Appendix 8).

6.2.3.4 Summary

The model was tested collaboratively by two teachers to explore its potential for cooperative teaching and to obtain external feedback on its implementation. The co-

teacher noted that the workshop schedule was tight, and COVID-related isolation caused confusion and misinterpretation among students of the experimental tasks. In-person instruction would likely have allowed for more effective guidance and timely correction.

Although the model appears simple in structure, she observed that it is rich in content. The effective application of the model requires repeated practice and sustained engagement, through which its broader potential and versatility become evident.

The workshop demonstrated the model's flexibility and adaptability in several aspects: instructional format (individual or group work), instructional format (one or multiple teachers), and the focus of each model sub-component in each cycle, which can be selected based on specific needs.

Although this workshop was implemented within a jewellery drawing course and incorporated a design competition, it demonstrated that the model is adaptable to a wide range of course types, as long as they are related to traditional handicrafts.

6.2.4 Summary of Model Development

The IEM model was developed through multiple iterations of testing, modification, and refinement across three teaching experiments, three individual practices, and one workshop. Moreover, the content of the teaching experiments has evolved. Initially, the model was employed to adapt teaching arrangements to meet course objectives. However, it has evolved to independently organising design teams based on specific project needs. This change demonstrates the model's flexibility and applicability, while also highlighting the active roles of both teachers and students.

(1) Functionality of the Model

The model's proposal, formation, and refinement occurred throughout the experimental process. Its functional value was validated and explored in three key areas, as summarised in Table 6.

Table 6.8 The functionality of the IEM model

The Functionality of the IEM Model		
Model Itself	**Model Application**	**Teaching Approach**
• Flexibility; • Cyclical structure; • Knowledge-based framework; • Each module of the IEM model can be expanded to incorporate additional content as needed.	• Interdisciplinary adaptability; • Applicable to design courses focusing on traditional handicrafts; • Suitable for teaching, individual practice, and team-based design projects.	• Guiding-question method; • Three design strategies; • Instructional format: individual or group-based; • Collaborative teaching: one or multiple instructors; • Allocation of module tasks in group settings may vary depending on individual capabilities.

(2) The Role of Teachers

The IEM model has provided teachers with enhanced pedagogical assistance, enriching teaching content, particularly by offering various teaching methods. Additionally, it strengthens teachers' skills in coordination, cooperation, problem-solving, and organisation. Significantly, the role of teachers varies depending on the purpose of model usage. Teachers still play a significant leading role in teaching, especially when dealing with students in lower academic years. However, in design teams or workshops, their role shifts to that of a supervisor and advisor, encouraging students to engage in autonomous learning and develop their capabilities. In this case, it is more suitable for senior students or those with prior experience using the IEM model.

(3) The Role of Students

Teachers have a significant impact on students' roles by setting teaching objectives and providing guidance. Students are primarily responsible for preserving and promoting traditional handicrafts through creative approaches. Students take on different roles in individual or team collaborations, helping them recognise their specific contributions

to safeguarding and advancing traditional handicrafts in the instructional learning process.

Rooted in traditional handicrafts, the IEM model leverages the strengths of design education in higher education to broaden students' innovative thinking and enhance their design capabilities. It fosters skilled talents committed to safeguarding and developing traditional handicrafts. Moreover, by improving both student outcomes and teaching practice, the model supports the development of a toolkit - introduced in Chapter 7 - for use by educators and researchers as a practical reference.

6.3 Chapter Conclusion

This chapter has outlined the developmental trajectory of the IEM model and addressed the research question through a series of practice-led investigations, including teaching experiments, individual practices, and a workshop. These practices demonstrate a design approach grounded in the creation of physical objects and propose a system - namely, the IEM model - that enables individuals to contribute to the sustainable development of traditional handicrafts. The outcomes illustrate how traditional handicrafts can be preserved and innovated sustainably through design education.

Section 6.1 introduced the core components of the model. Section 6.1.1 explained the rationale for selecting the UK jewellery education system for comparison, highlighting its strengths in studio-based learning and the integration of traditional crafts within contemporary design. This contrasts with the more technically oriented and heritage-driven Chinese approach, providing insight into pedagogical differences and opportunities for integration. Section 6.1.2 compared curricula from leading institutions in China and the UK, identifying three essential components of the model: Empathy, Ideation, and Making. These were further validated through market engagement (Section 6.1.3).

Section 6.2 traced the model's evolution from an initially vague model, which became increasingly explicit and grounded through four iterative phases: formulation, refinement, consolidation, and application. The IEM model was cross-checked and tested through individual practices and teaching experiments in Sections 6.2.1.1, 6.2.1.2 and 6.2.2. Section 6.2.2.2 also introduced a knowledge framework to guide students in deepening their understanding and generating insights. The model encompasses three design strategies: inquiry-based learning, participatory action, and experiential learning, each integrated into the model with clear rationale. Additionally, Section 6.2.3.2 introduced the use of guiding questions as a pedagogical technique to scaffold students' critical reflection and creative exploration within the design process.

The effectiveness of the model was further assessed through a workshop that helped students design traditional handicrafts. Section 6.2.3.3 linked the research with a design competition whose objectives aligned with the teaching goals of the course used in the experiment, providing a platform to test the model under real-world conditions.

Section 6.2.3.3 focused on gathering feedback from credible external audiences, such as competition judges, to assess the validity and impact of the research. As McNiff (1995, p.51) notes, "by testing [my] research findings against public opinion, [I] will be qualified to give reasoned justifications for [my] actions". The competition results offered valuable recognition and provided empirical evidence to support the theoretical arguments of this research. Further analysis of this validation will be presented in Section 8.1.

Section 6.2.3.1 presented findings from questionnaires and focus groups, confirming pedagogical challenges within jewellery design education in China and clarifying the research gap. The adaptability of the IEM model in response to educational needs was consistently demonstrated throughout its development. Finally, this research has been enriched by academic presentations, published articles, and practice-based outputs that collectively informed and substantiated the thesis.

Table 6.9 Summary of research findings in Chapter 6

Finding No.	Description	Chapter Sections
F 6.1	● Based on educational and market factors, three key components of the model are proposed: **Empathy, Ideation,** and **Making**.	6.1.2
F 6.2	● The IEM model employs three design strategies: **experiential learning, inquiry-based learning,** and **participatory action**.	6.2.1.2.3
F 6.3	● The IEM model embodies knowledge framework: **knowledge retrieval, knowledge integration,** and **knowledge concretisation**.	6.2.2.2
F 6.4	● The aims of the conducted questionnaires and focus group are: 1) to conduct an updated investigation into the current state of the research landscape in order to identify any new teaching issues that may have arisen or to determine if existing ones have been resolved; 2) to evaluate and test whether the IEM model in my research continues to be adaptable to the evolving issues in the field of education.	6.2.3.1
F 6.5	● To introduce and validate the use of **Guiding Questions** as a pedagogical strategy to foster students' critical reflection and creative thinking in design education.	6.2.3.2
F 6.6(a)	● The functionality of the model has three aspects: the **model itself,** the **model application,** and the **teaching approach**.	6.2.4
F 6.6(b)	● The IEM model emphasises the roles and responsibilities of teachers and students.	

Notes: The blue rows represent my original research findings or contribution

CHAPTER 7: Introduction of the Operation Toolkit

This chapter explains the structure, operation, and primary purposes of the final model. It also discusses the key aspects to consider, benefits of the model, who can benefit from it, and its future potential.

Jewellery Traditional Handicraft Pedagogical Toolkit

The IEM Model Research Background

Traditional Handicrafts

Traditional handicrafts are a global, as well as a local phenomenon: every culture on the planet has some form of craft and craft manufacturing to meet its basic functional, creative and social needs.

The traditional handicrafts in China are various and complicated, and they are mostly kept alive by passing on knowledge from one generation to the next. Hence, the primary challenged production they face is sustainability and survival. Due to various reasons, there can be multiple factors affecting traditional handicrafts, causing them to vanish.

In the 21st century, the cultural value of traditional handicrafts has been highlighted. As a dynamic cultural heritage passed down through generations, traditional handicrafts have enriched the people's spiritual life and enhanced the Chinese nation's cultural confidence, but also increasingly become a scarce cultural resource in urgent demand by the relevant cultural industries.

Traditional handicrafts embody various other values, including economic value, academic value, artistic value, historical value, humanistic value, scientific value and modern value.

In order to ensure that traditional handicrafts remain alive, they need opportunities to develop and innovate in their characters.

China has explored various strategies in many different fields, even interdisciplinary ones. Its core point is integrating traditional handicrafts with design, and employing them in reality.

Education

Education is the main pathway for selecting, preserving, transmitting, and reproducing the civilisations accumulated during the long history of humans. This way of transmitting civilisation (which includes customs, culture and traditions) enables individuals to master the core achievements of human civilisation in a focused and efficient way . In addition, education enables people, especially the new generation, to understand and appreciate the rich traditions and cultures accumulated throughout history effectively and comprehensively.

21st century China has implemented various policies to promote traditional handicrafts in schools, ranging from early childhood education to higher education. Measures to protect traditional handicrafts are integrated into higher education to develop talents which will play an important role in inter-ethnic and intercultural heritage. Higher education begins with hands-on, experimental teaching and advocates for the establishment of corresponding disciplines that provide a comprehensive and systematic strategy for preserving, transmitting, and innovating traditional handicrafts.

However, the teaching of traditional handicrafts still face many issues in China, such as the lack of systematic integration into the higher education system, the underdevelopment of related disciplines, and insufficient recognition and value. In addition, the teaching content needs to be standardised due to insufficient foundational and applied theoretical research.

Therefore, an instructional model in higher education is needed, combining theoretical and practical courses to provide students with a comprehensive knowledge structure. In this way, students can acquire the necessary skills to produce handicrafts and know how to develop new ideas for product design.

The IEM Model
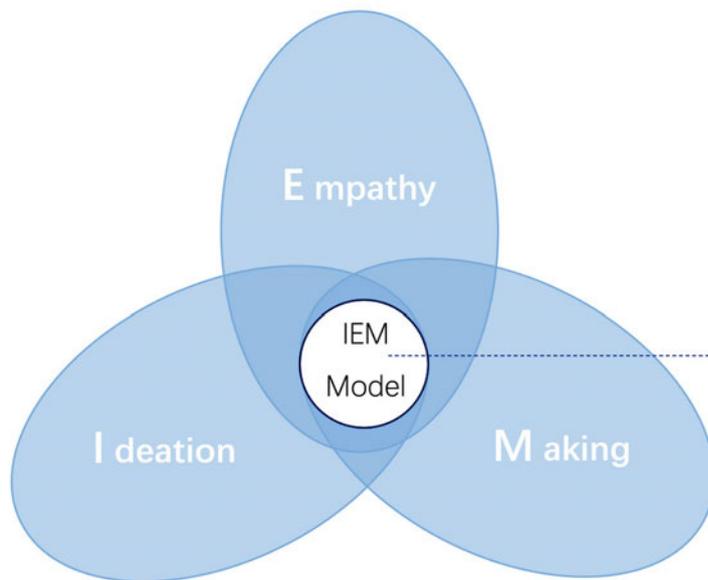
The IEM model is an abbreviation for Ideation, Empathy, and Making, which are the three key elements that shape the methods and approaches to innovation in traditional handicrafts.

This model aims to connect traditional handicrafts with design processes to maintain and transmit cultural heritage to create a new contemporary culture. Its emphasis is generalist rather than functional design. The model also focuses on applying traditional handicrafts in new ways to express contemporary culture, particularly through jewellery design. It is not a standard of product design or a process of manufacture. Therefore, the model is a craft-centred approach.

The Model Overview

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                          ┌ ─ ─ ─ ─ ─ ─ ─ ─ →  Design Brief
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                          ┊                          ↓
      Feedback &          ┊               Traditional Handicrafts
      Assessment          ┊                          │
                          ┊                          ↓
                          └ ─ ─ ─ ·              Making
                              ┌────────────→        │
                              │                      ↓
                              │                   Empathy
                              │                      │
                              │                      ↓
                              └──────────────    Ideation
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──────────────→   Design Process

─ · ─ · ─ · ─ · →   Progress and transfer of information
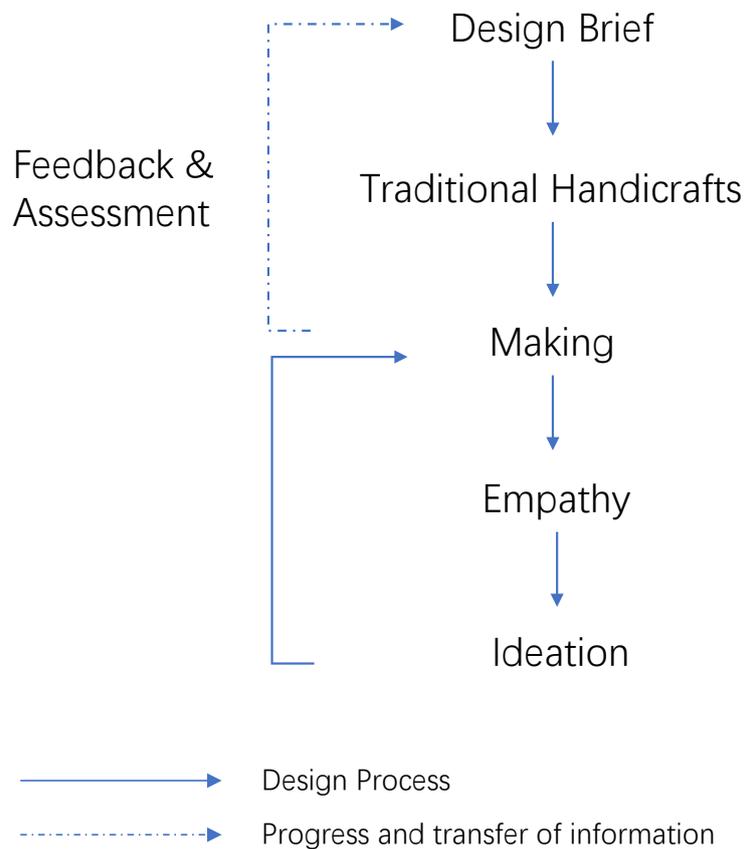
The model is a pedagogical framework. This model promotes active learning through projects designed to help students generate, develop, and realise ideas, focusing on research, observation, and experimentation.

A vital aim is to provide both teachers and students with a method that embeds the teaching of traditional handicrafts, enables learning from experience and practice, and promotes innovation within the traditional handicrafts.

Why IEM model

Individuals, organisations, and institutions frequently desire to offer training but do not know how. For instance, they have numerous resources related to handicrafts but do not know how to employ them; or how to integrate handicrafts and design. Nor do they know how a training programme can assist artisans or craftspeople. Utilisation of all available resources is of critical importance. However, more than having available resources, the issue is what is required to enable the proper approach to training. Consequently, it must take the form of a teaching programme with distinct characteristics, originality, and defined processes.

This model is characterised by highlighting the importance of students. As active participants, students will fully involved in the teaching process, which is an important factor in the innovation and preservation of traditional handicraft design.

In the model of the teaching process, students' personal hands-on experience of traditional handicrafts is emphasised. Rather than inviting artisans or craftspeople to cooperate directly, they can be used as learning resources for students.

Emphasising the benefits and importance of student participation in hands-on experimentation:

1. This hands-on model of teaching provides students with a thorough understanding and mastery of traditional handicrafts while facilitating the transfer of knowledge. Moreover, students contribute to develop new traditional handicraft knowledge for the current era.

2. This model addresses one of the key challenges in traditional handicraft inheritance: no one is willing to learn the craft and pass on both the craft and its associated knowledge.

The teaching of the model addresses this problem in two ways:

• Through their participation, students learn craft skills and master the relevant knowledge, which they then integrate into contemporary designs. It is, thus, an innovative approach of traditional handicraft design, giving new life to traditional handicrafts and new forms of existence in the current era. More importantly, this solves a big problem: the divorce and separation of design and craftsmanship.

• Identify potential sources and resources for candidates. The teaching of this model provides students with more opportunities to engage with traditional handicrafts, sparking their interest in traditional handicrafts during the teaching process. This may encourage students to continue studying traditional handicrafts after completing the course, cultivating well-rounded individuals who can contribute to preserving and advancing traditional handicrafts. This also highlights the critical role that education plays in the long-term development of traditional handicrafts.

Feedback & Assessment

To enhance design and teaching through iterative development informed by self-evaluation and feedback.

F-1 Reflection
To adjust and improve practices through formative feedback from users, teachers, and peers.

F-2 Personal Introspection
To foster reflective thinking and self-awareness through internal self-assessment.

Design Brief

To identify the design object and analyse the effectiveness of a design. Mainly by primary and secondary research to gain a deeper understanding of the design objectives through various investigative methods.

D-1 Analysis
To analyse the requirements of the design and identify the design object.

D-2 Self-Evaluation
To analyse and evaluate the design from the feedback.

Traditional Handicrafts

To identify the specific needs of jewellery-making handicrafts in relation to the design requirements.

T-1 Investigation
To study the related knowledge about traditional handicrafts.

Making

To understand how the object would be made, what that process would involve, and the materials used, which not only provide more depth to students' understanding of the project brief but also enhance their ability to develop innovative and original designs.

M-1 Test
To emphasise learning, perceiving, and experiencing by making, thereby stimulating more creative inspiration through the combination of hand and mind.

M-2 Implementation
To produce the final product of the design, demonstrating the innovation in design concepts, materials, and techniques.

Empathy

By resonating with the cultural significance of traditional crafts, their materials, and their history, students become more aware of the meanings behind their creative processes and learn how to convey them effectively.

E-1 Material Resonance
To explore the understanding and knowledge related to traditional handicrafts through primary and secondary research methods, such as its history, evolution, etc.

E-2 Personal Resonance
To understand the cognition and needs of specific groups of people regarding traditional handicrafts.

Ideation

To develop the creative process through which students generate a design concept, refine and iterate it, and create an original outcome.

I-1 Innovation
To create something new and maintain the originality of the design through the use of materials, techniques, or design elements.

I-2 Idea
To formulate a design hypothesis, develop a design idea, and iterate it.

Traditional Handicraft Pedagogical Toolkit

Introducing the IEM model

China has been looking into traditional handicraft innovation for almost ten years since The Plan on Revitalising China's Traditional Crafts was released in 2017, so the development of a comprehensive teaching model is crucial.

Despite the fact that many people have conducted such programmes, there is also limited material to draw on in this field, making it difficult to develop an education system to turn the idea into reality and train the next generation.

So, the use of the IEM model to create this Traditional Handicraft Innovation Pedagogical Toolkit addresses many of the doubts and questions related to teaching traditional handicrafts in a contemporary context. The toolkit not only guides teachers through all the stages, but also explains the significance of each stage, the methods used, and the benefits gained.

This toolkit explains how to conduct a meaningful teaching and learning programme through the IEM model. Each stage and sub-stage will be interpreted concisely and clearly.

In the pages that follow the aim is to define the IEM model in detail and explain how it works. This includes demonstrating how to do meaningful inquiry, praxis, creative ideation, implementation, and effective feedback at every step.

Three Strategies of the IEM model

The IEM model proposes three design strategies:

Inquiry-based Learning begins with the 'Design Brief' and continues throughout the model, which involves a process of problem discovery, exploration, solution-seeking, and the proposal of desirable solutions.

Participatory Action encourages students to actively engage in the teaching and learning programme, which may motivate them to acquire new knowledge, generate ideas, and develop solutions.

Experiential Learning mainly involves the stages of Making and Empathy, which pertain to material, craft, sensory experience, emotional expression, and narrative content.

Forms of Participation and Interaction

Teacher & Students:
Communication, guidance, comments, and formative feedback.

Pupils (Peer Interaction):
Group discussion, mutual feedback, collaborative critique.

Students & Research Objects:
Interviews, questionnaires, field observation, and documentation.

Use of Guiding Questions

Guiding questions are effective prompts that support all three strategies and modules of the IEM model. They help students reflect critically, think creatively, and articulate ideas rooted in their own experience. Whether delivered verbally or in writing, guiding questions should be tailored to the specific design context or stage of learning.

These questions are especially useful for lower levels or less experienced students, providing structured support that encourages detailed, sensory-rich responses. By helping students clarify their thinking, guiding questions also assist them in planning next steps, deepening their engagement, and enhancing the quality of outcomes.

Design Brief

↓

Traditional Handicrafts

Knowledge Retrieval

Feedback & Assessment

Making

↓

Empathy

Knowledge Integration

Ideation

Knowledge Concretisation

→ Design Process

⋯⋯► Progress and transfer of information
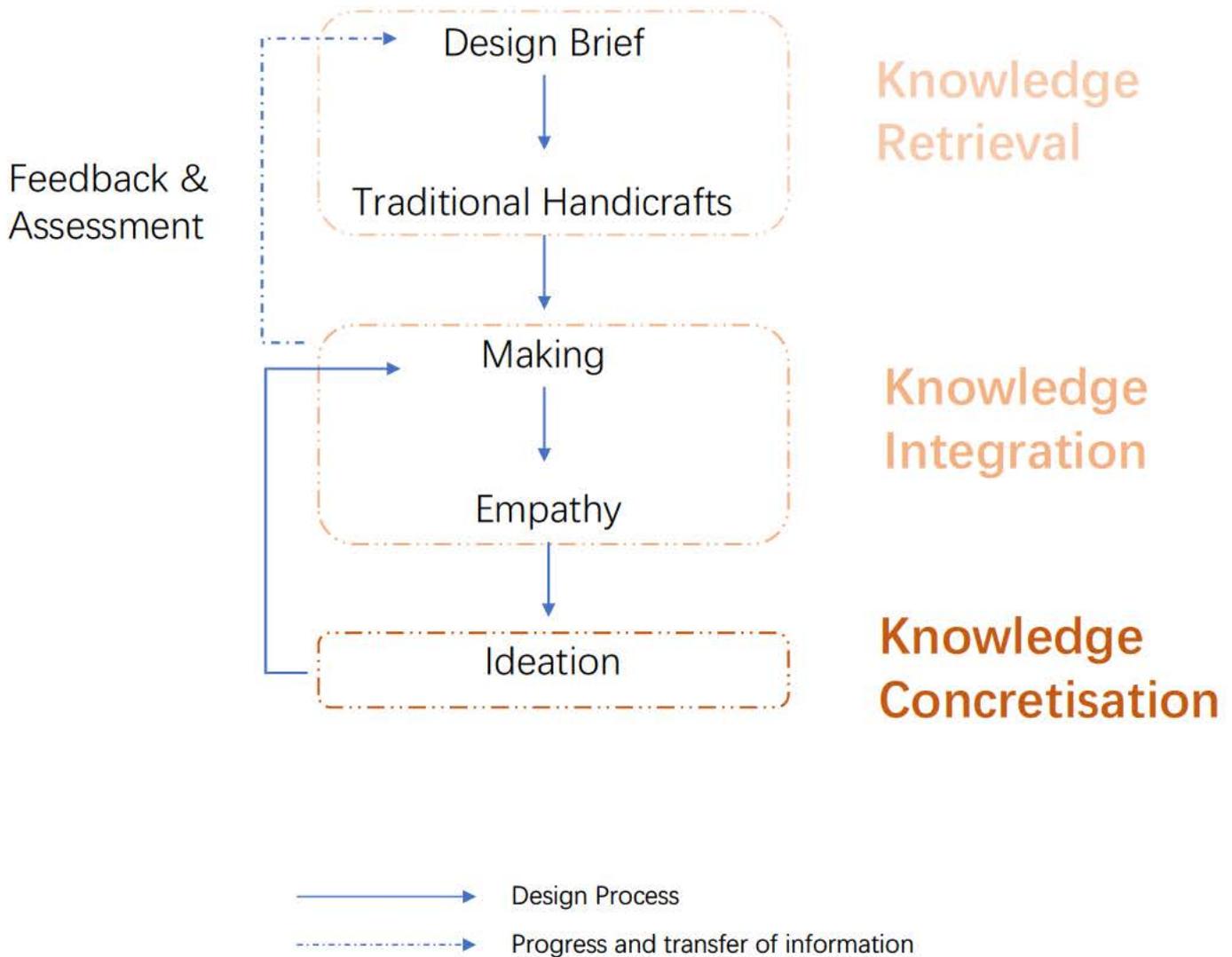
Another key point of the model is the use of a knowledge framework.

It contains three components: Knowledge Retrieval, Knowledge Integration, and Knowledge Concretisation, which enable students not only to master the process from research to design but also to generate new knowledge and understand the ontology of knowledge. Furthermore, students are able to construct a complete knowledge system, which supports their pursuit of further study in other disciplines.
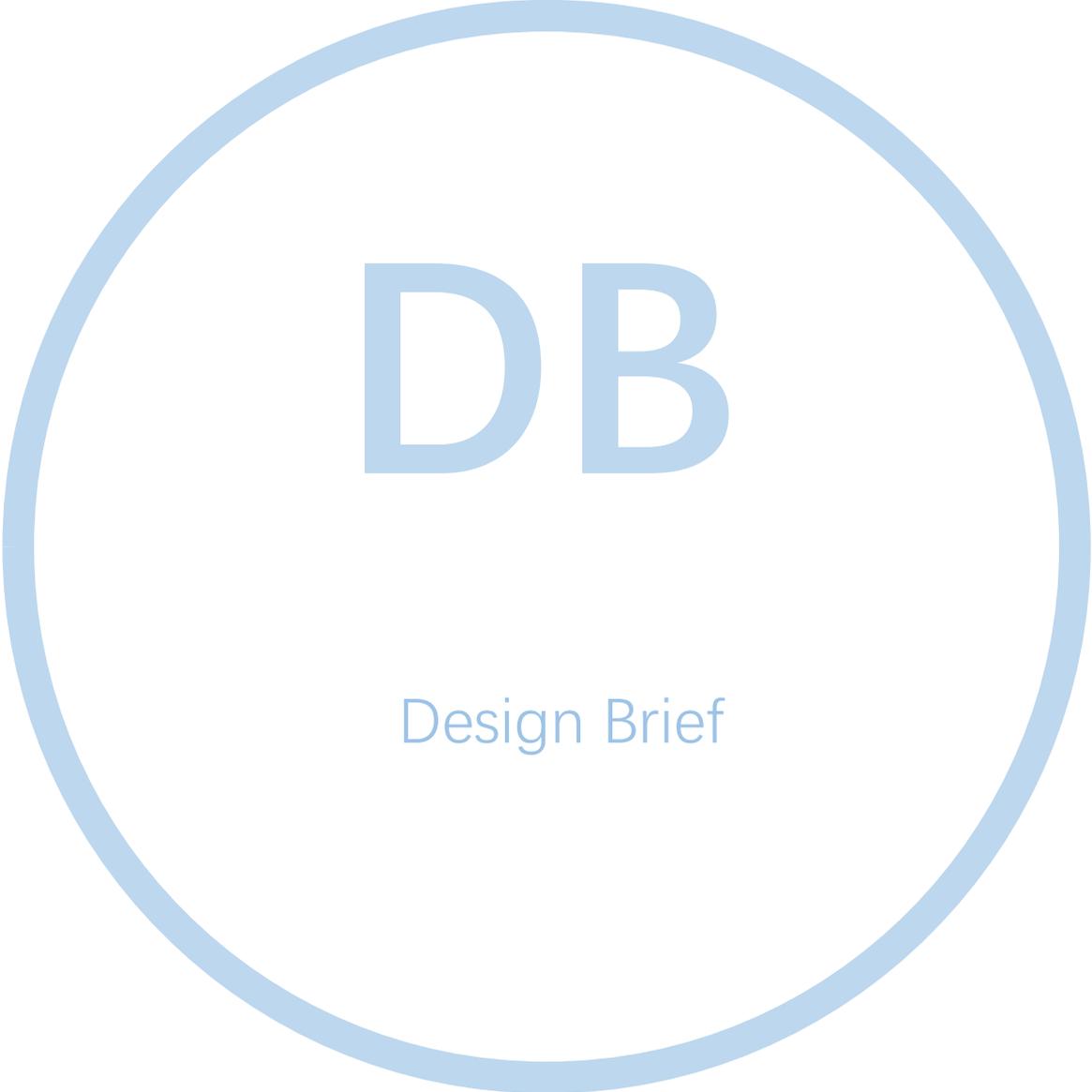
DB

Design Brief

Design Brief

Overview-

To identify the design object and analyse the effectiveness of a design. Mainly through primary and secondary research to gain a deeper understanding of the design objectives through various investigative methods.

Aims-

This stage aims to cultivate the ability to analyse and learn independently, in order to enable students to thoroughly understand the design requirements, position their designs effectively, and execute the design process.

Objectives- To facilitate

1、 an understanding and analysis of the given design brief and to identify the design position and its focus.
2、 an examination and evaluation of the design outcome to match the design brief.

Intended Output- At the end of the model learning

1、 participants will be enable to analyse the design brief independently.
2、 participants will have the ability to develop a self-designed project brief for a specific purpose.

Sub-stages of Design Brief-

The Design Brief stage forms the base of the traditional handicraft and innovation programme. The Design Brief is explained through 2 sub-stages: 'Analysis' and 'Evaluation'.

'Analysis' discusses how and which design areas to be researched.

'Evaluation' elaborates on what to do with the collected data and how to assess the design outcome.

Design Brief

At the beginning of the design process, the Design Brief is a document for a design project developed by the teacher, company, or design competition, or may be self-designed by students or participants. Moreover, the design brief is also used to evaluate the effectiveness of a design after it has been produced and during the design process, to ensure the project stays on track and meets its the requirements.

The Given Brief is the elementary stage designed for junior-level university students, while the Self-Design Brief is an advanced stage intended for senior-level university students who wish to design independently.

Given Design Brief

In the school context, the design brief would allow pupils to focus on and elaborate upon the design theme that acts as the basis for individual or group schemas to guide the design process.

The teacher usually gives the Design Brief according to the teaching programme in higher education or based on the students' participation in a design competition.

Self-Design Brief

The pupils can generate ideas from a variety of sources, get inspiration, and develop their design themes, especially after studying the model, which enhances the students' ability to study independently.

Design Themes:

-Tradition
-Specific group people/Characters
-Techniques
-Materials
-Tools needed to support the activity
-Written material, like novels, stories, & newspaper
-Memories
-Field trips & visits
-Nature
-Built heritage
-Music & Art
-Design craft
-Industrial design
-Sensory experience, like sounds, tastes, smells & touch
-Sculpture
-History
-Films
-Games
-Media, like social media & the Internet
-Topical affairs
-Phenomena
…

A Design Brief is the first stage of Knowledge Retrieval. It requires extensive research on the topic of the Design Brief to elicit inspiration or extract design elements that can then be developed.

The first step under Design Brief is # Analysis

Read the Design Brief carefully to identify the design requirements. After that, the design issues and concerns need to be analysed to explore the creative and innovative design direction. Once the requirements are identified, only then can the design be contextual and fruitful.

The role of the teacher:

The teacher's role is to activate students with a meaningful learning tasks or themes and foster their motivation. Furthermore, the teacher pays special attention to creating an open and supportive atmosphere.

The task list for this stage is:

• *Identify and study the related information required by the design brief to provide more depth to students' understanding of the project brief.*

    - A thorough study is required regarding what the current design brief demands. The design process may become effective only when integrated into comprehensive information mastery. Manage resources and materials required by Design Brief, such as books, documentaries, videos, experts, artisans, raw materials, tools, etc. For example, if the design brief calls for students to use red as a design theme when creating jewellery, they must research what the colour red means, which countries have used it? What kind of form does it take, and what is its history?

• *Identify and analyse the potential for a particular craft to be developed in the jewellery realm.*

    - Aspects of the craft information, like skills, tools, material processes, applications, design, techniques, etc., that can be obtained through research.

• *Define a rough timeline for the workshop or teaching programme based on the deadline and the complexities of the craft processes involved. The duration of the programme is defined based on all the available information and factors. A programme could be conducted for 4 to 7 weeks, and an initial timetable could be formulated to break down the time allocation for each activity.*

    - If working with a team, plan the programme's duration while keeping the scope of collaboration with the partners in mind and ensuring their inclusion at every stage of the programme.

Method	Best for	Design Strategies
		Inquiry-Based Learning & Participatory Action *There are various methods available to help students identify the issues that need to be addressed in the design brief.* Students are asked to actively participate in the activities, mainly focused on student interaction, supplemented by the interaction between teachers and students. Also, students search for relevant knowledge independently but can communicate with peers or teachers to ensure the accuracy of the research direction.
Brainstorming	All students present many ideas quickly concerning a problem or issue. - Can get all students involved in collecting a lot of information. - Generate quick ideas. - Good for problem-solving. - Validate ideas of group.	
Group Discussion	The teacher needs to divide the students into small groups. Usually, 4-6 are most effective. The group will receive the given instructions and keep the discussion focused on the topic, aiming to explore innovative solutions. - Enhance the students' subject knowledge. - Resources can be discovered and shared. - Exchange information or ideas through in-person interaction to achieve a goal. - Generate the ideas from other points of view. - Increase creativity and originality of ideas or solutions.	
Relevance Tree	A relevance tree would contain all possible elements involved in the topic. It presents the level of detail to a point where the items or issues become sufficiently clear, ensuring that the problem is examined thoroughly and that the important relationships among the items are considered. - Break down topics in new and insightful ways. - Provide a wide range of unexplored possibilities. - Effective for all innovation types. - Effective for incremental innovations and improvements.	
Information Retrieval	Students obtain relevant information on the given topic through searching, collecting, and managing reading materials, documents, texts, and images. - Expand relevant information. - Generate new insights or ideas. - Provide elements of creativity and originality.	

Self-Evaluation

The stage of Evaluation takes place after Feedback section, which focuses on the process of self-expression and creativity. The reflection focuses on learning from the traditional handicraft design process, self-orientation, and the experiences and emotions that are meaningful to the learner. On the other hand, the evaluation is informed by feedback from users or customers to iterate and improve the design work (final pieces).

The role of the teacher:

The teacher's role is to guide students in assessing and reflecting upon the different phases of the traditional handicraft design process. Additionally, the teacher helps students analyse the feedback from customers or users.

The task list for this stage is:

• Evaluation and modification should be made based on the final outcome and each step of the model.

• For the advanced stage, reflection and critical thinking play a significant role during the research stage of the model and in the application of knowledge.

TH

Traditional
Handicrafts

Traditional Handicrafts

Overview-

To identify the needs of a particular jewellery-making handicraft based on the design requirements.

Aims-

This stage aims to study prior knowledge related to traditional handicrafts using primary and secondary research methods, such as their history and evolution. It also involves becoming familiar with the materials and techniques associated with the craft. Additionally, this stage includes the collection and research of the materials' locations and attributes, ensuring that these resources are utilised in the subsequent stage.

Objectives-

1、 Identify a specific traditional handicraft.
2、 Research the relevant knowledge background of the chosen traditional handicraft.

Intended Output-

1、 The students will gain an overview of a specific traditional handicraft and develop a knowledge base that serves as the foundation for their innovative design. This knowledge will also promote further research and design.

2、 The students will master the craftsmanship of the traditional handicraft and understand the evolution of aesthetic trends related to the craft.

Why & How

For multiple reasons, students typically have limited experience with traditional handicrafts and particularly require guidance on fundamental crafting processes and material usage.

One way to approach this would be to introduce the relevant concepts to students first, then encourage them to master the associated knowledge individually, aiming to reinforce their understanding.

The second step, in Knowledge Retrieval in Traditional Handicraft, entails gathering detailed information on a specific traditional handicraft. Its primary purpose is to narrow down previous research, and lay the groundwork for the Making section. In addition, students are required to learn with understanding.

This step asks students to identify craft clusters or individuals in a particular region or handicraft sector. Once identified, they examine the perspectives of the

Investigation

communities or individuals that work with traditional handicrafts to gain more information, such as the type of products made, market conditions, artisan's living situation, the process of making, and materials used.

The role of the teacher:

The teacher guides students through the site visit, explaining certain aspects while allowing students to explore others, especially in mastering and applying research methods.

The task list for this stage is:

• Investigate the relevant information about traditional handicrafts, mainly focusing on the steps involved in their creation and the materials required.

• Rather than merely describing surface-level information, a profound grasp of traditional handicrafts involves explaining phenomena and the rationale for the form.

Methods	Best for	Design Strategies
		Inquiry-Based Learning & Participatory Action
Field Research (individual professional's production units/studio/worksho p/museum/ gallery etc.)	Students get a real-world view of the current practices in craft and design. - Physical experience. - Experiential learning. - On-site doubt resolution. - Acquire knowledge beyond books and update relevant knowledge.	*To collect and research the issues by obtaining prior knowledge of traditional handicrafts through primary and secondary research methods.*
Focus Group	Students work with the specific research subjects (craftspeople, user/customer, larger population) about their opinions, perceptions, attitudes, beliefs and views regarding the traditional handicraft and its product. Additionally, focus groups can provide valuable feedback to assist students in evaluating, refining, and iterating the design. - Validate ideas . - Gather feedback. - Additional research information. - Enhance student interactivity and participation. - Facilitate a deeper understanding of traditional handicrafts, with particular emphasis on their historical development, transformations, and current status.	*Students are asked to actively participate in the activities, mainly through interaction with the research subject, supplemented by the interaction with teachers.*
Information Retrieval	Students obtain relevant information on the given topic through searching, collecting, and managing reading materials, documents, texts, and images. - Expand relevant information. - Generate new insights or ideas. - Provide elements of creativity and originality.	*Also, students search for relevant knowledge independently but can communicate with peers or teachers to ensure the accuracy of the research direction. On the other hand, students could engage in discussions to exchange information.*
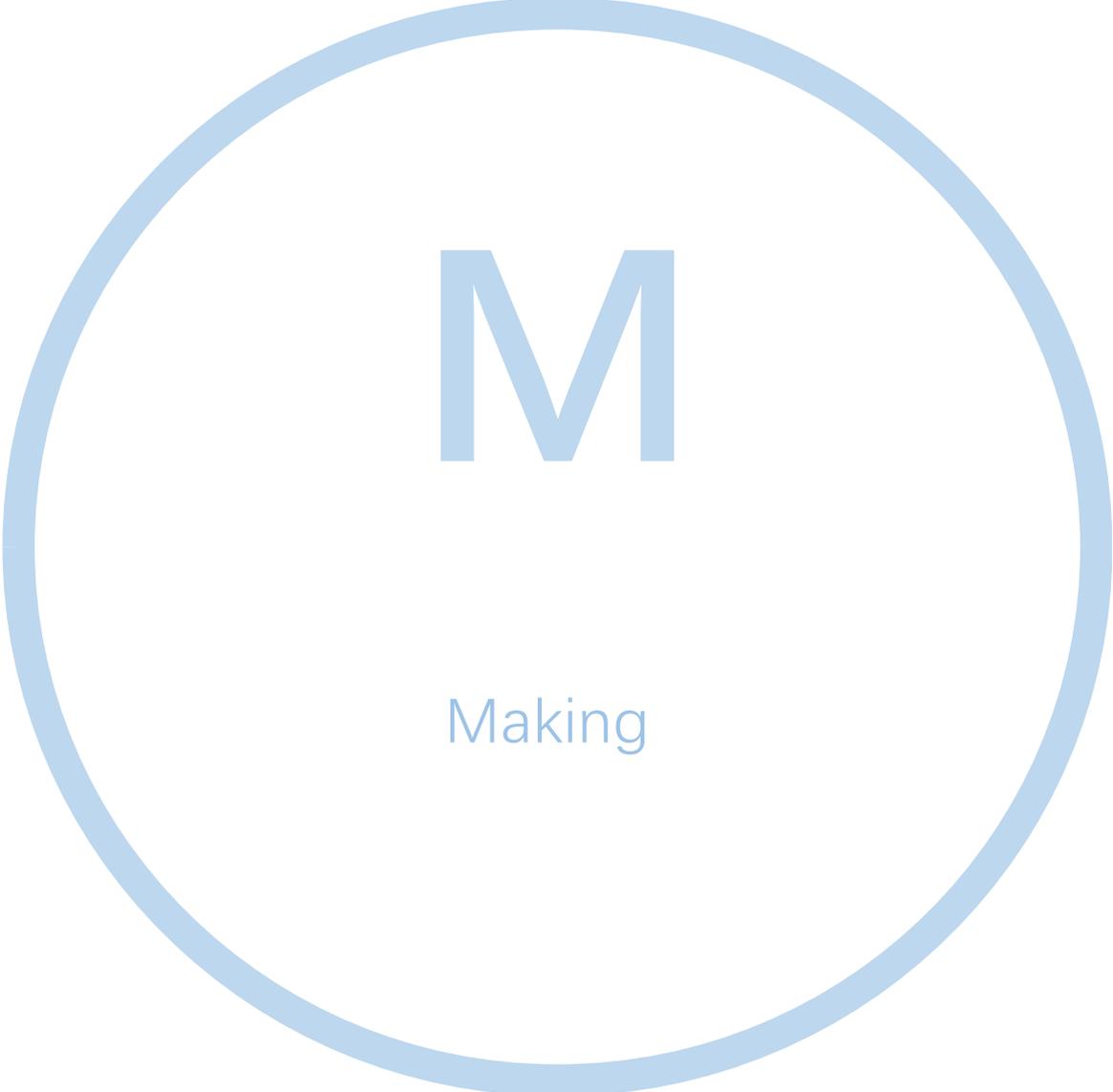
M

Making

Making

Overview-

To understand how the object would be made, what that process would involve, and what materials would be used, which not only deepens students' understanding of the project brief but also advances their design innovation and originality.

Aims-

This stage aims to incentivise students to learn by doing, which is more effective and authentic for obtaining what they should be looking for. Furthermore, students can make connections between new information and prior knowledge to enhance their self-awareness and expand their creative potential.

Objectives-

1、 Hands-on experimentation and exploration enhance the understanding of traditional handicrafts and the materials associated with them.
2、To develop and demonstrate a proof-of-concept for traditional handicraft design.

Intended Output-

1、 Extract as much learning as possible from the doing.
2、 Intertwine the experience, knowledge, skills, and understanding students extract from praxis with design ideas.
3、 The final work should be consistent with the Ideation section.

Sub-stages of Making-

The sub-stages under this section are Test and Implementation.

'Test' emphasises learning by making, perceiving by making, and experiencing by making to stimulate more creative inspiration by combining hand and mind.

'Implementation' focuses on producing the final design product to demonstrate the innovation in design concept, materials, and techniques.

Test

requires students to be directly involved, comprising two sub-stages: Experimentation and Prototype. The interaction during praxis builds a deep bond between the students and traditional handicrafts. The crafting process plays a vital role in understanding traditional handicrafts, with praxis serving as the first step in exploring their tactile aspects, which then evoke multi-sensory experiences.

Before entering the final production stage, all the production data should be determined in this substage. A prototype builds a bridge between the design stage and the final production stage.

The role of the teacher:

In this process, the advice of teachers proves fruitful and helpful. Teachers can provide in-depth information and guidance on the skills of traditional handicrafts, which is especially helpful when a large number of experiments need to be done in a short time.

Informal discussions should be held between teachers and students to help the students proceed in the right direction.

The task list for this stage is:

• Before students handle the materials and equipment, it is essential to review the craft processes, material handling skills, safety precautions, etc. These lessons should be conducted by skilled artisans or taught through videos. Teachers should address any doubts that students have immediately.

• Having explored many possibilities of traditional handicrafts, students can start making or working on prototypes of their innovative designs. It is usually recommended to conduct this step after the Ideation section. Make sure all the details, such as materials, size, applications, production techniques, are arranged before proceeding to the final output stage, which ensures that the designs are produced as planned and envisioned.

• Students need a sketchbook to document their materials and creative processes through writing and photography. It not only helps students understand their problem-solving processes, improving their knowledge and comprehension of praxis, but also enhances their ability to explain the purpose and meaning of the works.

This step, the realisation stage, follows the Ideation section. It embodies the values of traditional handicrafts within the object itself. Based on all the design research, a specific traditional handicraft should be applied to the products or works ready for markets, galleries, or museums.

Implementation

The role of the teacher:

The teacher plays a supervisory role in this stage, ensuring the quality of the work, the production process, and time management.
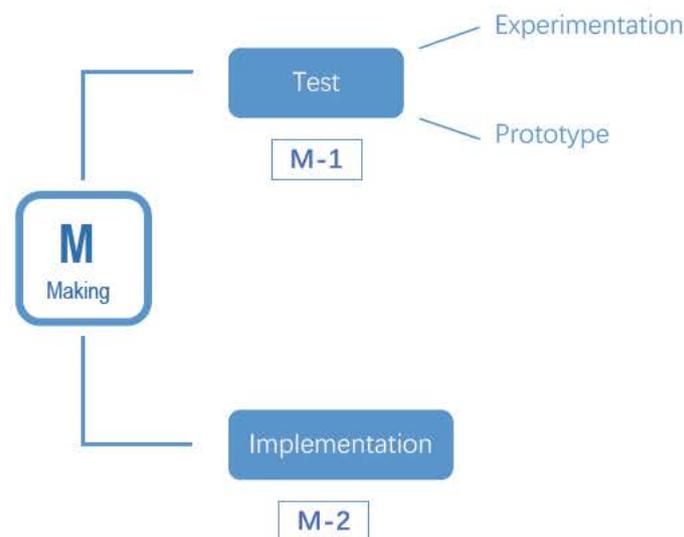
This stage, which combines theory and praxis, is the first step of Knowledge Integration. It provides a comprehensive understanding of traditional handicrafts. In the Test stage, new knowledge is connected and applied to problem-solving. Then, students have more opportunities to explore, think, and experience to generate new insights and interpretations that can be shared. This process is known as knowledge creation. In the Prototype stage, knowledge management involves organising all the ideas and experiences. In the Implementation stage, the final work is knowledge embodiment, representing the synthesis of all gathered information.

• *Students accrue knowledge through the processes of exploration, observation, and interaction with traditional handicrafts. They assimilate new ideas and establish connections between novel concepts and existing ones, thereby generating innovative perspectives.*

• *Traditional handicrafts serve as a form of self-expression, showcasing skills, knowledge, thoughts, experiences, perceptions, and emotions. This emphasis goes beyond mere product fabrication, highlighting the deeper significance of personal and cultural expression within the craft.*

Method	Best for	Design Strategies
Hands-on Experiment	Students engage with specific traditional jewellery-making handicrafts, gaining insights into materials, techniques, and the achievable visual effects. - Good for problem-solving. - Generate quick ideas. - Good for learning simple skills. - Enrich sensory experiences, such as tactile sensations. - Provide a more comprehensive understanding of traditional crafts, especially the visual effects produced by these crafts. - Learning occurs through direct engagement, such as handling material, brainstorming, and prototyping.	**Inquiry-Based Learning & Participatory Action & Experiential Learning** *Finding solutions to problems through hands-on practice.* To incentivise students to learn by doing and to obtain the desired outcomes.
Trial and Error method	Students make repeated and diverse attempts until they achieve satisfactory results or decide to stop. The objective is to assist students in acquiring more skills, mastering materials, and generating innovative elements, design concepts, and ideas. - Flexibility in starting and stopping the process of testing or trying. - Repeated and varied attempts. - Generate new insights or ideas. - Provide elements of creativity and originality. - Positive results that promote learning. - A method of problem-solving, repairing, adjusting, or acquiring knowledge.	
On-site Doubt Resolution	The teacher assists students in resolving any issues or difficulties they encounter during experimentation. - Good for problem-solving. - Aid comprehension and retention. - Allow the chance to hear other points of view. - Keep participants interested and involved. - Enable the discovery and sharing of resources.	

E
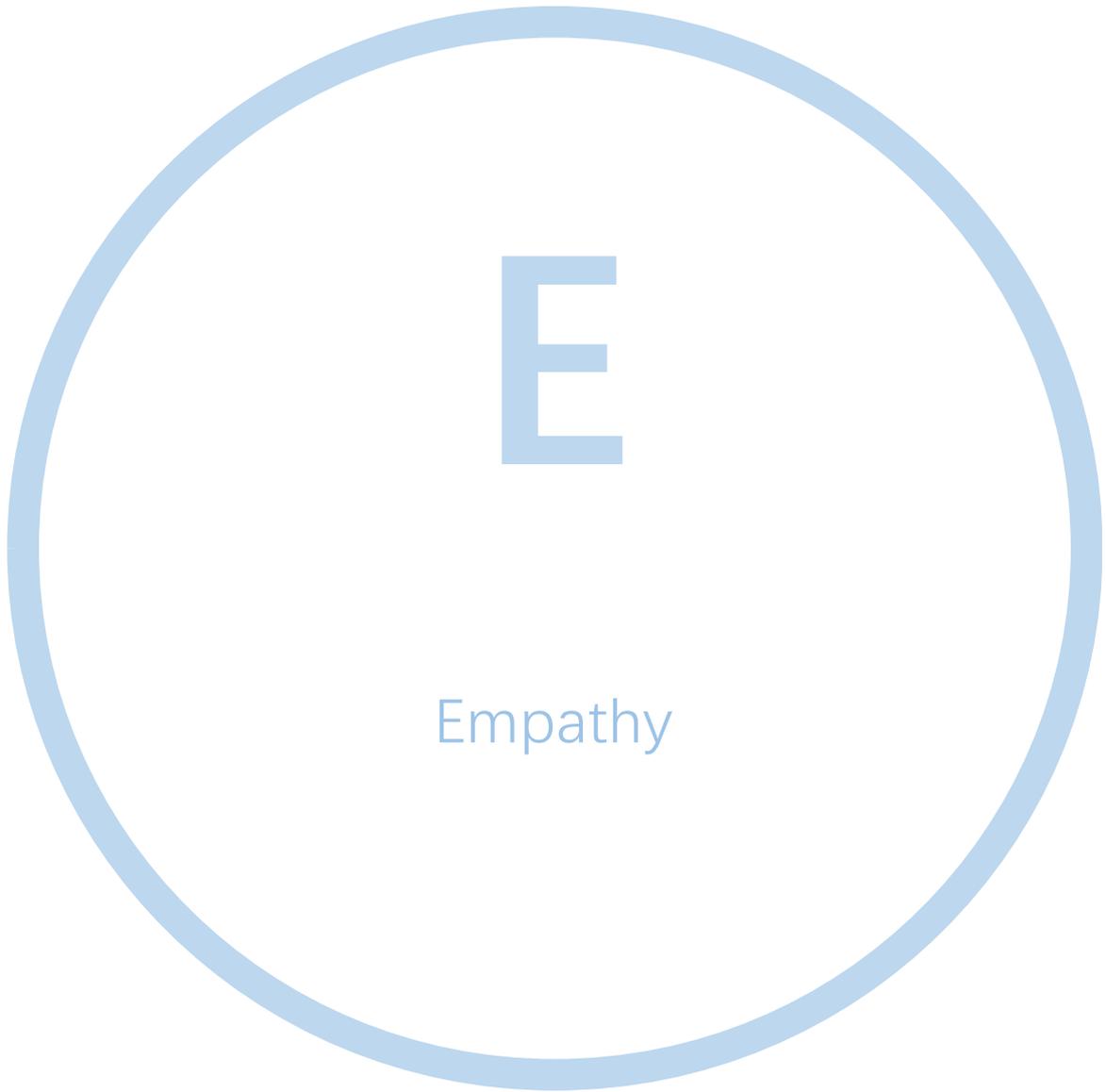
Empathy

Empathy

Overview-

To resonate with target groups and traditional handicrafts, such as their culture and materials, students become more aware of the significance of their creative process and know how to convey it.

Aims-

Evoking emotional expression and experience through material, culture, craft, and target groups represents four critical creation characteristics associated with traditional handicrafts and are linked to the students' acquired experiential knowledge of praxis. Therefore, this stage aims to stimulate students' creativity by building an emotional connection so that they are able to conceive meaningful and original ideas, forms, methods, interpretations, etc.

Objectives-

1、 To accurately identify the emotional expression by analysing the experiment samples in terms of material, craft, and culture.
2、 To acquire relevant design information by researching the target groups.

Intended Output-

1、 Through sensory design and narrative, expand on emotional expression and experience.
2、 Extract more detailed design elements, such as colour, texture, structure, pattern, etc.

Sub-stages of Empathy-

The sub-stages under this section are Material Resonance and Personal Resonance.

'Material Resonance' focuses on the means of logical thinking through the senses and the emotional experience enhanced through the narrative, inspiring students to develop a (new) understanding of the work and guiding them in discovering ways or techniques for design work.

'Personal Resonance' seeks to discover commonalities between the experiences of students (as designers) and the target group in order to facilitate the target group's understanding and interpretation of the work.

Material Resonance

Students are asked to examine the sensory qualities or characteristics of experiment samples, e.g., textures, colours, structures, smells, sounds, etc. Then they are guided to find connections between the samples and other experiences or stories they have experienced. It encourages students to engage with the samples and reflect on how they feel about them, while examining what comes to mind when they experience the samples through their senses.

Students may be inspired by samples, for example, exploring rough and soft textures by touch, with their eyes closed. The process can promote multi-sensory experiences by taking advantage of visual, olfactory, auditory, and tactile sensory elements. It will evoke students' different memories and recall specific experiences, people, stories, etc., which may also serve as a source of ideas, while at the same time helping adapt information-searching strategies and critical thinking.

The role of the teacher:

The teacher assists and facilitates the development of guiding questions to enable the students to transition from practical reflection to critical self-awareness. However, the teacher must match the questions to the students' abilities.

Personal Resonance

This stage requires students to adopt the attitude of the target group while working on their project. So the target group will take the students' standpoint to understand and interpret what the work is attempting to convey.

Using questionnaires, focus groups or interviews, students obtain more detailed design information to form their work.

Target group is vital to be defined, which will depend heavily on factors, such as age, gender, nationality, educational background, job situation, fashion style etc. Then students will be able to grasp an understanding of the client, especially in terms of the meaning, symbolism, and culture, which will influence how the work resonates emotionally with its audience and how it is interpreted by the audience.

The role of the teacher:

The teacher devises the guiding questions to help direct the students' attention towards the essential issues, provide hints, and present alternative solutions. It guides students toward self-motivated information retrieval to acquire valuable and reliable data for their design. The most important thing is to help students integrate their previous and new knowledge.

Material Resonance
E-1
- Culture
- Craft
- Material

E
Empathy

Personal Resonance
E-2
- Buyer
- Wearer
- Viewer
- Oneself
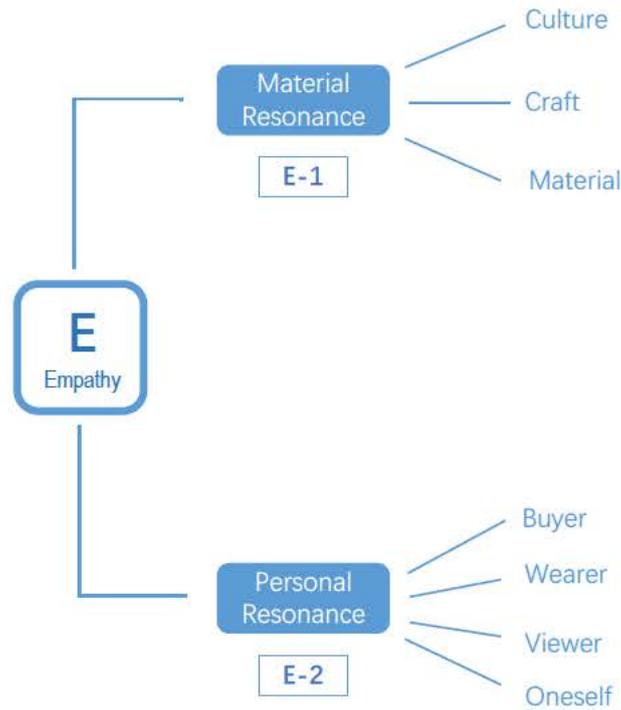
Empathy is the final stage of Knowledge Integration. It is based on the Making section, which extracts and synthesises knowledge through experimentation and analysis to formulate a holistic design map.

Material Resonance
E-1
- Culture
- Craft
- Material

- Meaning
- Technique
- Cultural expression
- Emotion
- Affection
- Feelings
- Response
- Idea
- Impression
- Message / Information

- Narrative (storytelling)
- Sensory Experience

Personal Resonance
E-2
- Buyer
- Wearer
- Viewer
- Oneself

- Interact
- Reflect
- Connect

Empathy
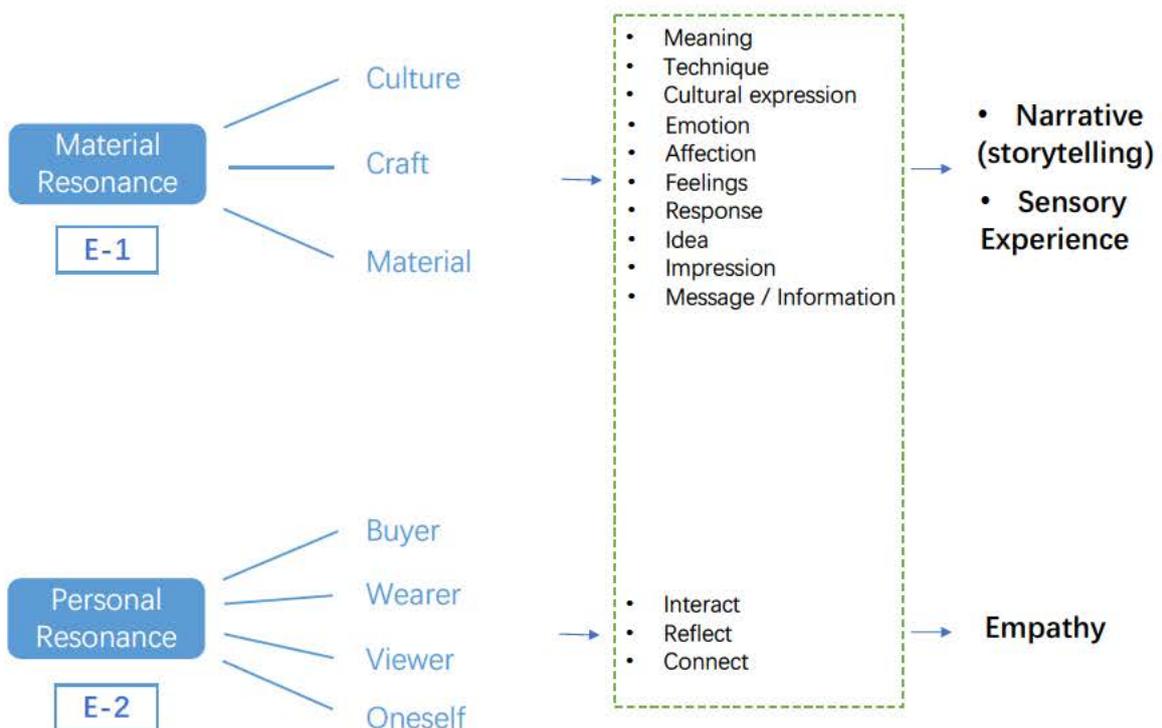
Example of the Guiding Questions

Material Resonance

• *What material did you choose?*
• *What are the properties of the material itself?*
• *Do these material properties trigger your sensory experience? If so, what kind?*
• *What sensory experiences do the experimental samples provide? (Visual, tactile, olfactory, etc.)*
• *Does the sensory experience of the experimental sample trigger or give you a specific feeling, emotion, story, or narrative?*
• *Does the craft or technique increase or enhance the sensory experience in experimental samples?*
• *Does this craft or technique enhance emotional expression in experimental samples?*

Personal Resonance

• *Does the handicraft work well with your selected materials to achieve your design theme (concept)?*
• *Can the combination of handicrafts and materials better reflect your design theme (concept)?*
• *How do you convey the content of your work through the combination of craftsmanship and materials?*
• *Does applying the handicraft enhance the audience's understanding of your work? How do you convey the message of your work through these handicrafts?*
• *How can audience learn about traditional handicrafts through your work, including their history and the making process?*

Method	Best for	Design Strategies
		Inquiry-Based Learning & Participatory Action & Experiential Learning *Seeking solutions by establishing connections with people or/and objects.* Emphasising students' personal experiences in analysing information.
Guiding Question	The teacher devises the guiding questions to help direct the students' attention towards the essential issues, provide hints, and present alternative solutions. Students could shift from practical reflection to critical self-awareness and self-motivated information retrieval to acquire valuable and reliable data for their design. However, the teacher must match the questions to the students' abilities. - To think deeply. - To critically reflect. - To obtain information. - To reinforce content. - To integrate previous and new knowledge.	
Narrative Research	Students document their design process or thoughts critically and reflectively, often employing descriptive forms such as journals. - To think about and understand experiences. - To understand ourselves and others. - To show their point of view. - To record naturally occurring data. - To trace the development of process, idea, or experiments. - To facilitate communicating experiences and understanding with others.	
Interview **Focus Group**	Students connect with the research subjects (themselves, craftspeople, customers, and the larger population) to understand their opinions, perceptions, attitudes, and beliefs, and develop more emotional resonance. - Validate ideas.	
Questionnaire	- Gather feedback. - Conduct additional research. - Expand relevant information. - Generate new insights or ideas. - Provide elements of creativity and originality.	

I

Ideation

Ideation

Overview-

To develop the creative process in which students generate a design concept or idea, refine and iterate it, and create something new and original.

Aims-

Ideation means the generation of new ideas to explore innovations within traditional handicrafts. This stage requires students to synthesise all of their acquired information and knowledge in order to materialise their designs.

Objectives-

1、 Identify what to innovate and how to do it.
2、 Create the design proposal, then modify and improve it.

Intended Output-

1、 Clarify the orientation of innovation: design-oriented, technology-oriented, culture-oriented, material-oriented, or craft-oriented.
2、 Finalise the final design.

Sub-stages of Ideation-

The sub-stages under this section are Innovation and Idea.

'Innovation' is a design breakthrough in terms of materials, crafts, processes, patterns, etc.

'Idea' involves developing and iterating on the design concept.

Innovation

Students need to define innovation based on previous knowledge, research, and experience, such as categories of design-oriented, technology-oriented, culture-oriented, material-oriented, and craft-oriented innovations. Once the orientation of innovation is identified, ways to meet their needs will be developed and refined in the next stage.

The role of the teacher:

The teacher serves as a gatekeeper in this stage to ensure that the design innovation chosen by students is feasible.

Idea

Students could generate various ideas and present their initial idea in the form of multi-media, such as video, writing, images, samples, drawings, photography, etc.

After multiple revisions and improvements, the students establish the final design scheme, which will be implemented in the subsequent stage.

The role of the teacher:

The teacher gives the students feedback in order to assist them in revising the design proposal until it is ready for implementation. In the meantime, the teacher needs to pay more attention to time management to ensure that students meet the deadline.

Innovation **I-1**
- Design-oriented
- Technology-oriented
- Culture-oriented
- Material-oriented
- Craft-oriented

I Ideation

Idea **I-2**
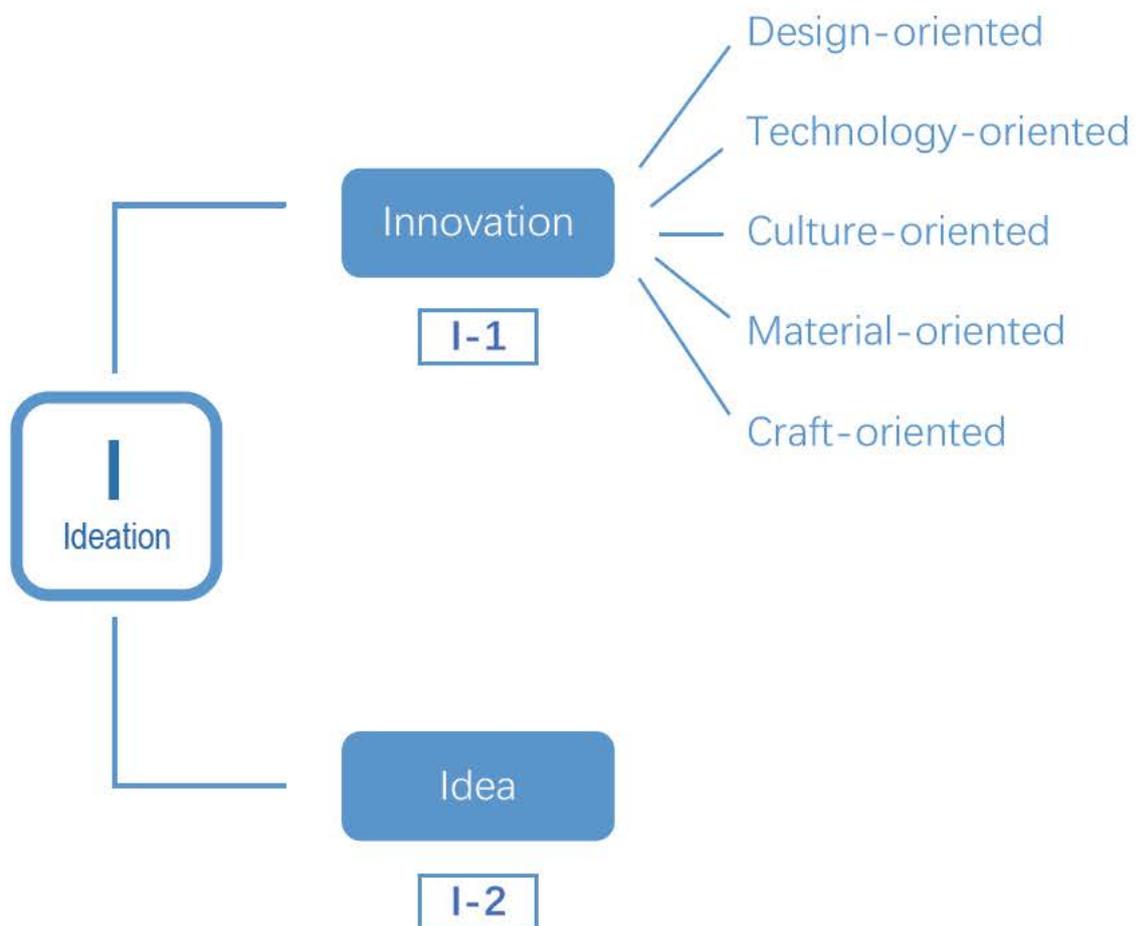
Knowledge concretisation requires students to collect and integrate all the information from the outset of the model and represent it through visual or auditory means.

Method	Best for	Design Strategies
Tutorial (Group or Individual)	Students mainly receive feedback and revisions from the teacher, as well as suggestions from their classmates to optimise and improve the design. - Receive feedback and suggestions. - Reflect on and understand. - Generate new insights or ideas. - Clarify the design concept/theme. - Iterate the design. - Facilitate the communication of experiences and understanding with others.	**Inquiry-Based Learning & Participatory Action** *Proposing, developing, and refining solutions through continuous discussion and revision of ideas.* Students are asked to participate actively in activities and to communicate with peers or teachers to propose optimal solutions.

F

Feedback & Assessment

Feedback and Assessment

Overview-

To leverage a holistic design process informed by self-evaluation and feedback for the iterative development of design outcomes and the teaching approach, also serving as a form of formative assessment to support student learning and improve programme effectiveness.

Aims-

This stage aims to embed reflective practice across all aspects of the IEM model, encouraging its application within both design development and teaching practice. It also serves to assess the outcomes of the teaching programme, providing a basis for evaluating student work and concluding the course effectively.

Objectives-

1、Discuss how students can obtain feedback from teachers, peers, and others involved in the programme.
2、Encourage self-reflection, which can be used independently or as a means for self-assessment across all stages of the design process.
3、Implement systematic feedback and assessment processes to support teachers in evaluating learning outcomes and refining teaching strategies.

Intended Output-

1、Provide students with follow-up materials, assessment feedback, and contact information for ongoing academic or professional support.
2、Evaluate the effectiveness of both the teaching programme and student outcomes, using a combination of feedback, self-assessment, and peer review.

Sub-stages of Ideation-

This stage is explained through 2 sub-stages called Reflection and Personal Introspection.

'Reflection' involves collecting and analysing external feedback from users, teachers, and peers. This functions as formative assessment, enabling both students and teachers to adjust and improve their practices during the learning process.

'Personal Introspection' highlights the importance of internal assessment, where students critically evaluate their own learning process, fostering reflective thinking, ownership of learning, and awareness of personal development.

Learning happens through the teaching programme, but the feedback also facilitates learning from the experiences of other participants.

Reflection *for learning begins with the evaluation*

of outcomes, products, and performances, all of which involve assessing the knowledge and skills acquired during the process. As a form of formative assessment, reflection enables both students and teachers to actively consider what is taught, how it is taught, and how it is evaluated. This reciprocal process promotes a deeper understanding of learning objectives and informs ongoing improvement.

This stage encourages students and teachers to continually consider how and why their actions align with the overarching objectives. It highlights students' ability to apply acquired knowledge, demonstrate planning and creative thinking, integrate interdisciplinary understanding, and collaborate effectively in completing tasks or activities.

The role of the teacher:

The teacher is deeply involved in the teaching programme from the beginning to the end; they can evaluate the various outcomes of the craft innovation teaching programme in the most objective and informed manner.

What is included:

1、 *Create a setting that encourages open and constructive dialogue, allowing students to present their work and engage in discussions either within peer groups or with broader audiences.*
2、 *Collect feedback through various methods, including exhibitions, questionnaires, focus groups, interviews, feedback forms, comment books, and suggestion boxes. These tools not only provide external perspectives but also serve as valuable data for assessing learning progress and teaching effectiveness.*

Who is involved:

1、 *Evaluation by the teachers involved in the teaching programme.*
2、 *Evaluation and feedback from other groups (e.g., users, viewers, buyers).*

Why Other Groups

The Other Groups, referred to as the **'external audiences'**, include viewers, buyers, users, customers, visitors, design professionals, academicians and others who do not participate in the teaching programme.

We emphasise external audiences because they play essential roles in our teaching programme and they offer students new learning opportunities. On the other hand, external audiences also serve a quality-control function, especially for the users and customers. Not only do we learn from the feedback given by audiences with different concerns, such as users, parents, and other designers, but we also learn about more effective ways to articulate our ideas.

Tips:

Teachers or other groups should not dictate what needs to be altered; instead, they should draw students' attention to critical concepts that need to be reconsidered and studied. Students can consult the suggested resources for assistance with these concepts.

As a form of internal assessment,

Personal Introspection

encourages students to evaluate their own learning processes critically. This stage fosters reflective thinking, ownership of learning, and awareness of personal development, all of which contribute to deeper, more autonomous engagement with design tasks.

In addition to supporting individual growth, personal introspection provides a learner-centred means of evaluating the effectiveness of the teaching programme. By monitoring their understanding, identifying knowledge gaps, locating relevant resources, and adapting their strategies, students develop metacognitive skills essential for self-directed learning and continuous improvement.

The role of the teacher:

The teacher acts as a facilitator and guide in this stage, ensuring that students' proposed design innovations are feasible. Teachers may also scaffold students' self-evaluation processes by prompting reflection and offering formative feedback when appropriate.

The Value of Feedback & Assessment

• To reinforce reflective practice and inform adjustments in teaching strategies.

• To help students clarify the problems they need to address in the next phase.

• To support the development of students' creative, analytical, and problem-solving abilities.

Method	Best for	Design Strategies
Narrative Research	Students document other's feedback/ views and their own reflections critically and reflectively, often employing descriptive forms such as journals. - To think about and understand. - To understand ourselves and others. - To show their point of view. - To summarise the problems or issues. - To propose new or desirable solutions. - To facilitate the communication of experiences and understanding with others.	**Inquiry-Based Learning & Participatory Action** *Gathering feedback and conducting evaluation to validate the effectiveness and feasibility of the proposed solutions.* Students are able to connect with real-world situations and ultimately find an optimal solution.
Interview **Focus Group** **Questionnaire**	Students acquire feedback and assessment results from teachers, peers, or other relevant groups (craftspeople, customers, professionals, etc.) and receive suggestions for improving the design. - Gather feedback. - Obtain constructive suggestions. - Conduct additional research. - Expand relevant information. - Generate new insights or ideas. - Facilitate the proposal of new or desirable solutions.	

How can this toolkit be taken forward?

Ongoing Dissemination

• *Disseminating information about the teaching programme and its outcomes is highly important. Knowledge is disseminated not only through teaching and learning but also through feedback from academic and non-academic sources, which informs updates to the model. Furthermore, knowledge of traditional handicrafts is transmitted to society to enhance awareness of their value and facilitate their reinterpretation in contemporary contexts.*

• *The model could be extended to curatorial practices in order to further disseminate traditional handicrafts that reflect their culture and knowledge, particularly in terms of sustainable development and protection.*

The dissemination of teaching and learning outcomes can take multiple forms, including exhibitions, panel discussions, webinars, websites, print media, school presentations, short films, diary entries, posters, and booklets.

The Role of Exhibitions

• *At this stage, exhibitions serve as a means to obtain feedback from others.*

• *In the subsequent stage, their function and value within the model could be further explored.*

The organisers should plan and host an exhibition as a means of concluding the teaching programme. The outcomes should be disseminated through various media, such as exhibitions, panel discussions, webinars, websites, and print publications. Representatives, students, faculty members, and professionals from craft-design-related organisations should be invited to participate.

CHAPTER 8: Validating the IEM Model: Recreation, Results and Reflection

In this research, I explored and proposed solutions, applied them in practice, and observed their operation, adopting action and artistic research, which are more subjective than objective. Using the IEM model gradually made my tacit, subjective knowledge explicit (McNiff, 2016, p.217). This process involved various improvements, creative processes, and different results. This chapter explores how I demonstrate the validity of my knowledge as a contribution to the knowledge base of my discipline and profession. This evaluation was conducted at two levels: analysis of design outcomes and qualitative social validation.

8.1 Evaluation of Design Outcomes

To assess the effectiveness of the IEM model, particularly during the Building Knowledge stage, this research examined a range of design outcomes generated through its implementation. These included student projects produced during teaching activities, individual graduation works, and my creative practice. Importantly, the evaluation also considered the application of the model in broader interdisciplinary settings, where student work and presentation outcomes further demonstrated the model's adaptability and pedagogical success. These will be further discussed in the following two subsections.

The evaluation framework was developed in alignment with the core aims of this research - to explore how traditional handicrafts can be innovatively reinterpreted through contemporary design practices. Accordingly, the design outcomes were analysed using the following criteria:

Cultural resonance: To what extent do the works reflect a meaningful engagement with ethnographic sources and traditional handicraft narratives?

Material and technical innovation: How are materials and techniques reinterpreted or extended to generate new expressions?

Emotional and audience impact: How effectively do the works evoke emotional responses or cultural connection from viewers or wearers?

Student understanding and transformation: How well do students demonstrate comprehension, reinterpretation, and personal transformation in relation to traditional handicraft knowledge?

Teaching reflections and student feedback provided additional insight into how the IEM model facilitated learning and design thinking. These forms of evidence underscore the model's ability to foster culturally grounded, critically reflective, and creatively transformative design processes.

8.1.1 Recreation: Application in Graduate Projects

Sections 6.2.1.1.3 and 6.2.2.2 illustrated how several students extended their exploration of the IEM model into their graduation projects, reflecting the model's lasting pedagogical impact. As the graduation project tutor for the Jewellery Studio at SCFAI in 2021 and 2022, I supervised a cohort of students who had all previously participated in the IEM model teaching experiments. The model served as a flexible and structured framework, alongside ongoing individual guidance, to support the development of projects that were both original and contextually grounded.

A key principle of the IEM model is its adaptability: each student's process was centred on their personal engagement with materials, techniques, and cultural narratives.

Although all students were required to follow the one graduation project requirement as outlined in the unified Design Brief, the IEM model allowed for diverse creative directions, enabling students to pursue individual design pathways within a shared pedagogical framework.

Graduation works were analysed and categorised into four main domains of traditional handicraft creation:

Refinement of Traditional Techniques: Several students built upon techniques introduced in earlier teaching modules, including metalworking, enamel, glass, and lacquer (Figures 8.1-8.4), demonstrating both technical proficiency and personal reinterpretations of these crafts within contemporary contexts.

Technology integration: A smaller group of students explored the integration of new technologies with craft techniques, resulting in expanded visual effects and new forms of work (Figure 8.5).

Material exploration: Some students prioritised the expressive and transformative potential of materials, where traditional techniques were recontextualised through unconventional material choices. Rather than merely substituting new materials, their work challenged the boundaries of traditional handicraft and introduced new aesthetic directions (Figure 8.6).

Conceptual Development: All student projects were guided by a shared Design Brief that defined the core learning outcomes of the graduation project. Building on prior modules of the IEM model, such as material- or handicraft-based experiments, emotional inquiry, and customer identification, students formulated individual design concepts that shaped both the making process and final outcomes (Figure 8.7).

Finally, following formal academic assessment, students' works were exhibited publicly, where they received the forms of social validation discussed in Section 8.2.

In summary, the graduation projects provided compelling evidence of the IEM model's pedagogical value, demonstrating its support for independent inquiry, deepened cultural understanding, and innovation in the reinterpretation of traditional handicrafts.

Figure 8.1 Graduation project work: metalworking (2 students)

Figure 8.2 Graduation project work: enamel craft (3 students)

Figure 8.3 Graduation project work: glass craft (3 students)

Figure 8.4 Graduation project work: lacquer craft (2 students)

Figure 8.5 Graduation project work: integrating technology into traditional handicrafts (2 students)

Figure 8.6 Graduation project work: creative materials (4 students)

Figure 8.7 Graduation project work: innovation design concepts supported by traditional handicrafts (2 students)

8.1.2 Interdisciplinary Application: Embroidery-Inspired Collaborative Design

To further evaluate the scalability and adaptability of the IEM model beyond studio-based teaching, this project explored its application in an interdisciplinary and professional context. The setting was the *2023 Annual China National Arts Fund Sponsored Program on Art Talents Training: Artistic Innovative Design Talents Training of Miao Embroidery*, hosted by Zhejiang Shuren University. The programme brought together embroidery inheritors, university lecturers, and young designers, aiming to foster innovation in traditional Miao embroidery and promote its integration into contemporary cultural and creative industries.

The training consisted of two phases: theoretical study and field research (June-August 2023), followed by design practice (September-December 2023). I participated in both and implemented the IEM model during the second phase through a project titled *Virtual Embroidery Jewellery Design*. The goal was to examine how digital modelling and interactive technologies could support the revitalisation and reinterpretation of Miao embroidery.

The First Phase: Resource and Technique Exploration through Field Research and Collaborative Practice

I undertook field research and direct learning to deepen my understanding of embroidery traditions and their contemporary relevance. In Hangzhou, all participants of the training visited local museums, galleries, and embroidery masters' studios to explore the history, techniques, and current market landscape of embroidery (Figure 8.8). In contrast to earlier research conducted in July 2022, I also conducted fieldwork in the Qiandongnan region of Guizhou in August 2023, guided by participants who are from Qiandongnan. This provided valuable insights into how embroidery remains embedded in rural daily life, particularly among older women, and allowed for first-hand observation of production processes and informal interviews with local artisans. Visits to embroidery markets and small-scale factories further informed the use of colour, pattern, and material, and provided perspectives on business models and product dissemination (Figures 8.9 and 8.10).

I participated in hands-on technique training led by masters of Hang and Miao embroidery (Figure 8.11). A comparative analysis revealed key differences: Hang embroidery relies on relatively simple materials and stitching techniques, while Miao embroidery is materially richer and technically more complex, particularly in finger manipulation. This complexity highlights the challenges of preserving Miao embroidery and underscores the importance of embodied learning for accurate cultural interpretation.

To consolidate these learnings, all participants engaged in a collaborative design task: creating a commemorative fan for the 50th anniversary of Zhejiang Shuren University. Working in mixed teams composed of embroidery inheritors, university lecturers, and designers, each group integrated Hang and Miao embroidery techniques into a single design. My group selected a dragon motif combined with lettering representing the university name (Figure 8.13). During the design and making process, embroidery inheritors provided critical guidance on the cultural appropriateness of iconography and the feasibility of executing complex motifs using traditional techniques (Figure 8.12).

This collaborative practice not only strengthened my technical knowledge but also deepened my sensitivity to cultural specificity and craftsmanship. The embodied, dialogic nature of this experience directly informed my subsequent jewellery design project based on Miao embroidery, especially in understanding the material, symbolic, and narrative potential of the handicraft.

Figure 8.8 Field research in Hangzhou. Photographed by Zi in 2023
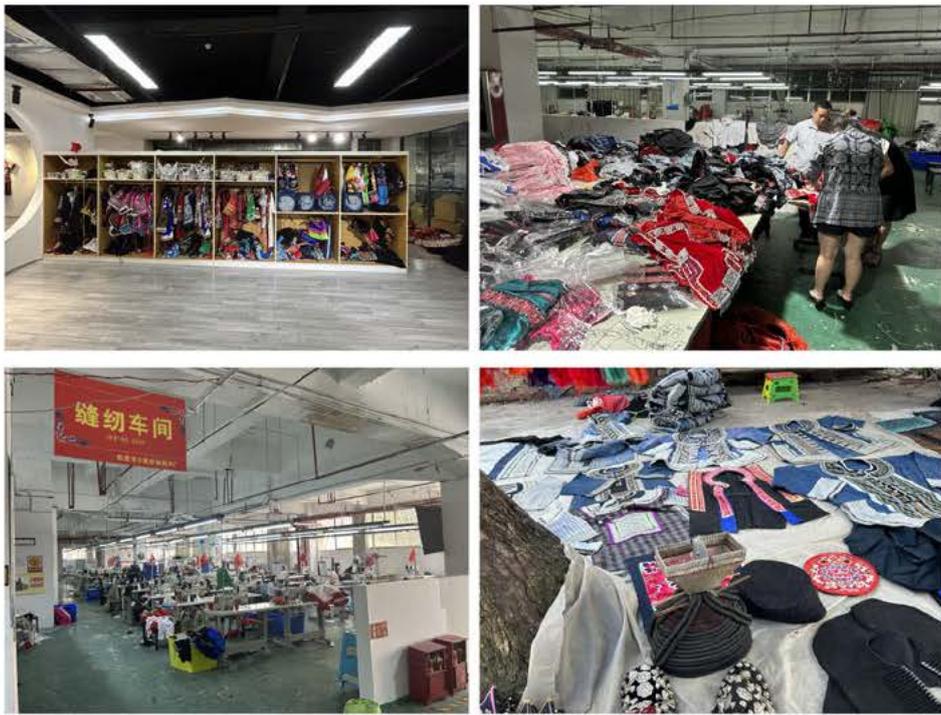
Figure 8.9 Field research in Qiandongnan. Photographed by Zi in 2023

Figure 8.10 Items in the embroidery markets in Qiandongnan. Photographed by Zi in 2023

Figure 8.11 The tools and materials for learning Hang Embroidery (left photo) and the sample fan made by Zi (right photos). Photographed by Zi in 2023

Figure 8.12 Zi's group members discussed the design plan and production process. Photographed by photography team of Zhejiang Shuren University

Figure 8.13 Fan design completed by Zi's group. Photographed by the photography team of Zhejiang Shuren University

The Second Phase: Virtual Embroidery Jewellery Design

I organised a team and divided it into three groups of SCFAI students, each with three members. The first and second groups, jewellery students, were responsible for the design and modelling respectively. The third group consisted of three industrial design students specialising in virtual interaction design.

Through methods such as field research and literature review, representative design elements from the Qiandongnan region of Guizhou province were identified: village football is a well-known folk activity for people of all ages, while Dong villages represent landmark ethnic architectural styles, and terraced fields are distinctive geographical features. Additionally, Miao embroidery is a significant cultural symbol of the Qiandongnan region. Notably, the first two group members had previously participated in IEM model teaching experiments, which enhanced them understanding of embroidery and reduced their workload to some extent. However, the design brief for this project differed from their previous teaching experiments, allowing them to learn new methods and gain knowledge about embroidery in the Traditional Handicrafts, Making, and Empathy modules.

In the Ideation module, I collaborated with the design group to establish the *Tracing* 《逐迹》 as the design theme, and the jewellery products comprise three series of works: the village football element cultural and creative work *Chasing* 《奔》 (Figure 8.14) and *Ju Rong* 《鞠榕》 (Figure 8.15), the Dong village combined with village football element cultural and creative work *Dong Ji* 《侗迹》 (Figure 8.16), and the terraced field element cultural and creative work *Green Mountain* 《绿满川》 (Figure 8.17).
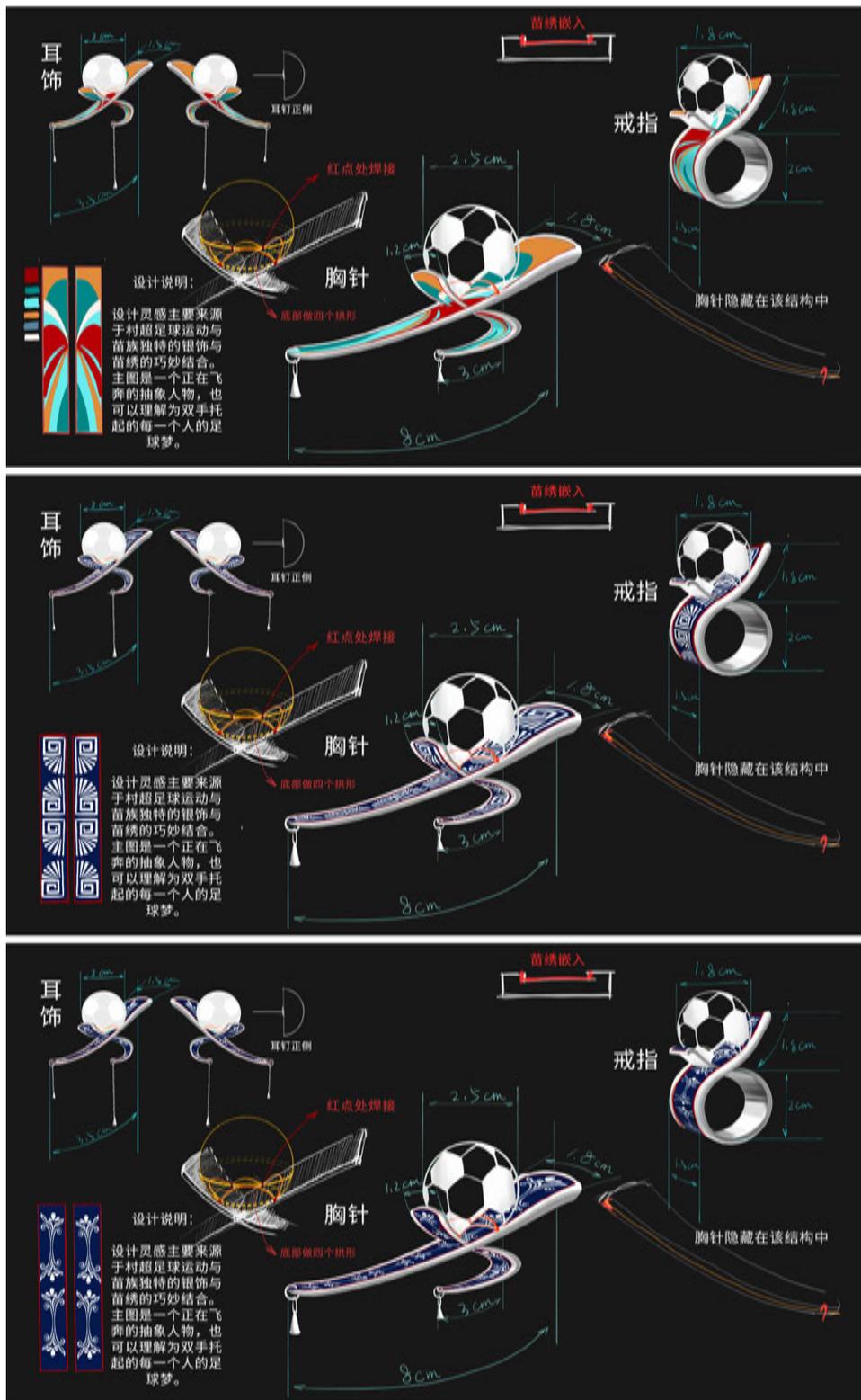
Figure 8.14 *Chasing*: earrings, brooch, ring. Designed by Mao Jialin
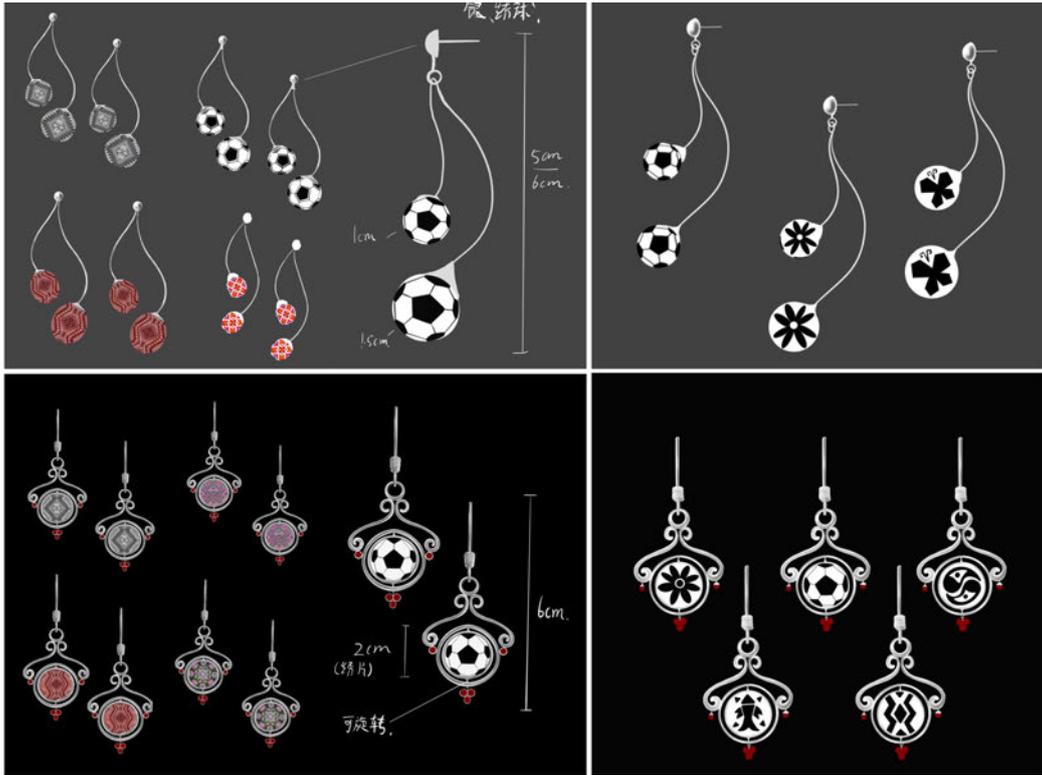
Figure 8.15 *Ju Rong:* earrings. Designed by Zhu Xiaoge
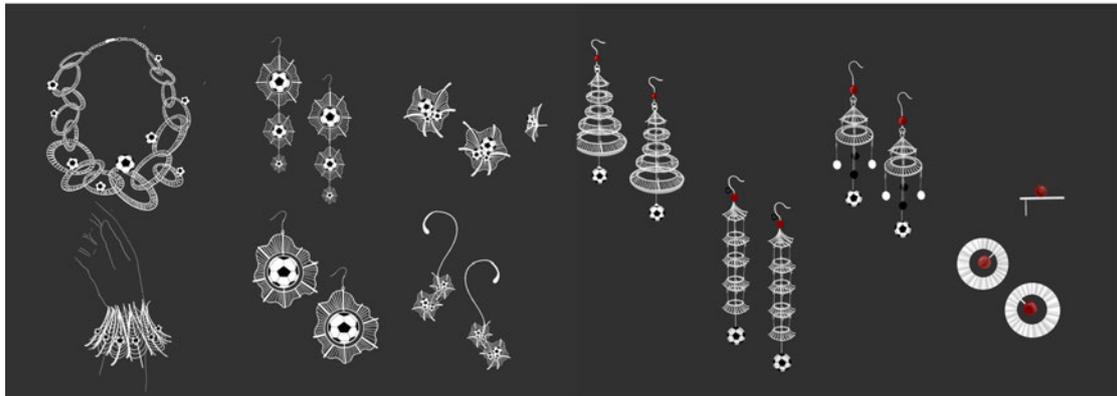
Figure 8.16 *Dong Ji*: earrings, necklace, and bracelet. Designed by Zhu Xiaoge

Figure 8.17 *Green Mountain*: earring, ring, necklace, bracelet. Designed by Ran Shujuan

The modelling group undertook the second phase of the design process, focusing primarily on the Making module. During this phase, they collaborated closely with the design group to translate conceptual drawings into tangible products. Effective communication was essential, as the modelling group had to address structural, dimensional, and material considerations, often identifying issues in the original designs. Consequently, the design group was required to revise or adapt their proposals (Figure 8.18).


Figure 8.18 The design and modelling groups communicated to add more details to the revised version. Model designed by Meng Qiusha

The modelling group acted as a bridge between the design and industrial design groups, completing the construction and rendering of product prototypes (Figures 8.19-8.21)

with two key objectives. First, by building prototypes, they facilitated the mass production of jewellery, particularly metal components, while maintaining the handcrafted uniqueness of Miao embroidery elements. Second, they integrated modern technologies to broaden the design potential of Miao embroidery and support virtual jewellery display.

In the third phase, the industrial design group focused on developing a virtual display system, guided by the Making module. Earrings and necklaces were selected as the final display objects, as the human head provides key reference points for enabling virtual try-on interactions. The industrial design group imported the completed product prototypes into the edited software programme, installed the necessary devices, and enabled audiences to interact with the virtual jewellery-wearing system on-site.

Figure 8.19 Rendering effects of *Ju Rong* and *Chasing*. Model designed by Li Han

Figure 8.20 Rendering effects of *Green Mountain* and *Dong Ji*. Model designed by Meng Qiusha

Figure 8.21 Rendering effects of *Ju Rong* and *Dong Ji*. Model designed by Liu Jiajing

Project Outcomes and Evaluation

The *Tracing* collection explored the contemporary potential of Miao embroidery by integrating it into jewellery design and virtual display. Through a focus on material texture, tactile engagement, and visual expression, the jewellery series demonstrated how traditional embroidery techniques could be reinterpreted for both commercial and artistic value (Figures 8.22 and 8.23). The collection was exhibited virtually at the *An Exhibition of Works by Trainees of Miao Embroidery Art Innovative Design Talent*

Training Programme in Qiandongnan of Guizhou on November 17, 2023 (Figure 8.24). The interactive nature of the virtual display enhanced public engagement and offered new possibilities for audience participation and cultural communication.

Following the exhibition, a structured group critique session was conducted with the student designers to evaluate the project across three dimensions: design development, prototyping, and display technology. Suggestions included incorporating mechanical principles into the *Green Mountain* series to allow rotation of the embroidery components, improving the accuracy of scale and material simulation in the 3D models, and enhancing the virtual experience by incorporating physical product comparisons and richer environmental rendering. These reflections reinforced the iterative nature of the design process and exemplified the cyclical logic embedded in the IEM model.

The project validated the model's adaptability in interdisciplinary contexts, supporting team self-organisation across different modules and facilitating the integration of traditional knowledge with emerging technologies. In particular, the Making module demonstrated the capacity for digital tools, such as virtual modelling and display, to act not only as visualisation strategies but also as potential production methods. While the final works were successfully realised and exhibited, the design remains open to ongoing refinement, underscoring the model's embedded logic of continuous evolution and responsive innovation.

Figure 8.22 Photograph of the physical jewellery piece *Green Mountain*. Photographed by Yang Yuwen in 2024

Figure 8.23 Photograph of the physical jewellery piece *Dong Ji*. Photographed by Yang Yuwen in 2024

Figure 8.24 On-site exhibition effects and audience interaction. Photographed by Zi's team in 2023

The graduation design projects and the interdisciplinary embroidery collaboration provided a comprehensive evaluation of the IEM model's effectiveness in guiding culturally rooted, practice-led design. The graduation projects demonstrated how the model facilitated sustained, independent inquiry within a structured pedagogical framework, while the virtual embroidery project highlighted its adaptability in collaborative, cross-disciplinary contexts that integrated traditional handicrafts with emerging digital tools.

Both confirmed the model's capacity to scaffold iterative making, critical reflection, and culturally sensitive innovation. The design outcomes were evaluated through cultural resonance, conceptual depth, and material experimentation, with validation achieved through public exhibitions, peer critique, and user interaction. This multi-dimensional application demonstrated the IEM model to be both theoretically grounded and practically effective in fostering original design thinking across varied educational and professional settings.

8.2 Social Validation of Subjective Knowledge

Given the subjective nature of this research, which is rooted in action and artistic methods, this section outlines how social validation was employed to assess the research findings critically.

> *Social validation is when others test the validity of what you are saying in light of your evidence, and how it is possible to make judgments about the capacity of the researcher to communicate their findings clearly to an interested audience.* (McNiff *et al.*, 2010, p.195, quoted in Nugraha, 2012, p.244)

Throughout the research process, findings were continuously shared with diverse audiences through academic papers, edited volumes, design competitions, and public exhibitions. These modes of dissemination enabled critical feedback, ensuring that the outcomes were not limited to introspective reflection but subject to external scrutiny and interpretation. Three layers of validation were engaged:

Peer validation occurred within institutional and pedagogical settings. For example, the IEM model was tested in workshop settings and teaching experiments, with feedback provided by fellow educators, students, and my line manager. These insights helped refine both the content and delivery of the model in real-time contexts.

Academic validation was achieved by presenting the research at academic conferences and submitting papers to peer-reviewed journals. These platforms enabled rigorous evaluation by subject experts, thereby enhancing the credibility of the research. Furthermore, I participated in a series of national and international design competitions where my work was critically assessed by juries composed of scholars and practitioners.

Public validation occurred through exhibition visitors, social media dissemination, and external review from crafts and design communities. A clear example is the graduation design project, which underwent multiple rounds of evaluation: first by internal

reviewers (colleagues, faculty, and students), then by external jewellery professionals, and finally by the general public during the graduation exhibition. As McNiff (2016, p.222) notes, public scrutiny can serve as the most potent form of validation, offering a broader measure of the relevance and communicability of the research.

In summary, social validation served as a critical mechanism for testing and affirming the knowledge generated in this research. While practice-led inquiry often relies on subjective and experiential knowledge, this subjectivity was made communicable and credible through shared platforms and dialogic engagement. The act of sharing knowledge, whether through papers, exhibitions, discussions, or collaborative work, enables others to interpret, critique, and expand upon the findings. In this way, the research achieved a form of contextual objectivity rooted in dialogue and collective interpretation, reinforcing the integrity and relevance of the IEM model within and beyond academic settings.

8.2.1 Reflection Practice

In January 2024, the exhibition ***Walking alongside the Handicrafts, Working alongside the Handicrafts*** was held at the Project Space, Design Centre, University of Gloucestershire. It showcased the cumulative practice-based outcomes generated by my students and me over nearly three years of doctoral research. This exhibition served not only as a means of public dissemination but also as a critical site for testing the IEM model in a curatorial and pedagogical context. By presenting student works and research outputs, the exhibition invited peer, academic, and public engagement, thus enabling multi-layered validation of the model's relevance and effectiveness.

This section draws on materials from the exhibition and its planning process to analyse how the IEM model informed curation and how its impacts were reflected in the exhibited outcomes. It also investigates the broader academic and social implications of applying the model in a museum-oriented context, particularly in the interpretation

and presentation of ICH. Through this process, the exhibition became a key mechanism for the academic and social validation of the IEM framework.

8.2.1.1 Preliminary Design Phase

The preliminary design phase comprised two parts: (1) defining the exhibition plan and deliverables to effectively manage the project timeline by clarifying key intermediate outcomes; (2) clearly articulating exhibition goals to identify the target audience and inform venue selection.

(1) Overall Exhibition Plan

The exhibition concept was initially conceived as a response to ideas for my doctoral research, which aims to develop, implement, document, and evaluate the IEM model and investigate the role of exhibition in preserving traditional handicrafts. The theme emphasises the importance of designers collaborating with traditional handicrafts, exploring preservation, development, and their integration into contemporary life. Table 8.1 outlines six key timeframes, with associated dates, objectives, and activities.

Table 8.1 Exhibition schedule

Concept Development	March to April 2023	- Determine an overall plan. - Identify the exhibition theme and goals. - Develop the exhibition's main message and components. - Build an exhibition team.
Content Development	May to August 2023	- Determine the final exhibition location, space, and dimensions. - Design and produce visual effects for the final exhibition. - Edit the exhibition's main message and summary description.
Graphic Design	September to November 2023	- Design posters. - Design two catalogues. - Edit and design exhibition materials (such as wall panels). - Shoot and edit interview recording.
Fabrication	August to December 2023	- Fabricate exhibit cabinets. - Print all the necessary materials. - Transport of all materials and cabinets.
Installation	January to February 2024	- Install the exhibitions. - Exhibitions open on 22nd January 2024 (Cheltenham) and 18th February 2024 (London).
Evaluation	25th January 2024	- Conversation event. - Message board.

(2) Exhibition Goals

The exhibition intended to disseminate research findings through my work and that of my students, focusing on three goals::

(a) Affective goals:

- To comprehend or attribute symbolic meanings beyond exhibits' economic or functional value.
- To resonate emotionally with the exhibits, fostering cultural identification or a sense of belonging.

(b) Cognitive goals:

- To understand the characteristics and history of the traditional handicrafts employed in the exhibits.
- To learn how the exhibits and their crafts integrate and shape people's way of life.

(c) Value goals:

- To understand and explore the value and importance of traditional handicrafts through the exhibits.
- To understand the roles played by teachers and students in the exhibition.
- To learn the value and significance of this research.
- To enhance knowledge and experience by obtaining first-hand information from the exhibits.

The exhibition was designed with visitors' needs, interests, and expectations in mind, positioning them as an integral part of the medium (Radice, 2014, p.312). It offered opportunities for active engagement, critical reflection, and emotional connection with the research outcomes. The aim was not only to communicate the research findings through the exhibited works by my students and myself, but also to facilitate interaction and collect qualitative data through activities such as Q&A sessions, a message board,

and a conversation event.

(3) Visitors' Profiles and Location Selection

Venue choice was critical to meeting the exhibition goals, shaping visitor demographics and engagement.

Academic Focus: Hosting the main exhibition at the Project Space, Design Centre, University of Gloucestershire, situates the research within an academic context, attracting students and faculty from design disciplines. A conversation event was held during the exhibition to facilitate dialogue with visitors, encourage interaction, and collect qualitative data.

Public Engagement: A supplementary exhibition at Neal Street, Covent Garden, London - a busy commercial area with diverse local and international visitors - extended outreach, allowing for a broader exploration of different emotional, cultural, and identity issues and facilitating additional qualitative data collection (see Section 8.2.1.4).

8.2.1.2 Detailed Design Phase

This stage focused on defining the exhibition content, including the selection of works, editing of accompanying texts, and visual design. It aimed to prepare for the exhibition's implementation.

(1) Selection of Exhibits

The exhibition featured outcomes from the teaching activities and individual creative practices discussed in Chapter 6. As the works served as a medium for communicating the research, selection was guided by the following criteria:

(a) incorporation of representative Chinese traditional handicrafts;

(b) demonstration of high quality;

(c) exploration of varied creative forms based on the chosen traditional handicraft;

(d) inclusion of key attributes of contemporary or commercial jewellery.

Each criterion served a specific purpose in relation to the research objectives and exhibition goals. Criteria (a) and (b) ensured quality and representativeness; (c) highlighted diversity and innovation in the creative expression of traditional handicrafts; and (d) emphasised the artistic or commercial value of traditional handicrafts. The final selection reflected the breadth and depth of the research, reinforcing the role of the IEM model in advancing traditional handicrafts.

(2) Exhibition Effect Design

A site visit to the Project Space at the University of Gloucestershire enabled accurate spatial planning, including measurements and evaluation of display conditions. This informed the layout design, including the positioning, size, and quantity of display cabinets, wall-mounted information panels, and video equipment (Figures 8.25 and 8.26).
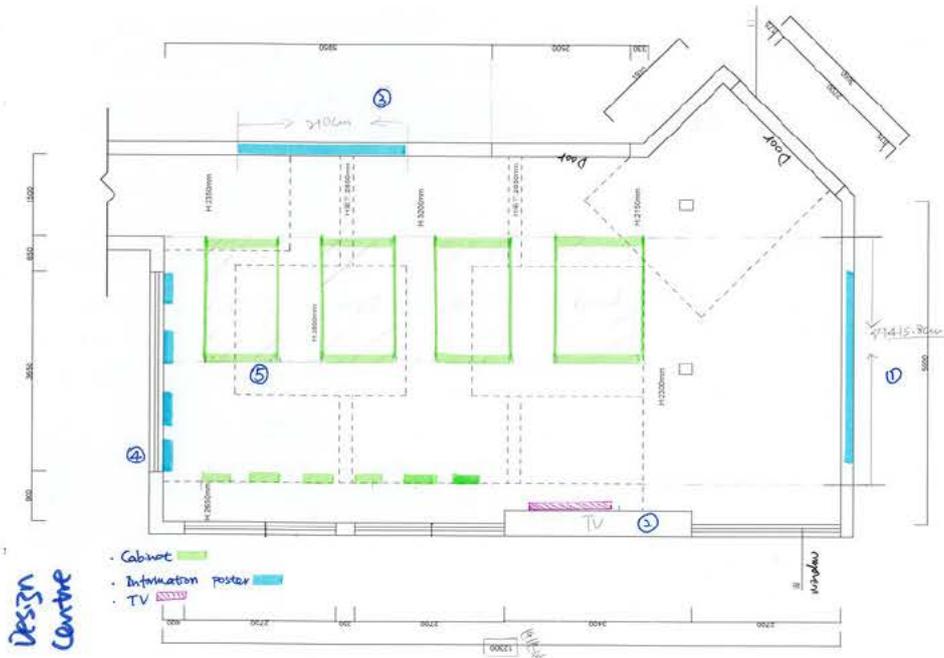
Figure 8.25 Floor plan. Drawn by Zi in 2023
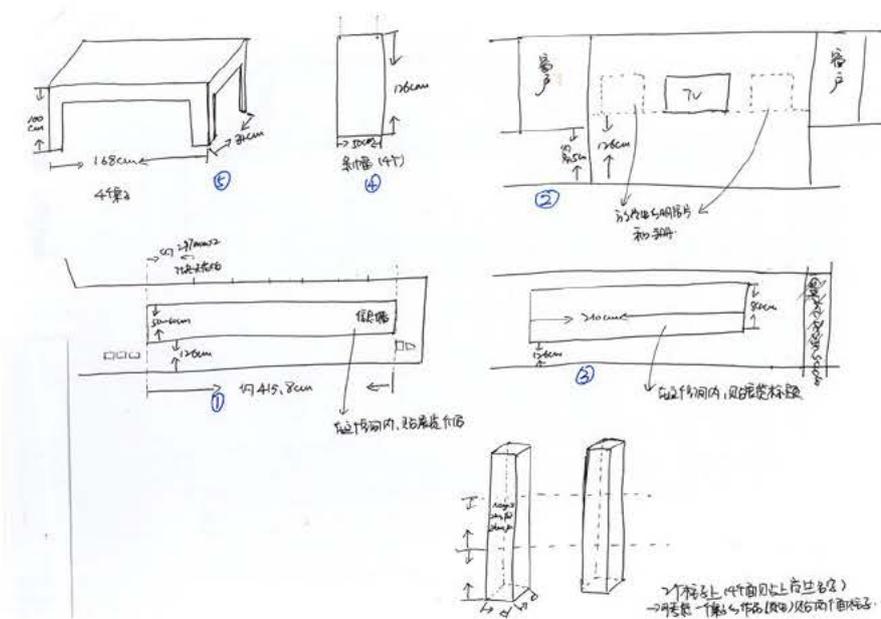
Figure 8.26 The dimensions for cabinets, posters, and TV playback equipment. Drawn by Zi in 2023

These consideration factors contributed to the final presentation style (Figure 8.27), which served as the basis for installation. I designed dual-sided inclined cabinet surfaces to enhance viewing angles (Figure 8.28). The cabinets, made by a manufacturer, were white with transparent acrylic covers, ensuring the effective display of the exhibits.

Figure 8.27 The exhibition presentation style at the University of Gloucestershire's Project Space. Designed by Zi in 2023

Figure 8.28 Dual-sided inclined-angle cabinet. Photographed by the manufacturer in 2023

(3) Promotional Materials

The exhibits functioned as tangible outcomes of the research, while the accompanying promotional materials articulated the exhibition's main content and components. The

exhibition information, comprising both textual and visual elements, was equally significant. It supported pre-exhibition promotion, served as a guide during the exhibition, and was summarised and archived post-event.

This exhibition included five types of promotional materials: introductory wall panels, hanging panels, posters, videos, and exhibition catalogues. While each component operated independently, together they formed a comprehensive narrative of the exhibition. An online archive of the exhibition is available at:

https://zimengnan.wordpress.com.

(a) Information Wall

The information wall was divided into two sections, labelled ① and ③ in Figure 8.25, with their dimensions indicated in Figure 8.26. As shown in Figure 8.29, it provided an overview and delineated the exhibition into six modules, categorising the exhibits based on the outcomes of the teaching experiments and individual creative practices from this research. Figure 8.30 illustrates a timeline that highlights key research outcomes, enabling visitors to quickly understand the project's development and results.

Figure 8.29 The general overview of the exhibition. Designed by Zi in 2023

Figure 8.30 The timeline of the research. Designed by Zi in 2023

(b) Panels

Some exhibits from teaching experiment 2 could not be physically displayed due to their large size or fragile materials. To address this, I designed panels that conveyed the teaching outcomes and core exhibition messages through keywords and citations related to traditional handicrafts. Presenting key information both visually and textually facilitated the dissemination of exhibition content (Figure 8.31).
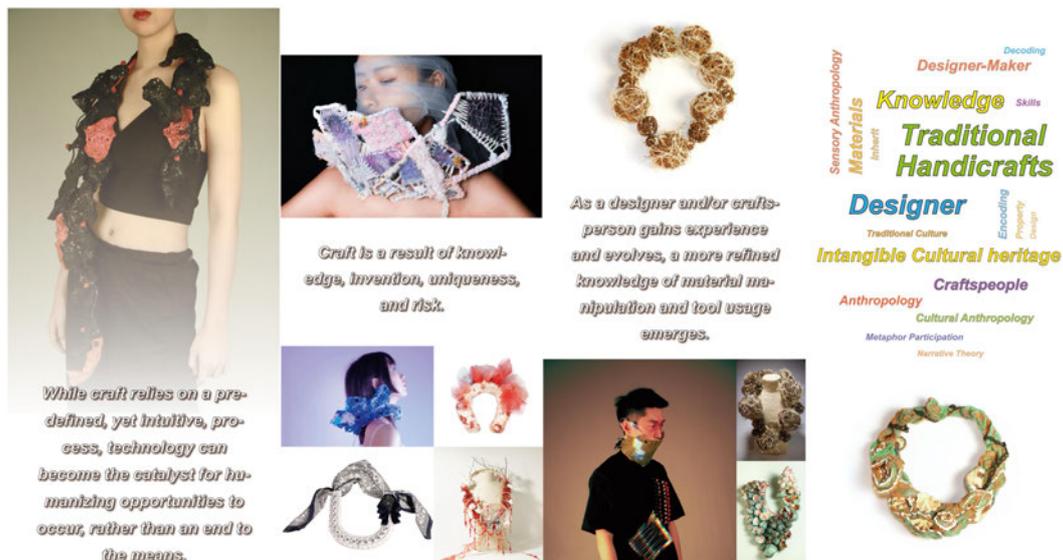
Figure 8.31 Visual presentation of the panels. Designed by Zi in 2023

(c) Posters

Due to the venue change, two promotional posters were designed for the respective exhibitions. The main poster for the University of Gloucestershire exhibition featured selected exhibits alongside detailed information about exhibition. In contrast, the poster for the Neal Street exhibition in London - held during the Chinese New Year period on 18 February 2024 - prominently used red to symbolise good fortune. Its simple background and minimal text were intended to capture the attention of passersby and facilitate quick access to information (Figure 8.32). To enhance publicity, individual posters were also created for each student's work (Figure 8.33).
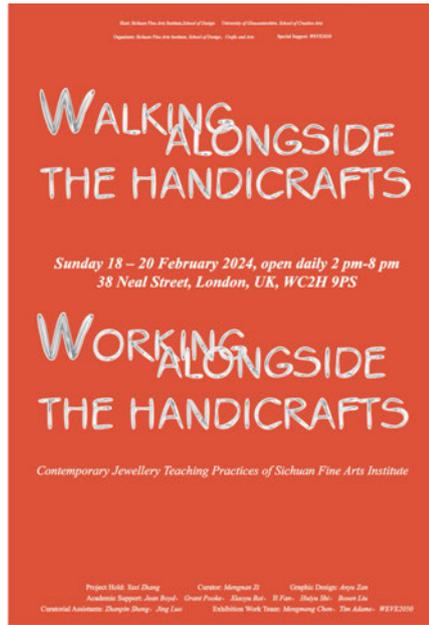
Figure 8.32 The right poster for the Project Space exhibition, and the left poster for the London Neal Street exhibition. Designed by Zi in 2023

Figure 8.33 Posters for individuals. Designed by Zi in 2023

(d) Videos

The video component served both as supplementary exhibition content and as a research method. It featured interviews with a faculty team from the Jewellery Studio at SCFAI - comprising a course leader, an associate professor, two lecturers, and a teaching assistant - who discussed the role and value of traditional handicrafts in jewellery design education, drawing on their professional expertise and teaching experience. The video also included interviews with students who participated in the teaching experiments, focusing on their design processes, experiences, and feedback

(Figure 8.34).

Figure 8.34 Screenshot from the video. Screenshotted by Zi in 2023

I also produced a condensed version of the video for social media dissemination, which highlighted key aspects of the exhibition and featured photographs of students' works and the exhibition display.

(e) Practice Research Catalogues

I designed and compiled two catalogue handbooks to document, preserve, and disseminate the research and exhibition in book form (Figure 8.35).

Catalogue 1 presents the exhibits organised around the six modules featured in the

exhibition. Catalogue 2 is a comprehensive document that expands on Catalogue 1, documenting all the principal practice outcomes of this doctoral research. It serves not only as a research output but also as a user manual for the IEM model. With an assigned ISBN, it facilitates academic dissemination and provides a valuable resource for scholars, educators, and other interested audiences to explore the research's academic significance.

Figure 8.35 Catalogues 1 and 2. Photographed by Zi in 2024

8.2.1.3 Implementation Phase

The installation process, including cabinets, exhibits, and labels, was completed during this phase, alongside the collection of qualitative data through a Q&A session, a conversation event, and a message board.

(1) Project Space Exhibition Setup

The exhibition hall was installed from January 15th to 21st, 2024, following the final design outlined in Section 8.2.1.2. Adjustments to the presentation style and spatial layout were made if needed (Figure 8.36). The exhibition was open from January 22nd to 31st, 2024.

Figure 8.36 A panorama and details of the Project Space exhibition. Photographed by Nick Henderson in 2024

(2) Conversation Event

On January 25th, 2024, my supervisor, Jean Boyd, and I conducted a one-hour conversation to provide an overview of my doctoral research project (Figure 8.37). This event introduced and disseminated the research and its findings.

Prior to the conversation, participants were guided through the exhibition to explain its purpose and content. This preparation facilitated their understanding of the discussion topics and encouraged them to engage in the conversation event with questions.

Figure 8.37 Conversation event on site. Recorded by Nick Henderson in 2024

(3) Exhibition Expansion: London Neal Street Exhibition

The three-day exhibition was held at the WEVE2050 studio, a smaller venue than the Project Space. All exhibits were displayed both inside and on top of cabinets.

Despite the limited space, the layout was in harmony with the unique style of the studio. It promoted visitor gathering and observation, facilitating my explanations and enhancing the overall visitor experience (Figure 8.38).

My presentation was tailored to a diverse audience, including many consumers and some art students. I framed the exhibits within the broader context of my doctoral research, highlighting handicrafts, materials, design themes, and their significance.
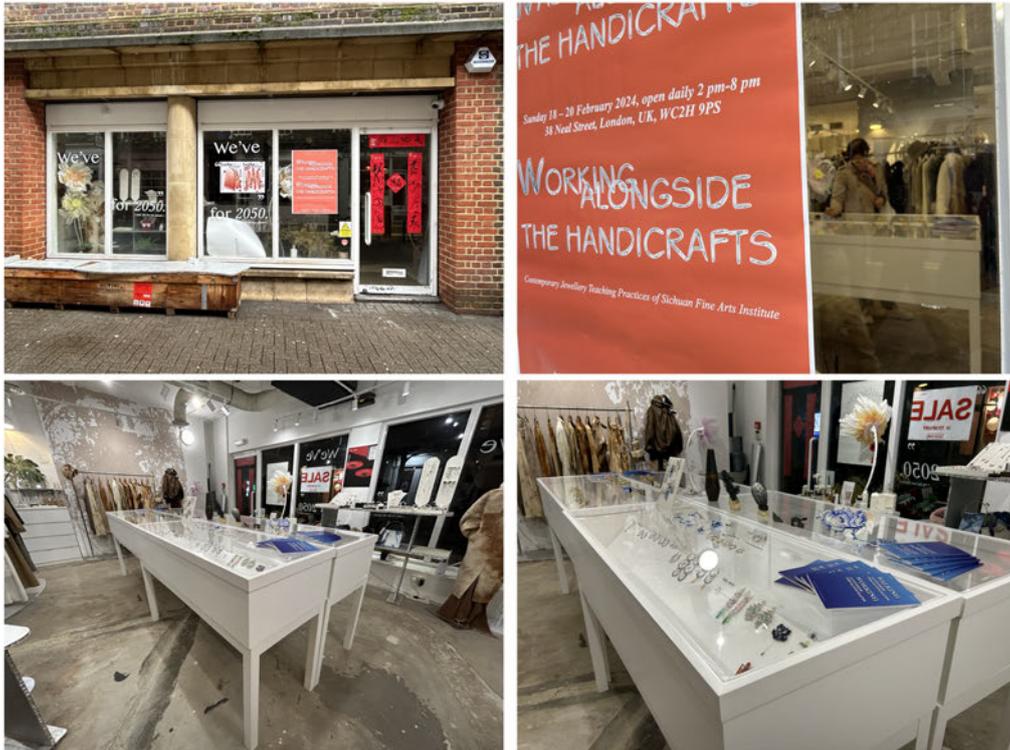
Figure 8.38 A panorama and details of the London exhibition. Photographed by Zi in 2024

8.2.1.4 Discussion of Results

(1) Role Differentiation and Educational Impact in Exhibition Contexts

The exhibitions provided valuable qualitative data to assess the effectiveness of the IEM model in real-world, public-facing contexts. Data collection methods included on-site narration, a message board, and interactive Q&A sessions, offering insight into audience engagement and interpretation of traditional craft-based designs.

A comparative analysis of the exhibitions at Neal Street, London, and the University of Gloucestershire revealed differing visitor responses shaped by audience background. While art students and educators demonstrated interest in cultural meaning and design processes, general consumers tended to focus on materials and pricing, often overlooking the cultural significance of handicraft. This divergence underscores the crucial role of educational mediation in promoting an understanding and appreciation of ICH. The exhibitions thus became platforms not only for public engagement but also

for testing how effectively the IEM model supports cultural communication and audience empathy.

The exhibitions also revealed the differentiated yet interrelated roles of teachers and students in sustaining ICH. In this context, I primarily acted as a curator. The conversation event extended my role, positioning me as exhibition designer, narrator, conservator, educator, and cultural communicator. Thus, my role "[became] even more pivotal in communicating the exhibition content effectively" to the visitors (Radice, 2014, p.312). At the three-day exhibition in London, which mainly attracted consumers, I additionally assumed the role of a potential salesperson, alongside narrator and conservator.

Throughout this doctoral research, I have taken on dual roles as designer and educator, critically examining both my design practice and teaching experiments. This dual positioning required me to continually engage in an ongoing process of moving in and out of the work, allowing for critical self-evaluation. Each jewellery design project was treated as a research subject, and I regard myself as the most appropriate evaluator of my own practice. As a designer, researcher, and teacher, I occupied multiple roles that shaped my observations and reflections on my work and teaching activities. During the doctoral period, engagements such as teaching experiments, doctoral dissertation, participation in international conferences, and paper publications served the purpose of disseminating research findings and contributions to the design education field, thus positioning me in the roles of educator and knowledge disseminator. As Miettinen (2007, p.105) argues

My research strategy was to benefit from the different identities I have. I can reflect upon the experiences I have and work with my identities to better understand the field.

Recognising the students' diverse roles throughout the research and exhibition is critical. In the doctoral research, students function both as research participants and as designers.

In the exhibition, students are an invisible factor. Despite their absence or lack of direct involvement in the exhibition, they showcase their innovatively crafted jewellery designs using traditional handicrafts, thereby affirming their role as jewellery designers. Furthermore, as potential disseminators of traditional culture, their work may be featured in future exhibitions and competitions, supporting broader dissemination and a sustainable impact.

These layered roles illustrate how the IEM model enables educators and learners to co-construct and disseminate knowledge in ways that actively support the safeguarding of ICH. This differentiation of roles reflects how the IEM model supports ICH protection across multiple layers. The exhibition thus served not only as a public platform for showcasing practice-led outcomes but also as a mechanism for validating the IEM model's capacity to scaffold cultural education and support long-term heritage transmission. These findings directly inform the application and influence of the IEM model outlined in Chapter 9.

(2) Curatorial Application of the IEM Model

The exhibition ***Walking alongside the Handicrafts, Working alongside the Handicrafts*** was structured around the IEM model, applying its complete research cycle - from conceptual planning to public engagement - within a curatorial context (Figure 8.39). This curatorial application primarily followed the structure outlined in Section 8.2.1.2, with each module of the IEM model contributing to specific phases of the exhibition planning and delivery.
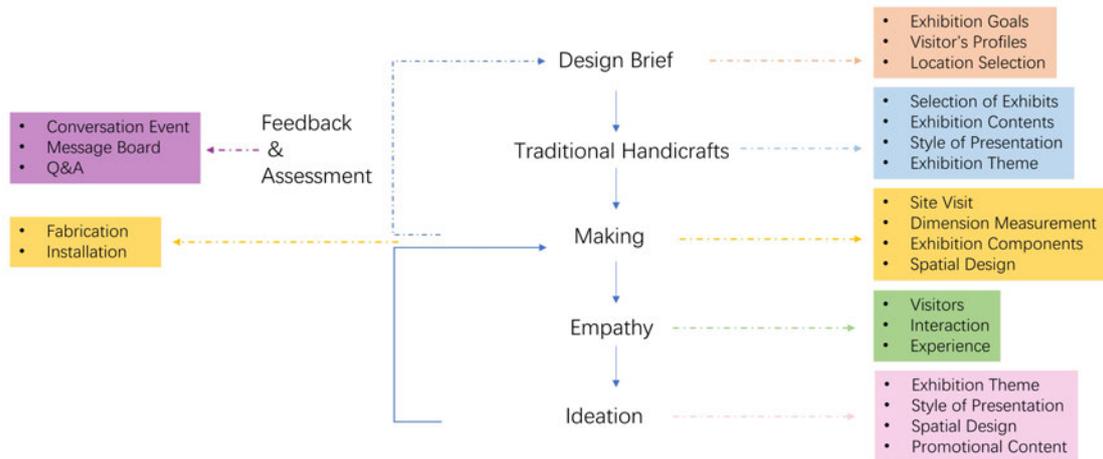
Figure 8.39 Schematic of the IEM model's curatorial application

The Design Brief module defined the curatorial objectives, visitor focus, and venue requirements. Within the Traditional Handicrafts module, the curator developed a thematic framework, identified suitable works for display, and incorporated essential cultural and technical knowledge of traditional handicrafts (Radice, 2014, p.312).

Conducting on-site visits to the exhibition hall was crucial for solidifying and implementing the exhibition plan, which was part of the Making module. It involved finalising the dimensions and positioning of the exhibition layout, which could be visualised through graphic designs to see the layout effects. So, it provided dimensions for the required exhibition equipment, data for graphic design and printing, and instructions for the implementation phase.

The Empathy module considered the visitor as an integral part of the exhibition medium. It aimed to enhance interaction and emotional engagement between visitors and exhibits, in line with the goals outlined in Section 8.2.1.1. Based on the requirements of the Design Brief and Traditional Handicrafts modules, planning the exhibition addressed key questions such as how the exhibits emotionally connect with the visitors. How can the exhibits effectively communicate information to visitors throughout the exhibition? How can the curator improve the visitors' immersive experience? How can the visitor gain a take-home message from the exhibition?

Insights from the Making and Empathy modules informed the Ideation module, where exhibition themes and content were refined to finalise the graphic design. Printing and cabinet-making were carried out in the making module, as part of the final implementation stage. Lastly, the Feedback & Assessment module provided a critical evaluation of the exhibition's impact through public responses and curatorial reflection, measuring alignment with initial objectives.

By applying the IEM model in a curatorial context, the exhibition served as both a platform for disseminating research outcomes and a testbed for assessing the model's adaptability beyond teaching environments, demonstrating its value beyond educational settings. It demonstrated the framework's effectiveness in supporting culturally grounded design, organising pedagogical content, and structuring curatorial practice. This application validated the IEM model as a flexible tool for planning, interpretation, and education, highlighting its potential as a sustainable approach to cultural transmission through design.

8.3 Chapter Conclusion

This chapter has outlined two complementary strategies for validating the IEM model: analysing creative outcomes and utilising social validation through peer, academic, and public feedback. These methods not only confirmed the IEM model's effectiveness in guiding traditional handicrafts design and education practices but also expanded its scope by testing its applicability in interdisciplinary, professional, and curatorial contexts. Through these diverse applications, the IEM model has demonstrated its flexibility, relevance, and potential for long-term impact in both educational and cultural settings.

The following chapter builds on these findings by critically examining the broader applications and implications of the IEM model, highlighting its contribution to pedagogical innovation, cultural sustainability, and design research.

Table 8.2 Summary of research findings in Chapter 8

F 8.1	●	Two complementary strategies for validating the IEM model: analysing creative outcomes and utilising social validation through peer, academic, and public feedback.	8.1 & 8.2
F 8.2	●	The IEM model can be applied to various teaching tasks, such as graduate projects. Furthermore, four key design domains are suggested for jewellery design: traditional handicrafts, technology integration, material exploration, and design concepts.	8.1.1
F 8.3	●	The IEM model could be used for curation, serving as a preliminary test for its future development.	8.2.1
F 8.4	●	When the IEM model is applied to curation and teaching, both teachers and students play multiple roles in sustaining traditional handicrafts.	8.2.1.4

Notes: The blue rows represent my original research findings or contributions

CHAPTER 9: IEM Model: An Explanation for How to Continuously Develop Traditional Handicrafts

Building on the validation strategies outlined in Chapter 8, this chapter further examines the operation, application, and potential impact of the IEM model - the central outcome of this research. Developed through iterative practice-led investigations, the IEM model offers a structured pedagogical approach to supporting the continuity and transformation of traditional handicrafts. This chapter outlines how the model functions, who can benefit from it, and in what contexts it can be effectively applied. It also considers its broader implications for education, design practice, and cultural sustainability.

9.1 How the IEM Model Works

The outcomes from multiple teaching experiments, design practices, and exhibitions collectively demonstrate how the IEM model operates. Each case highlights different goals in supporting the continuity of traditional handicrafts. The model's practical application can be understood through three key domains: its users, its functions, and its modes of implementation.

9.1.1 Who will Benefit?

The IEM model is a tool for teachers and art-design students to foster innovation through traditional handicrafts. It provides guidance in the creation of new objects or products by utilising various aspects of traditional handicrafts, such as combining traditional techniques or skills with modern elements, or identifying elements within traditional handicrafts that can be leveraged to create innovative designs. Thus, the IEM model could serve as a helpful method for complementing or supporting the teaching process.

As demonstrated in this research, the model benefits not only educators and students but also professionals in broader cultural and institutional contexts. In educational settings, both teachers and students take on multiple roles, extending their impact into future professional and community-based practices. They contribute to preserving these crafts and ensuring their relevance in contemporary life. Their projects show alternative paths towards the continuous or even sustainable development of traditional handicrafts. Hence, the educational context is a critical focus of this research, emphasising sustainable development and influence.

The IEM model demonstrates potential value across six key application areas:

Development Projects: Continuous projects carried out by governments, companies, or non-governmental organisations worldwide aim to preserve and develop specific indigenous traditional handicrafts, revive local culture, and support the local economy. For example, the workshop in Section 6.2.3.3 was based on the UNESCO-supported Creative Guizhou Songtao Gift project.

Design Training Projects: Various design training projects are organised at different levels for particular artisans, makers, craftspeople, and professionals, catalysing the development of local traditional handicrafts. The aim is to increase income, instil pride in their culture, and explore innovative possibilities for traditional handicrafts. For instance, the China Intangible Cultural Heritage Inheritance Group Study and Training Plan (see Section 3.2.2.2) and the PACC (see Section 3.3.1) are empowering craftspeople to explore the potential of their traditional handicrafts.

Workshops: The IEM model could be helpful in a workshop to explore various possibilities for developing traditional handicrafts. For instance, the Jewellery Studio at SCFAI hosts one or two workshops annually, typically lasting two weeks, during which traditional handicraft masters are invited to share their techniques with students. Alternatively, DIY workshops could be open to the public, typically organised by

schools, museums, or other institutions, aiming to offer hands-on experiences in traditional handicrafts. Furthermore, the workshop I conducted as part of this doctoral research also validated the IEM model's contribution to the conceptualisation and development of traditional handicraft-based workshops.

Guiding Policy Development: The model provides a potential reference or framework for decision-making processes that inform craft-related policy at local or national levels, particularly in addressing socio-cultural aspects, environmental concerns, and local sources. For example, Section 3.2.2 outlines specific policies for protecting, promoting, and developing traditional handicrafts.

Tourism: Tourism promotes local economies and cultural dissemination. One way to achieve this is to create high-quality souvenirs for tourists. For example, the Creative Guizhou Songtao Gift competition designed souvenirs that reflect the region's identity and promote local economic development.

Design Industry and Businesses: Industries and businesses have the potential to generate innovations through their Research and Development or Design divisions by drawing inspiration from traditional techniques, elements, or materials available locally. For example, art-design students could be members of a jewellery company after graduation and use traditional handicrafts to inspire new projects.

While initially designed for use in educational settings, the IEM model's impact extends beyond graduation. As students move into roles in government, industry, and cultural institutions, they continue to apply and evolve the model within new professional contexts. As illustrated in Figure 9.1, the six target groups not only benefit from the IEM model but also contribute to its ongoing development. This demonstrates the IEM model's adaptability and its potential for long-term, sustainable influence across a broad range of cultural, institutional, and creative sectors.
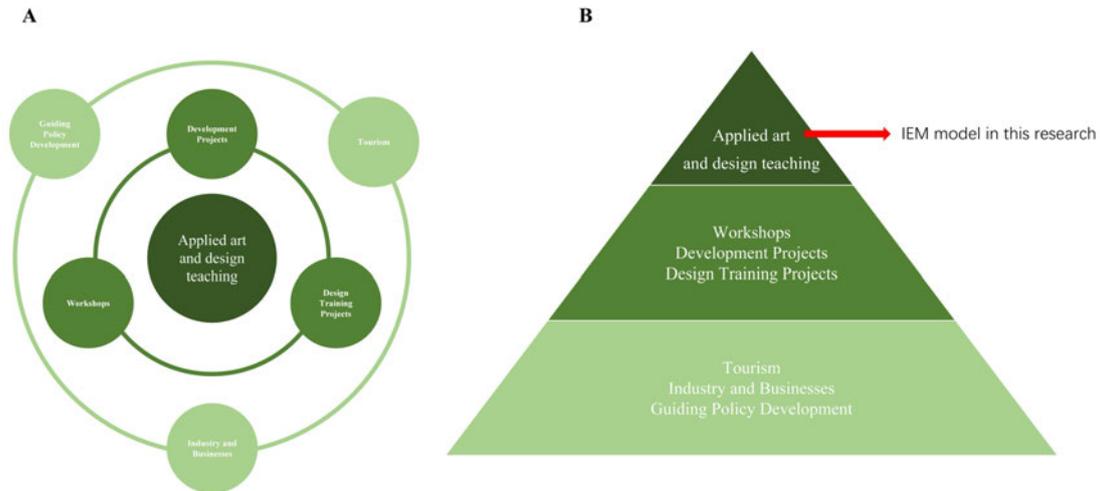
Figure 9.1 A: The molecular diagram indicates that the IEM model in teaching would involve projects from other institutions **B:** The pyramid platform illustrates the hierarchical relationship in the future application and development of the IEM model within this research

9.1.2 The Function of the IEM Model

In this research, the IEM model fulfils two main functions: it acts as a pedagogical tool for teaching traditional handicrafts and as a design framework for supporting creative production based on traditional techniques.

First Function: Supporting the Teaching of Traditional Handicrafts

The IEM model offers a structured approach that enables teachers to design relevant courses and guide students in learning traditional handicrafts. As demonstrated in Section 6.2, the teaching activities based on the model enabled students to engage with craft-based techniques while developing jewellery projects. This shows how the model supports both content delivery and learning outcomes, facilitating the transmission, reinterpretation, and innovation of traditional knowledge in educational contexts.

Second Function: Assisting the Design and Production of New Works

Beyond teaching, the IEM model also facilitates the creation of new products or objects rooted in traditional handicrafts. It helps users analyse the Design Brief, identify

suitable craft elements, and apply relevant research methods. The model ensures a comprehensive and reflective design process that incorporates both material and emotional dimensions, particularly the relationship between the object and its user or audience. As shown in Chapter 6, creative outcomes using traditional handicrafts have evolved into marketable products or artworks exhibited in galleries.

9.1.3 Three Application Modes of the IEM Model

The IEM model can be applied in three modes - free task, semi-free task, and specified task, which correspond to varying degrees of constraint in the design brief, as outlined in Chapter 6.

The **free task** mode offers complete freedom in selecting themes, concepts, or inspirations, enabling users to incorporate traditional handicrafts into open-ended creative processes. This mode is commonly used in art and design schools, independent studios, and some design companies. In this research, three individual design practices were conducted under this mode, each initiated from a self-determined topic.

Semi-free and specified task modes involve predetermined parameters, such as designated design themes, aims, or content. The **semi-free task** is comparable to an open-ended brief, which provides general guidance while allowing for creative interpretation and expression. For example, the virtual embroidery jewellery project (Section 8.1.2) required the use of Miao embroidery only, without specifying materials, themes, or commercial intent. In contrast, the **specified task** resembles a closed brief, with clearly defined objectives and constraints. This is illustrated by the Creative Guizhou Songtao Gift competition (Section 6.2.3.3), where participants responded to specific criteria.

While semi-free and specified tasks impose limitations, they do not necessarily inhibit creativity. Instead, they provide structured challenges that can foster innovation within

defined boundaries. Similarly, the exhibition designed using the IEM model (Section 8.2.1) exemplifies the semi-free task mode. Although its core aims - public engagement and knowledge transfer - were predetermined, the curatorial process allowed for original approaches to spatial layout, narrative structuring, and material selection. This illustrates the IEM model's ability to foster creativity even within defined boundaries.

9.2 Ripple Effect of the IEM Model: Suggestions for Future Research

In China, attitudes toward traditional handicrafts vary. Some advocate for preserving them in their original form, fearing that any modification may erode their authenticity and value (Nugraha, 2012, p.6). Others support adapting them with modern technologies and materials to maintain their relevance and appeal, while a third group dismisses them as outdated and believes newer forms of design should replace them.

Despite these divergent views, in an era marked by ecological crises, consumerism, and cultural detachment, traditional handicrafts - rooted in generations of wisdom and a harmonious relationship with nature - offer valuable insights for sustainable living. As a distinct discipline, traditional handicrafts now occupy a space between tradition and modernity, requiring craftspeople to strike a balance between innovation and heritage. Their ability to bridge the past and the future underscores the urgency of preserving and recontextualising them.

In response, this research views traditional handicrafts as a form of living history - dynamic, reflective, and instructive. By engaging with them through contemporary educational practices, this research seeks to modernise and revitalise craft knowledge without compromising its cultural integrity. Rather than isolating traditional handicrafts in museum contexts, this research argues for their active adaptation, enabling them to evolve meaningfully within design education and practice.

9.2.1 Micro Level: Continuous Development of Traditional Handicrafts

This research addresses key challenges facing traditional Chinese handicrafts, such as the lack of successors and their declining relevance in contemporary life. To respond to these issues, this doctoral research proposes the IEM model - an innovation-oriented design method for traditional handicrafts - developed through a practice-led approach. The model serves both as a creative approach and a pedagogical framework, integrating traditional handicrafts into design education, thereby demonstrating how to maintain, protect, and continually develop these traditional handicrafts.

As shown in Figure 9.2, the IEM model facilitates the integration of traditional handicrafts into education, which in turn can stimulate consumption and promote sustainable development.
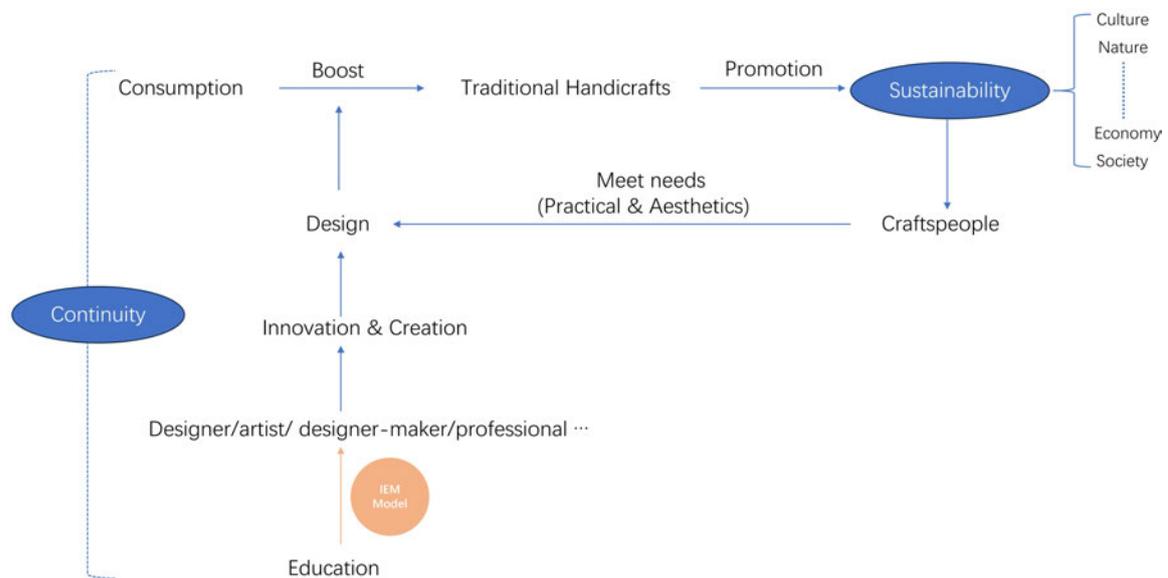
Figure 9.2 The role of the IEM model in the continuous and sustainable development of traditional handicrafts

Sustaining traditional handicrafts requires increasing their relevance in daily life. This involves designing culturally rooted products that respond to contemporary needs. Design education plays a vital role by equipping students with the skills to reinterpret traditional handicrafts for modern markets.

Due to its adaptability, the IEM model is applicable beyond jewellery. Its core principles can be extended to other domains related to the art, craft, and design fields, such as architecture, fashion, furniture, and automotive design, fields that share craft-based foundations. For instance, traditional architectural elements such as mortise-and-tenon joints or woodcarving can be incorporated into architectural design curricula using the IEM model, with appropriate adjustments for disciplinary context.

9.2.2 Macro Level: Sustainable Development of Traditional Handicrafts

As discussed in Section 4.2.3, traditional handicrafts exhibit a natural characteristic in three key ways: (1) the use of locally sourced, naturally derived materials; (2) design elements inspired by nature, such as fish, flowers, and birds; and (3) low-carbon, hand-making techniques rooted in pre-industrial tools.

However, due to modern technology and the evolution of contemporary times, the continuation and preservation of traditional handicrafts may diminish their natural characteristics. For instance, increasingly diluted by synthetic materials and mechanised processes. Additionally, the natural characteristics reflect a symbiotic value between humans and nature, which serves as a critique of consumerist design. Thus, when discussing sustainable development, the natural characteristics of traditional handicrafts become particularly significant.

While this research focuses on the continuity and development of traditional handicrafts through design education, it does not include natural characteristics in the working definition and classification of traditional handicrafts within the design discipline.

Although the IEM model is primarily positioned as a micro-level framework focused on design methods (see Section 9.1.2), its potential application extends beyond this scope. As discussed in Section 9.1.1, the model has the potential to be applied across six additional targets beyond design education, suggesting its capacity to generate

continuous and indirect impact. By incorporating the natural characteristics of traditional handicrafts, the model may further contribute to ecological and cultural sustainability goals (see Figure 9.3).

At the macro level, creating new objects or products using traditional handicrafts contributes to various aspects of sustainability, including economic, social, cultural, and ecological factors. Traditional handicrafts provide a natural means of producing functional products that align with environmental and economic goals, express artistic value, represent identities and cultures, and sustain local societies.
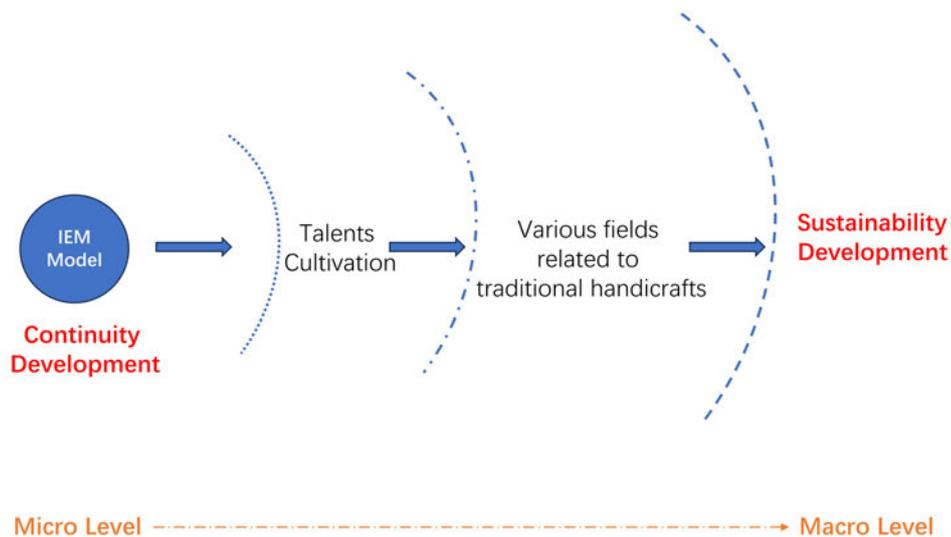
Figure 9.3 Ripple effect of the IEM model

9.3 Chapter Conclusion

This chapter has explained and illustrated how the IEM model functions in applied contexts and its potential for broader impact. It outlined the model's operation, its two core functions, and three practical modes of implementation. While the primary focus of this research is on teaching applied art and design, the IEM model also shows promise for adaptation in other professional and community-based contexts.

In particular, the IEM model is designed to benefit six target groups, which not only

demonstrates its flexibility across educational, cultural, and industry sectors but also highlights its broad applicability and long-term influence. These groups demonstrate how the IEM model can extend beyond the classroom through students who apply its principles in fields such as education, government, design industries, and cultural institutions, thereby supporting the continued relevance of traditional handicrafts across various disciplines and systems.

Lastly, this research explored the continuity and development of traditional handicrafts, suggesting that the IEM model has the potential for sustainable development. Therefore, the fundamental goal of the IEM model is the continuous development of traditional handicrafts, with sustainable development as the ultimate goal.

Table 9.1 Summary of research findings in Chapter 9

Finding No.		Description	Chapter Sections
F 9.1	●	The IEM model could prove beneficial when applied to six different targets based on *applied art and design teaching*: **development projects, design training projects, workshops, guiding policy development, tourism,** and **industry and businesses.**	9.1.1
F 9.2	●	The IEM model serves two main functions in this research: 1) as a tool for teaching traditional handicraft methods, and 2) as a tool for creating a product or object based on traditional handicrafts.	9.1.2
F 9.3	●	The IEM model can be adopted in three modes: **free task, semi-free task,** and **specified task.**	9.1.3
F 9.4	●	The potential of the IEM model for fostering the *continuous development* of traditional handicrafts towards *sustainable development.*	9.2

Notes: *The blue rows represent my original research findings or contributions*

CHAPTER 10: Conclusions

This chapter summarises the research findings, answers the research questions, and discusses the original contributions to knowledge. Furthermore, it reflects on the limitations of the research and suggests directions for future work.

10.1 Contribution to Knowledge

This section outlines the contributions of this practice-led research, explains how the research questions and objectives have been addressed, and highlights the theoretical and practical implications of the research.

10.1.1 Research Findings and Contributions

This research investigates a pedagogical approach for sustaining and innovating traditional Chinese handicrafts within jewellery design education. By integrating teaching activities with individual practice, it proposes a teaching method that addresses issues related to traditional handicrafts. The research makes the following contributions:

(1) Contribution to traditional handicrafts, design education, and ICH studies

This research provides an understanding of ICH practices in the Chinese context and their relevance to design education. Through an analysis of raw data and relevant literature about Chinese design education, this research reveals:

- An understanding of traditional handicrafts within the design discipline;
- A variety of teaching practices related to traditional handicrafts in the Chinese design education;
- Significant factors influencing the practices and innovations of traditional handicrafts;

- The role of students and their practices in sustaining and continuing traditional handicrafts.

During the doctoral period, research outcomes were disseminated through academic publications, and students' work received national and international recognition, for which I received excellent teacher guidance awards. Additionally, I curated an exhibition with funding from the SCFAI and supported by the University of Gloucestershire. An English-language catalogue documented four years of research work (see Appendix 8). These activities demonstrate that this research has contributed to the promotion and dissemination of ICH and traditional handicrafts in Chinese design education.

This research makes a significant contribution by presenting the IEM model, which can be applied to educational settings and broader contexts, such as curating, museum education, government policymaking, or tourism. This model can also be used to promote traditional handicrafts, their culture and knowledge, especially in terms of sustainable development and protection. It thus contributes to the broader development and sustainability of ICH across multiple sectors.

(2) Contribution to the educational theoretical framework

The IEM model provides a systematic framework for integrating traditional handicrafts into design education. Specifically, it addresses the tangible and intangible characteristics of traditional handicrafts - such as materials, techniques, embedded cultural meanings, and inherited knowledge - alongside their emotional resonance with customers, cultural significance, and contemporary relevance. As both a knowledge framework and a design toolkit, the IEM model offers new pedagogical possibilities for the craft, art, and design disciplines.

10.1.2 Answers to Research Question

This research is centred around the primary research question:

How can design education contribute meaningfully to the continuity and development of traditional Chinese handicrafts?

To answer this question, three research objectives were established, and the findings were used to drive the research project. The specific steps taken to address these objectives were outlined.

(1) How can the role of contemporary design education be reimagined to sustain and reinvent traditional handicraft skills?

This research objective critically investigates how contemporary design education can contribute to the sustainability and reinvention of traditional handicraft skills. Chapters 2 and 3 establish the theoretical and policy-based foundation for this research, highlighting the significance of design education within the broader context of safeguarding ICH and promoting sustainable development. Specifically, Section 3.2.2 reviews national policies and institutional frameworks in China that explicitly support the continuation and transformation of traditional handicrafts through educational mechanisms. Section 3.1.2 aligns these policies with global agendas, such as UNESCO's Convention for the Safeguarding of Intangible Cultural Heritage (2018) and SDGs, particularly SDG 4 on inclusive and equitable quality education.

Chapter 2 not only confirms the characteristics and values of traditional handicrafts but also conceptualises traditional handicrafts through three components: Arts, Knowledge, and Assembly, and provides a theoretically grounded and discipline-relevant classification. By reframing traditional handicrafts within a design discourse, this research highlights that traditional handicrafts encompass not only a process of material mastery but also serve as a vehicle for aesthetic expression, cultural memory, and the transmission of tacit knowledge. As UNESCO's Convention for the Safeguarding of Intangible Cultural Heritage (2018, p.3) highlights, acknowledging the overall

significance of cultural heritage necessitates considering both the intangible and tangible aspects of physical artefacts and objects. This holistic view aligns with the requirements outlined in the Making and Traditional Handicraft modules of the IEM model presented in this research.

Crucially, from a design perspective, the component Assembly encompasses both tangible practices (tools, materials, techniques) and intangible dimensions (ritual, belief, and cultural context), reinforcing the need to reposition traditional handicrafts as dynamic, rather than static, cultural forms. As such, design education must evolve from mere skill-based training to a reflective and culturally sensitive practice that fosters both innovation and continuity of heritage.

Moreover, Sections 3.4.1 and 8.2.1.4 further elaborate on the multiple and evolving roles played by both teachers and students in the innovation and safeguarding of traditional handicrafts. Importantly, students' engagement does not end within the educational setting. Upon graduation, students often enter diverse professional fields, including governmental departments, tourism and cultural industries, and creative enterprises, where they continue to draw upon their educational experiences to support and advocate for traditional handicrafts. In this way, the influence of design education extends beyond the classroom, enabling graduates to function as long-term contributors to the sustainability of heritage and cultural innovation across multiple sectors. This highlights the strategic potential of design education to cultivate a new generation of interdisciplinary practitioners who can adapt traditional knowledge to contemporary societal needs while ensuring its continued relevance and transmission.

In this regard, the IEM model proposed in Chapter 6 offers a theoretical lens through which the generation and reinterpretation of traditional handicraft knowledge within contemporary design education can be understood. Rather than viewing traditional knowledge as static, the model illustrates how it can be actively reassembled through design-led inquiry, practice-based learning, and contextual reflection. This process

enables both educators and students to engage critically with traditional practices, leading to the emergence of new meanings and contemporary understandings that are relevant to today's cultural and social realities. Thus, the model not only supports knowledge transmission but also positions education as a dynamic platform for innovation, cultural renewal, and sustainable heritage development.

Therefore, this research contends that design education should be reimagined as a culturally grounded, interdisciplinary, and practice-led approach - one that connects tradition and innovation, theory and application, knowledge and creativity. Such an educational model enables traditional handicrafts to evolve as living practices, continuously reinterpreted in response to contemporary cultural, economic, and educational challenges.

(2) How can innovative approaches in contemporary jewellery design education generate new knowledge by using traditional handicrafts as a resource?

As discussed in Section 4.2, a mutually reinforcing relationship exists between traditional handicrafts and contemporary jewellery design. Design practice, in this context, serves as a vehicle for enhancing, transforming, and extending the meaning and function of traditional handicrafts.

Building on this theoretical foundation, the case studies analysed in Section 4.3 reveal three key design strategies through which traditional handicrafts are effectively incorporated into contemporary jewellery: (1) the transmission of cultural traditions, (2) consumer contact, and (3) the integration of diverse materials and craft techniques. These strategies reflect a broader shift from preservation to reinterpretation, where traditional knowledge becomes a generative resource for design innovation.

The knowledge generation process embedded within the IEM model involves three stages: knowledge retrieval, integration, and concretisation. This process of knowledge generation is not merely cognitive but also deeply experiential and empathetic,

facilitated through the Making and Empathy modules, which allow students to internalise and reinterpret traditional handicrafts in ways that are personally meaningful and socially relevant. To further support this process, this research introduces the use of guiding questions as a pedagogical strategy. These questions - contextual, reflective, and often open-ended - are embedded throughout the IEM model to prompt critical thinking, sensory engagement, and cultural awareness. Guiding questions scaffold students' learning by encouraging them to examine, question, and reinterpret the cultural and material knowledge they encounter during practice.

The model thus supports a situated, reflective, and iterative learning process, where students develop new understandings of traditional handicrafts through creative dialogue with them. Therefore, this research objective provides a methodological foundation for integrating traditional handicrafts into jewellery design education. It demonstrates how innovative pedagogical approaches - grounded in practice, empathy, and critical reflection - can facilitate meaningful knowledge production, support cultural continuity, and shape future directions for design education and heritage innovation.

(3) What new pedagogical model would enable the generation of this practice-based learning?

This research proposes the **IEM model** as a new pedagogical framework designed to support practice-based learning and promote the continuous development of traditional handicrafts within the context of design education. The model has been developed and validated through a structured, iterative process across Chapters 6 to 9.

- *Determining the Role of the IEM Model in the Revival of Traditional Chinese Handicrafts*

As outlined in Section 3.4.2, this research aims to address the crisis facing traditional handicrafts by cultivating a new generation of successors - individuals who not only understand the cultural and aesthetic value of these crafts but also possess contemporary

design awareness, market sensitivity, and innovative capabilities. This talent development goal provides the foundation for the subsequent development and application of the IEM model.

Building on this, Chapter 6 outlines the development and iterative refinement of the IEM model through teaching practice and personal creative projects. Chapter 7 introduces the IEM toolkit, which translates the model into practical resources for educators and students, enhancing its applicability within design education.

More importantly, the IEM model enables students to reinterpret and reimagine traditional handicrafts, thereby contributing to their innovation and sustainable development. In this way, the model facilitates a form of practice-based learning that generates new cultural knowledge from traditional sources.

Crucially, the model also highlights the multiple and evolving roles of both teachers and students in the safeguarding of ICH. As demonstrated through the social validation process in Chapter 8, particularly in the exhibition, teachers and students acted not only as designers and learners but also as curators, mediators, and cultural communicators. This multidimensional participation reflects the model's capacity to cultivate students as future professionals capable of engaging with ICH at multiple levels. Through this, the IEM model makes a meaningful contribution to the revival and ongoing relevance of traditional handicrafts in contemporary design contexts.

- ***Identifying the Contribution of the IEM Model to the Long-Term Continuation of Traditional Chinese Handicrafts***

Chapter 8 provides a dual validation of the IEM model, demonstrating not only its feasibility and effectiveness in practice but also its interdisciplinary adaptability and potential application in curatorial contexts. More importantly, both teachers and students assumed multiple roles, demonstrating how the model facilitates multi-level engagement with ICH.

Building on these findings, Chapter 9 further analyses the broader applicability and ripple effect of the IEM model. Although this research focuses on jewellery design education, the model is shown to be transferable to other disciplines involving traditional crafts. Moreover, it holds potential for broader application beyond academia, including in cultural policy, tourism development, museum practice, and creative industries. The chapter articulates the IEM model's capacity to function as a flexible, design-led framework that bridges education, culture, and society.

The IEM model not only supports the integration of traditional handicrafts into contemporary design education but also demonstrates potential for broader application in advancing economic, social, cultural, and ecological sustainability.

10.2 Reflections of the Research

10.2.1 Limitations

(1) Limitation of Research Scope and Sample

This research employed a questionnaire to collect basic data on Chinese jewellery design education from university teachers and students, aiming to explore innovative practices involving traditional handicrafts within Chinese jewellery making.

However, limitations in sample size, geographical coverage, and institutional diversity may restrict the representativeness of the findings. All teaching practices were conducted at SCFAI in Southwest China, which may not fully represent the broader landscape of jewellery design education nationwide. Although Section 4.1.1 provided a case analysis, the findings cannot be generalised across all institutions due to significant regional and institutional differences in curricula, teaching objectives, and reform agendas. Consequently, the outcomes of this research may have limited applicability beyond this specific context, highlighting the need for further comparative, multi-institutional research.

(2) Limitation of Research Methods

The research primarily drew upon Chinese literature, reflecting its contextual grounding in Chinese jewellery education and traditional handicrafts. However, the scarcity of relevant English-language sources limited both comparative analysis and theoretical development (see Appendix 7). In particular, the lack of international literature constrained the ability to situate the research within a broader global discourse. Accessing additional information on traditional handicrafts and design education from different regions and English-speaking countries would therefore enrich the evidence base and strengthen the analytical framework. Moreover, this limitation highlights a broader lack of international academic engagement with traditional handicraft education in design, thereby pointing to a valuable area for future research.

In addition, the government-imposed COVID restrictions (January 2020 - December 2022) significantly disrupted in-person teaching and research activities. Limited access to studio-based learning, hands-on practice, and direct teacher guidance meant that students were unable to fully engage in practical activities, which in turn affected the implementation and evaluation of the proposed methods.

(3) Limitation of the IEM Model

The application of the IEM model in other disciplines or cultural contexts would require a clear redefinition of what constitutes 'traditional handicrafts', including the terminology and contextual boundaries. In parallel, the components of the IEM model itself would also need to be adapted to fit new disciplinary or cultural frameworks. It is essential to clarify the context of usage, the specific terms involved, and the potential variations in sub-modules within the model, in order to ensure conceptual consistency and practical relevance.

Moreover, while Chapter 6 proposed three design strategies to support the model, these

strategies lack sufficient theoretical elaboration. The research does not fully explain how these strategies contribute to knowledge formation or how they function within the model's framework, suggesting an area for further conceptual development.

10.2.2 Future Research

This section outlines potential directions for future research, focusing on three main areas:

(1) Strengthening the Research

As outlined in Section 10.2.1, future studies could broaden the scope by including institutions from different regions in China and implementing more offline teaching practices. This would enhance the generalisability of the findings and provide a more representative understanding of jewellery design education.

Further theoretical development is also needed for the three design strategies proposed within the IEM model. Future work could clarify their role in knowledge formation, refine their structure, and validate their application through extended practice.

(2) Expanding the Research Impact

Validation of research findings could be strengthened through collaborative teaching projects and workshops with educators from other institutions, both domestically and internationally. These initiatives would provide further empirical data and practical insight. Participation in seminars, exhibitions, and international conferences would also support the broader dissemination of research findings and facilitate critical feedback.

(3) Extending the Application of the IEM Model

One promising area for future exploration is the application of the IEM model to

traditional handicraft curation. Preliminary validation was introduced in Section 8.2.1, but further research is needed to contextualise the model, adapt its modules accordingly, and assess each component's function through practical application. Sections 9.1 and 9.2 also provide suggestions for further refinement of the model.

In China, traditional handicrafts are part of the national ICH plan, contributing to the construction of cultural self-confidence and national identity, thereby supporting social cohesion and economic development. However, this does not imply that traditional handicrafts are well-developed, mainly because of their marginalisation in the modern market (Li and Shu, 2013, cited in Zhang, 2022, p.21).

Given this, this research suggests that design education can play a critical role in revaluing traditional handicrafts, rethinking their market relevance, and redefining their relationship with contemporary consumers, particularly in terms of their meanings within contemporary society. As a craft designer, learning from enduring and culturally rich traditional handicrafts can help form a holistic design approach that incorporates both traditional and contemporary elements, thereby facilitating the sustainable development of traditional handicrafts. This helps craft designers serve in any industry or field related to traditional handicrafts, thereby achieving traditional handicrafts (and ICH) from continuous development to sustainable development.

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Appendix 1. Interview and Questionnaire Materials

1.1 Miao Embroidery Interview Questions in Section 3.1.1.2 – Chinese Version

采访内容

编号	姓名

主要工作内容：（从事该工作的缘起、契机、目的等；工作年限；工作的具体内容）
工作形式：（a． 设计主力+刺绣主力；b． 设计为主+刺绣为辅助； c． 设计为主+刺绣代工；d． 刺绣为主+设计代工； e． 其他工作形式或者合作形式）
主要从事/掌握的针法或者绣法：（绣法的步骤以及效果图）
主要的材料：（材料的照片）
主要的设计图案：（图案照片）
工作环境：（如果可以的话，可以提供一些工作环境的照片）
销售渠道、形式、情况：
面临的问题：（对苗绣的理解或者看法或者经验分享；现存的问题；可发展的方向和方法等）

注：可以相对的附上图片，以更好的展示、解释

Interview Questions – English Version

Interview Content

No.	Name

Main Work Content: (Origins, Opportunities, Objectives of the Work; Years of Service; Specific Duties and Responsibilities)

Work Arrangement: (a. Design as the main task + Embroidery as the main task; b. Design as the main task + Embroidery as auxiliary; c. Design as the main task + Embroidery outsourced; d. Embroidery as the main task + Design outsourced; e. Other work arrangements or collaboration forms)

Mastered stitches or embroidery techniques: (steps and photos of embroidery techniques)

Materials: (Photos)

Design Sketches: (Photos)

Working environment: (Photos)

Sales channels, forms, situations:

Challenges Faced: (Understanding, views, or experiences regarding Miao embroidery; Existing issues; Potential directions and methods for development, etc.)

Note: Photos can be included to illustrate and explain.

1.2 Questionnaire for pre-experiment questionnaire in Section 6.2.2.2 - Chinese Version

<div align="center">对于刺绣传统手工艺在首饰设计中的创新应用的前期调研</div>

I am a researcher at the University of Gloucestershire. The present survey aims to explore the awareness and understanding of traditional handicrafts by students in the jewellery design process. Your participation is voluntary, and your personal information will not be collected, and your feedback will be anonymised. So please feel free to fill in the questionnaire based ono your true feelings and experiences. The questionnaire will take around 2 minutes to complete and I appreciate your cooperation.

*1. 性别

○ 男生

○ 女生

*2. 年龄

○ 18-20

○ 20-22

○ 22-24

○ 24+

*3. 在参与本课程前，你对传统手工艺的了解程度

不了解										非常了解
0	1	2	3	4	5	6	7	8	9	10

*4. 在参与本课程前，你对首饰制作的传统手工艺的了解程度

不了解										非常了解
0	1	2	3	4	5	6	7	8	9	10

*5. 以下不属于珠宝制作的传统手工艺【Multiple】

☐ 串珠

☐ 绒花

☐ 刺绣

☐ 金缮

☐ 玑镂

*6. 在参与本课程前，你觉得传统手工艺的创新难易程度

非常简单										非常难
0	1	2	3	4	5	6	7	8	9	10

*7. 在参与本课程前，你对刺绣的了解程度

一点不了解										非常了解
0	1	2	3	4	5	6	7	8	9	10

*8. 在参与本课程前，你曾经是否接触学习过刺绣

○ 是

○ 否

*9. 在参与本课程前，你认为将刺绣应用到首饰设计中进行创新设计的难易程度

非常简单										非常难
0	1	2	3	4	5	6	7	8	9	10

*10. 在参与本课程前， 你是否拥有自己的设计方法或者设计思路或者设计过程？

○ 是

○ 否

*11. 在参与本课程前，你认为你的设计方法或者设计流程，能否帮助你完成所有的设计要求，并且最终设计具有创新性？

不可以										完全可以
0	1	2	3	4	5	6	7	8	9	10

*12. 在参与本课题前，你认为你的设计方法或设计流程，是否可以帮助你完成刺绣在首饰设计中的创新性设计方案？

不可能										极有可能
0	1	2	3	4	5	6	7	8	9	10

Questionnaire: question list – English Version

1. Gender:
A. Male
B. Female

2. Age:
A. 18-20
B. 20-22
C. 22-24
D. 24+

3. Before participating in this course, how well did you understand traditional handicrafts?
Not at all 1 --- 9 Very well

4. Before participating in this course, how well did you understand jewellery-making processes?
Not at all 1 --- 9 Very well

5. Which of the following are not traditional handicraft techniques used in jewellery making? (Multiple choice)
A. Beading
B. Velvet Flower
C. Embroidery
D. Kintsugi (gold repair)
E. Guilloché (engine turning)

6. Before participating in this course, how difficult was it for you to find innovation in traditional handicrafts?
Very easy 1 --- 9 Very difficult

7. Before participating in this course, how well did you understand embroidery?
Not at all 1 --- 9 Very well

8. Before participating in this course, did you have any experience learning embroidery?
A. Yes
B. No

9. Before participating in this course, how difficult was it for you to find innovative ways to apply embroidery to jewellery design?
Very easy 1 --- 9 Very difficult

10. Before participating in this course, did you have your own design method?
Yes
No

11. Before participating in this course, could your design method help you fulfil all design requirements and create innovative designs?
Impossible 1-9 Absolutely possible

12. Before participating in this course, could your design method help you innovatively incorporate embroidery into jewellery design?
Impossible 1-9 Absolutely possible

1.3 Questionnaire for post-experiment questionnaire in Section 6.2.2.2 - Chinese Version

刺绣课后反馈

*1. 在进行创作时，你是否考虑了刺绣的【多选题】

- ☐ 实用性
- ☐ 寓意性
- ☐ 装饰性
- ☐ 象征性

*2. 在进行创作时，你是否考虑自己的作品存在某种意义？

- ○ 是
- ○ 否

*3. 在进行创作设计时，你对传统手工艺--刺绣如何进行创新设计？

- ○ 材料方面
- ○ （工艺）技术方面
- ○ 文化方面
- ○ 消费者方面
- ○ 设计元素方面（如形式，造型，图案，肌理等）

*4. 你的作品是

- ○ 高定系列作品
- ○ 单品
- ○ 收藏款作品
- ○ 衍生，文创类产品
- ○ 大批量生产作品
- ○ 小批量生产作品

*5. 你对自己的作品是否满意

很不满意				很满意
①	②	③	④	⑤

*6. 课程结束后，你觉得自己再次对传统手工艺进行创新的难度

非常难										非常简单
0	1	2	3	4	5	6	7	8	9	10

*7. 课程结束后，你觉得教师的教学方法对你在设计创作时的帮助程度

没有任何帮助										非常有帮助
0	1	2	3	4	5	6	7	8	9	10

Questionnaire: question list – English Version

1. When creating your work, did you consider the following aspects of embroidery? (Multiple choice)
A. Practicality
B. Meaning
C. Decorative value
D. Symbolism

2. When creating your work, did you consider whether your piece holds any particular meaning?
A. Yes
B. No

3. Which aspect did you focus on when innovatively using traditional handicrafts (embroidery) in your design? (Single choice)
A. Materials
B. Techniques/Crafts
C. Culture
D. Consumer preferences
E. Design elements (e.g., shape, pattern, texture)

4. Your work is classified as:
A. Bespoke designs
B. One-off pieces
C. Collectible pieces
D. Culturally creative products
E. Mass-batch productions
F. Small-batch productions

5. Your level of satisfaction with your work:
A. Very dissatisfied
B. Dissatisfied
C. Neutral

D. Satisfied

E. Extremely satisfied

6. After the course, how challenging is it for you to innovatively use traditional handicrafts again?

Very difficult 1 --- 9 Very easy

7. After the course, to what extent did the teaching methods help you in your design creation?

No help at all 1 --- 9 Extremely helpful

8. Have you developed or mastered a personal design method or process through this course?

Not at all 1 -- 9 Fully developed or mastered a personal design method

9. Do you have any suggestions or feedback on the teaching methods for using traditional handicrafts innovatively?

1.4 Focus Group in Section 6.2.3.1

The focus group discussed the following 7 questions:

(a) What traditional handicraft courses are offered at the Jewellery Studio of Sichuan Fine Arts Institute?

(b) What are the course contents, and how are they organised by the teachers?

(c) What are your reflections upon the completion of the course?

(d) What is the perceived value of handicraft courses?

(e) Are they connected with other courses for creative design?

(f) Are they applied in graduate projects?

(g) In what ways can traditional handicrafts be innovatively designed?

1.5 Questionnaire for University Teachers in Section 6.2.3.1

Questionnaire for University teachers	Questions section 5.2.3.1
General Information	**Q1:** How long have you been involved in jewellery design education?
	Q2: Which of the following listed traditional handicrafts are considered jewellery-making crafts?
The Status and Situation of Traditional Handicrafts in Jewellery Design Courses	**Q3:** Does the university where you teach offer courses related to traditional handicrafts?
	Q4: How are traditional handicraft courses structured within the jewellery design course system, and how are they incorporated or connected into other jewellery-related courses?
	Q5: What is the significance of traditional handicrafts in jewellery courses?
Teaching Methods and Outcomes of Traditional Handicrafts in Jewellery Design Courses	**Q6:** How do you teach traditional handicrafts? Do you employ specific teaching methods?
	Q7: What challenges or issues have you encountered in teaching traditional handicrafts?
	Q8: How do you address these challenges and issues, or are they still areas requiring exploration and resolution?
	Q9: What are the results of the works designed and produced by students using traditional handicrafts?
	Q10: How do you assess the work of students on traditional handicraft courses?

1.6 Questionnaire for University Students in Section 6.2.3.1 - Chinese Version

中国珠宝传统手工艺课程学习反馈

*1. 你是否是珠宝专业学生

○ 是

○ 否

*2. 你是目前是

○ 在读珠宝专业学生

○ 已毕业的珠宝专业学生

*3. 你（曾）就读学校位于

○ 中国南方城市

○ 中国北方城市

*4. 该校的珠宝专业设置的传统手工艺课程有哪些【多选题】

☐ 没有设置传统手工艺课程

☐ 金属锻造

☐ 珐琅工艺

☐ 花丝工艺

☐ 镶嵌工艺

☐ 错金银工艺

☐ 点翠工艺

☐ 烧蓝工艺

☐ 刺绣工艺

☐ 其他

*5. 老师的教学方法【多选题】

☐ 只一味演示工艺的制作步骤

☐ 在教学中只传授工艺制作方法

☐ 手把手教学，一步一步分解制作步骤讲解

☐ 在教学中老师会涉及工艺的创新引导

☐ 课件讲解，分小组演示制作

*6. 该校的传统手工艺课程的安排设置，对你的后期创作或者就业是否有价值/影响？

不可能										极有可能
0	1	2	3	4	5	6	7	8	9	10

*7. 该校的传统手工艺课程安排设置是否与其他相关珠宝课程有关联，衔接，影响？

○ 没有任何关联，传统手工艺课程结束就结束了

○ 传统手工艺课的学习对后期课程的学习有一定的影响，如可以将工艺的制作方法运用到相关的创作课程

○ 前期课程，对传统手工艺课程具有一定的影响，例如可以在手工艺课程学习工艺过程中产生一些创新的想法

*8. 该校的传统手工艺课程所学内容是否会运用到毕业创作中？

○ 已经在自己的毕业创作中运用了

○ 将会考虑运用到毕业创作中

○ 没有/不会考虑运用到毕业创作中

*9. 运用哪种传统手工艺在毕业创作中？

[   ]

*10. 通过对传统手工艺的学习，你觉得传统手工艺的创新难度？【多选题】

☐ 非常难

☐ 具有一定的难度

☐ 比较难

☐ 有点难

☐ 简单

☐ 非常简单

*11. 你是如何理解传统手工艺的创新？【多选题】

☐ 从材料出发

☐ 从工艺技法出发

☐ 从造型设计出发

☐ 从应用形式出发

☐ 从符合当下人们大众审美出发

☐ others

Questionnaire: question list – English Version

1. Are you a jewelelry student?
   A. Yes
   B. No

2. Are you a:
   A. Current jewellery student
   B. Graduate jewellery student

3. Your university is located in
   A. Southern China
   B. Northern China

4. What traditional handicraft-related courses does the school offer? (Multiple choice questions)
   A. None
   B. Metal Forging
   C. Enamelling
   D. Filigree craft
   E. Stone setting
   F. Gold inlay craft
   G. Kingfisher craft
   H. Cloisonne
   I. Embroidery
   J. Others

5. Teaching methods that lecturers use (Multiple choice questions)
   A. Only displaying the craft-making process
   B. Only teaching the techniques of the crafts
   C. Step-by-step approach to teaching
   D. Offer guidance on innovative crafts
   E. Follow the PPT, and demonstrate the making process to each group

6. To what extent do these courses influence your creation or career?

7. Do these traditional handicraft courses have any connections or associations with any other jewellery courses?
   A. None
   B. Traditional handicraft courses have a certain influence on later courses, for example, they can integrate techniques into design creation courses.
   C. The preceding courses have a certain impact on the handicraft courses, as they can help generate innovative ideas within the handicraft curriculum.

8. Do you use any traditional handicrafts in your graduate projects?
    A. Yes
    B. Will consider
    C. No

9. Which traditional handicraft do you use or will consider for your graduate work?

10. How do you rate the difficulty level of using traditional handicrafts innovatively?
    A. Extremely difficult
    B. Moderately difficult
    C. Quite difficult
    D. Somewhat difficult
    E. Simple
    F. Extremely simple

11. In your opinion, which aspects of traditional handicrafts would enable an innovatively approach?
    A. Materials
    B. Craftsmanship techniques
    C. Design aesthetics
    D. Applications
    E. Meeting public aesthetics
    F. Other

1.7 Questionnaire for Feedback of the Workshop in Section 6.2.3.3

Questionnaire for workshop	Questions
Background Research	**Q1:** Before the workshop, did you have any prior exposure to embroidery-related knowledge and skills?
	Q2: Before the workshop, have you participated in similar design competitions? *(If yes, answer question 3. If no, skip to question 4.)*
	Q3: Did you find it challenging to design during participation in related design competitions?
Feedback about IEM Model	**Q4:** Did you find it difficult to complete this competition in the workshop?
	Q5: In the workshop, which of the following stage(s) do you feel are unnecessary? *(Multiple-choice: a) Research on the location, such as Songtao; b) Research about the traditional handicraft; c) Experimental Samples; d) Research on the customer; e) Final Production)*
	Q6: In the workshop, which stage(s) do you consider very important and beneficial for design innovation? *(Multiple-choice, same as Q5)*
	Q7: After the workshop, how has your understanding of innovative design in traditional handicrafts changed?
Feedback about Teacher Guidance	**Q8:** Did you find the guidance provided by the teachers helpful for a design competition?
	Q9: Have you ever received guidance from two teachers at the same time? *(If yes, answer question 10. If no, end the survey.)*
	Q10: If yes, what are the advantages of having guidance from two teachers?

Appendix 2. Achievements of My Research and Practices

2.1 The achievements of the Cocoon
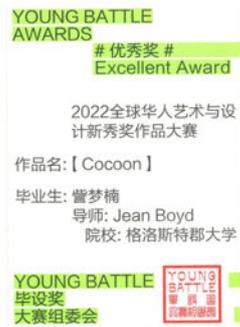
2.2 Published the results of three teaching experiments and participated in international conferences

2.3 Tracing 《逐迹》: Copyright certificate

2.4 The design instructor award received during my doctoral studies

2.5 Admission notification: 2023 Annual China National Arts Fund Sponsored Program on Art Talents Training: Artistic Innovative Design Talents Training of Miao Embroidery

2.6 Creative Guizhou, Songtao Gift project- student competition award certificate

2.7 The achievements of the Ripple

2.8 Award-winning certificate for graduate project works that participated in competitions during 2020-2024

Appendix 3. Exhibition Supplementary Materials

3.1 Dual-sided inclined-angle cabinet

3.2 Finished cabinets, disassembly, packaging and transportation. Photographed by the manufacturer in 2023

3.3 London Neal Street exhibition site. Offered by WEVE2050 studio in 2024

Appendix 4. Introduction of Lan Yuanyuan

<div align="center">

广西自治区级非物质文化遗产代表性传承人个人简介

</div>

兰元元（1987 年 8 月出生）女，侗族，广西壮族自治区柳州市三江县人。第五批自治区级非物质文化遗产项目三江侗族服饰制作技艺代表性传承人。

兰元元生活在有刺绣之乡美誉的同乐乡。从小就热爱侗族文化，14 岁开始跟师傅学习做侗族服饰的各种技艺至今已有 21 年。其中有侗族刺绣、剪纸、侗族织锦、侗布织染。2016 年 11 月被评为三江县非物质文化遗产名录侗族服饰代表性传承人。2016 年 12 月荣获柳州市非物质文化遗产项目（三江侗族服饰制作技艺）代表性传承人。2017 年 11 月荣获广西壮族自治区非物质文化遗产项目（三江侗族服饰制作技艺）代表性传承人。侗族服饰集剪、织、染、绣于一体的传统技艺。作为一个侗族服饰制作技艺的传承人，兰元元不断的努力学习，与村里的老人探讨与研究以便更好的传承。参加各种学习培训，希望能够把侗族服饰更好的融入现代生活中。在传承侗族服饰手工艺的工程中，运用些通俗易懂的方法加以传承，用师传的方式加以传承。组织农村的留守妇女参与到非遗传承工作中。兰元元经常组织学员参加县，市，区的各种比赛和培训。开发新的刺绣作品，让侗族刺绣与现代文化相结合，带动村妇女大力发展侗族刺绣，让民族文化更好的发展与传承。

<div align="center">

Biographical Sketch of Yuanyuan Lan, Representative Inheritor of Intangible Cultural Heritage at the Autonomous Region Level of Guangxi

</div>

Yuanyuan Lan (born August 1987) is a female from the Dong ethnic group in Sanjiang County, Liuzhou City, Guangxi Zhuang Autonomous Region. She is a representative inheritor of the Sanjiang Dong Ethnic Clothing Making Technique, which is listed as the fifth group of autonomous region-level intangible cultural heritage projects.

Yuanyuan Lan resides in Tongle Township, which is renowned for its embroidery. Since childhood, she has had a deep affection for Dong culture. At 14, she began learning techniques for making Dong ethnic clothing from her master and has continued for 21 years. Her expertise includes Dong embroidery, paper cutting, Dong brocade weaving, and Dong cloth dyeing. In November 2016, she was recognised as a representative inheritor of Dong ethnic clothing on the Sanjiang County intangible cultural heritage list. In December 2016, she was honoured as a representative inheritor of the Liuzhou City intangible cultural heritage project (Sanjiang Dong Ethnic Clothing Making Technique). In November 2017, she was awarded the title of representative inheritor of the Guangxi Zhuang Autonomous Region intangible cultural heritage project (Sanjiang Dong Ethnic Clothing Making Technique).

Dong ethnic clothing embodies traditional craftsmanship encompassing cutting, weaving, dyeing, and embroidery. As an inheritor of Dong ethnic clothing-making techniques, Yuanyuan Lan continuously strives for improvement, engaging in discussions and research with elderly villagers to preserve the tradition better. She

participates in various learning and training programmes, aiming to integrate Dong ethnic clothing more effectively into modern life. In inheriting Dong ethnic clothing craftsmanship, Yuanyuan Lan employs easily understandable methods and follows the master-apprentice tradition. She organises rural left-behind women to participate in heritage conservation work, regularly organising students to participate in various competitions and training sessions at the county, city, and district levels. She develops new embroidery works, combining Dong ethnic embroidery with modern culture, thereby promoting the vigorous development and inheritance of ethnic culture.

Appendix 5. Introduction of Embroidery

5.1 Overview of Embroidery History

Times	The History of Embroidery
Primitive society	People used tattoos to decorate their bodies (Jia, 2019, p.143). However, as people gradually discovered, different materials, such as the fur of plants or animals, could be combined with tools (e.g., bone needle) to form early sewing methods, which is also a simple form of embroidery. Thus, embroidery was first applied to clothing. People gradually transferred the tattoo to the clothes, which evolved from the tattoo self-protection art to the aesthetic decoration art (Tong, 2012, p.2; Jia, 2019, p.144).
Shang dynasty (1600 - 1046 B.C.)	At present, the embroidery work of the Shang dynasty found in Henan Province of China is the earliest existing example of embroidery in China, using braided embroidery (Tong, 2012, p.3; Yang, 2015, p.2). However, the patterns on the object are painted in four colours (Tong, 2012, p.3; Yang, 2015, p.2), which was the method of combining embroidery and painting in the primary stage of embroidery (Tong, 2012, p.3).
Warring States period (475 - 221 B.C.)	The embroidered figurines in the Warring States period illustrate the application of embroidery to clothing and also indicates that embroidery was widely used by nobility (Yang, 2015, p.2). Braid embroidery was mainly used in this period, using dragon and phoenix motifs (Lv and Xu, 1994, p.49; Tong, 2012, p.6; Yang, 2015, p.2; Hang and Guo, 2023, p.62).
Han dynasty (202 - 220 B.C.)	During the Qin and Han dynasties, embroidery productions became the main export commodity (Tong, 2012, p.8). As in the Han dynasty, embroidery was dominated by braided embroidery, with some new embroidery stitches being created. In addition, most of the embroidery patterns are plants, with some figurative design appearing (Yang, 2015, p.3). Embroidery was applied to daily articles (Tong, 2012, p.10), but the high-quality silk fabric embroidery work was for the nobility only (Tong, 2012, p.9).
Wei, Jin, and the Southern and Northern Dynasties (420 - 589 A. D.)	In this time, the emergence of pearls with red strings was the forerunner of beaded embroidery of later generations, when the embroidery work of Buddha appeared (Lv and Xu, 1994, p.51; Tong, 2012, p.15; Yang, 2015, p.4; Hang and Guo, 2023, p.62).
Tang dynasty (618 - 907 A. D.)	Embroidery was applied in various ways in the Tang dynasty, with many new stitches being develop and used (Yang, 2015, p.4). Plus, embroidery started to be utilised in calligraphy and painting. Additionally, the embroidery work of Buddha was widely used (Tong, 2012, p.17). These tendencies show that embroidery gradually separated from its decorative role as fabric and became a relatively independent artwork (Lv and Xu, 1994, p.54).
Song dynasty (960 - 1279 A.D.)	The corresponding embroidery production system of training and management was developed in the Song dynasty, with a concentration on excellent embroiderers. Moreover, an embroidery specialism was created in this period. There were two main tendencies of embroidery, in which one was to imitate the writings and paintings of some well-known artists (Lv and Xu, 1994, p.56; Hua *etl*., 2014, p.157), with high appreciation value, and the other to embroider daily articles, with practical value (Tong, 2012, p.17). Embroidery in this period laid the foundation for embroidery for future generations (Yang, 2015, p.5).
Yuan dynasty (1206 - 1368 A.D.)	Embroidery in the Yuan dynasty was mainly religious (Tong, 2012, p.25) and inherited the embroidery style of the Song dynasty. The precedent for combining embroidery with weaving or ribbon decoration was developed (Yang, 2015, p.5). However, embroidery declined in this period (Tong, 2012, p.24).
Ming dynasty (1368 - 1644 A.D.)	Embroidery gradually flourished in the Ming dynasty (Tong, 2012, p. 24; Yang, 2015, p. 6), with folk embroidery becoming common (Tong, 2012, p.25; Ma, 2013, p.281; Yang, 2015, p.6). Embroidery was used for daily articles (Tong, 2012, p.25; Ma, 2013, p.281), but was also applied to objects in temples (Tong, 2012, p.25). The numerous distinctive ethnic embroideries began to emerge and were designated by the place names where they came into being. In terms of technology and style, the embroidery was divided into North and South, especially the most representative Gu embroidery in the south (Lv and Xu, 1994, p.60; Tong, 2012, p.6, p.26).
Qing dynasty (1616 - 1911 A.D.)	Embroidery in the Qing dynasty mainly served the nobility. Beijing embroidery was often used for court costumes and decoration (Jia, 2019, p.140), and specialised agencies for the manufacture of royal articles appeared (Tong, 2012, p.33; Ma, 2013, p.281; Yang, 2015, p.7). At this time, folk embroidery began to rise to prominence. Su, Xiang, Shu, and Yue embroidery matured and developed into China's four most famous embroidery styles.

5.2 Overview of Meile

Times	Embroidery Description
Shang and Zhou dynasties (1600 - 256 B.C.)	Meile can be traced back to the Shang and Zhou dynasties, when it was called Kui. It was invented as a hair-fix for men and women. Later, the military began to wear it to differentiate between classes. **A:** *Women wear in daily* **B:** *Kui used for military*
Song dynasty (960 - 1279 A.D.)	During the Song dynasty, women favoured Meile, leading to the emergence of various materials such as silk, precious metals, and minks, the development of various shapes, and the application of coloured embroidery, some embellished with pearls or gems. Meile in this period was not only popular among the nobility, and also widely used by ordinary. The folk women drew exquisite patterns using embroidery or colourful brocade cut into various shapes to embellish their heads, which led the fashion to become a unique, distinctive accessory for Song dynasty women and gradually moved in the direction of jewellery (Dutushidai, 2007, p.86; Wang, 2019a, pp.27-28).
Ming and Qing dynasties (1368 - 1911 A.D.)	Meile was prevalent among women in the Ming and Qing dynasties, regardless of age and grade (Hang, 2005, p.139; Dutushidai, 2007, p.86; Wang, 2019a, p.29). It was constantly evolving due to the considerable number of wearers in this period. It has a variety of shapes: some are wide in the middle and narrow at both ends; and some are used to cover the ears to keep warm in the winter (Hang, 2005, p.139; Dutushidai, 2007, p.86; Wang, 2019a, p.29). **C:** *Different shapes of Meile, cited in Liang and Wang, 2006, p.19* Seasons primarily divide the materials used. During winter, people typically make Meile out of cotton, precious animal fur, and silk to keep warm. Older women primarily use Meile to protect themselves from wind and cold, and younger women as decoration. (Shen, 2004, p.467). The use of black gauze enhanced air permeability. However, some people used coloured brocade, while others paired it with black silk jewellery. Additionally, some wove silk ropes into a mesh, embellished with jades, beads, or accessories, such as animal patterns made of silver. Furthermore, some of them used embroidered patterns exclusively. **D:** *Embroidered pattern of Meile, cited in Liang and Wang, 2006, p.19* After the Ming dynasty (1368 - 1644 A.D.), Meile became a symbol of wealth and a tool to demonstrate social class for women (Wang, 2019a, p.21). Furthermore, Meile gradually became a unique accessory for women in the Qing dynasty (Wang, 2019a, p.15, p.21).
Republic of China (1912 - 1949)	Meile gradually faded away from people's lives during the Republic of China, because of the collapse of the feudal system, the influx of Western ideas and costumes, and the changes in women's hairstyles. However, a few still wore them in the more remote regions (Wang, 2019a, p.32)

5.3 Changes in classification names and types of embroidery in the National Intangible Cultural Heritage lists

List of National Intangible Cultural Heritage	Date	Classification Name	
First Batch of National Intangible Cultural Heritage	2006	**Traditional Art (Examples of embroidery techniques)**	**Traditional Techniques (Examples of craftsmanship in making jewellery)**
		Embroidery includes Gu, Su, Xiang, Yue, Miao embroidery, plus the Shui ethnic group used horsetail embroidery, and Tu ethnic group used plate embroidery.	Miao silver jewellery forging technique; Nanjing gold leaf forging technique.
Second Batch of National Intangible Cultural Heritage	2008	**Traditional Art (Folk Art)**	**Traditional Techniques (Traditional handicrafts)**
		Folk embroidery; Bian embroidery; Han embroidery; Manchu embroidery; Uyghur embroidery, etc.	Filigree inlay making technique; Chengdu silver filigree making technique; Tibetan metal forging technique; gold and silver processing; glass techniques.
Third Batch of National Intangible Cultural Heritage	2011	**Traditional Art**	**Traditional Techniques**
		Shanghai velvet embroidery; Ningbo gold and silver embroidery; Yao ethnic group embroidery; Tibetan ethnic group embroidery; Dong ethnic group embroidery; Xibo ethnic group embroidery.	Engraving; black copper and silver making; plus, gilding.
Fourth Batch of National Intangible Cultural Heritage	2014	**Traditional Art**	**Traditional Techniques**
		Drawnwork (Chaozhou and Shantou city in China); Beijing embroidery.	Tibetan cobalt gilding technique; copperware making technique.
Fifth Batch of National Intangible Cultural Heritage	2021	**Traditional Art**	**Traditional Techniques**
		Mao embroidery (Chahar Province in China); Hair embroidery (Wenzhou and Dongtai city in China); Xiamen Bead embroidery; Lu embroidery; Yi ethnic group embroidery; Buyi ethnic group embroidery; Kazakh ethnic group embroidery.	Silver base filigree enameling technique; jade inlay in gold.

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Appendix 6. List of Project and Workshop Participants

6.1 The participants of the workshop: Creative Guizhou, Songtao Gift

Group 1: Luo Jing, Ma Huiwen, Meng Qiusha, Huang Bowen
Group 2: Pan Xiangyi, Xiang Yuxin, Li Xiaoyu, Liu Nanjiang
Group 3: Feng Yu, Huang Shuting, Liu Jiajing
Group 4: Zhang Qiyue, Liu Huiqiao
Group 5: Wang Shijia, Song Jiaxin
Group 6: Zhu Xiaoge, Zhao Kangran, Ren Zibing, Mao Jialing

6.2 The participants of the project: Virtual Embroidery Jewellery Design

Design Group: Mao Jialing, Zhu Xiaoge, Ran Shujuan
Modelling Group: Meng Qiusha, Li Han, Liu Jialing
Virtual Interaction Design Group: Wu Shichen, Zhang Kairui, Shi Yushu

6.3 The participants of the graduate project

Graduate project works (metalworking): Wei Jingbo, Lin Jiarui
Graduate project works (enamel craft): Zhang Liuhuan, Xue Shengnan, Wang Ziyue
Graduate project works (glass craft): Ran Shujuan, Chen Jinyan, Deng Lingli
Graduate project works (lacquer craft): Liu Jing, Zhang Hanya
Graduate project works (creative materials): Lv Xueyuan, Zeng Yamin, Yu Zhangbi, Zhang Muyun
Graduate project works (integrating technology into traditional handicrafts): Chen Xintong, Yang Yachun
Innovation design concepts supported by traditional handicrafts: Peng Xiaoyang, Hu Minghan

Appendix 7. Mapping the Research Landscape of Embroidery and Traditional Handicrafts in Education

This section aims to investigate the research landscape surrounding embroidery as a representative traditional handicraft within the field of education, in order to clarify the positioning, significance, and potential contribution of this research. Two rounds of data collection were conducted.

First Round: CNKI-Based Analysis (2022)

The first round, carried out in January 2022, focused on academic publications retrieved from the China National Knowledge Infrastructure (CNKI) to gain an initial understanding of research on traditional handicrafts in Chinese higher education. Using the keyword "embroidery" under the topic category (including title, abstract, keywords, and author keywords), the results revealed four key research areas: embroidery innovation, embroidery design, embroidery design methods, and embroidery education. The analysis, limited to Chinese-language publications, was not intended to assess individual paper quality but rather to conduct a descriptive-quantitative review to identify major research directions and developments in embroidery education in the 21st century. The findings indicated a growing integration of embroidery into interdisciplinary design fields, including jewellery, as well as increasing interest in pedagogical approaches to embroidery teaching. However, while the research shows a positive trajectory, a systematic teaching method and a comprehensive framework for integrating traditional handicrafts into contemporary education remain underdeveloped.

Second Round: Comparative Bibliometric Analysis using CNKI, Scopus, and WoS (2023)

The second round of data analysis, conducted in April 2023, adopted a comparative and

visualised bibliometric approach. It involved the use of VOSviewer to map and analyse relevant literature from CNKI, Scopus, and Web of Science, allowing for the identification of current research trends and emerging topics. This analysis aimed to refine the research focus by incorporating both domestic and international perspectives and to further validate the academic contribution of this research. VOSviewer proved useful for qualitatively mapping the development of the field and identifying gaps, offering a structured overview rather than quantitative precision (Van Eck and Waltman, 2010, pp.523-524; Arruda *et al.*, 2022, p.392; Jong and Bus, 2023, p.2; Van Eck and Waltman, 2023, p.3). While both Scopus and Web of Science have limitations in citation accuracy, their combined use enhanced the reliability of the results and enabled a broader understanding of the research landscape across different academic communities (Bakkalbasi *et al.*, 2006, p.2; Valderrama-Zurián *et al.*, 2015; Nan *et al.*, 2023).

The data used in this research was collected on **April 27, 2023**. Searching for and collecting documents whose titles, abstracts, or keywords included the keywords 'embroidery', 'embroidery and high education', and 'traditional handicrafts and high education'. Furthermore, there is no limitation with respect to article type and published year. Only documents written in English were gathered in WoS and Scopus, and the documents written in Chinese were gathered in CNKI. The search results are shown in the Table 1.

Table 1 The search results by Zi in 2023

Database	Keywords	Number of articles published	Duplicate Articles
Web of Science	Traditional Handicrafts and High Education	48	Removed
	Embroidery and Education	42	Removed
	Embroidery	1585	Removed
Scopus	Traditional Handicrafts and High Education	65	Removed
	Embroidery and High Education	148	Removed
	Embroidery	4086	Removed
CNKI	Traditional Handicrafts and High Education	71	Not Removed
	Embroidery and High Education	12	Not Removed
	Embroidery	1287	Not Removed

The above retrieval results indicate a limited number of articles in the three databases. To improve the accuracy of the analysis, the three groups of keywords were combined for visualisation, allowing for the examination of research hotspots and the evolution of these hotspots. Because of the challenges associated with eliminating duplicate literature and the potential data loss, which may lead to inaccuracies in the analytical results, the data from the three databases was not merged for analysis.

Data search and download

I have searched and exported for keywords from WoS, Scopus, and CNKI, which revealed that the occurrence of keywords in WoS was generally lower than in the other two databases. Therefore, the minimum number of keyword occurrences is 10, which aims to facilitate comparative analysis while controlling for variables (Figure 1). Notably, low keyword occurrence indicates limited research or immaturity; conversely, it indicates the research gap in this field and is valuable for future research and exploration.
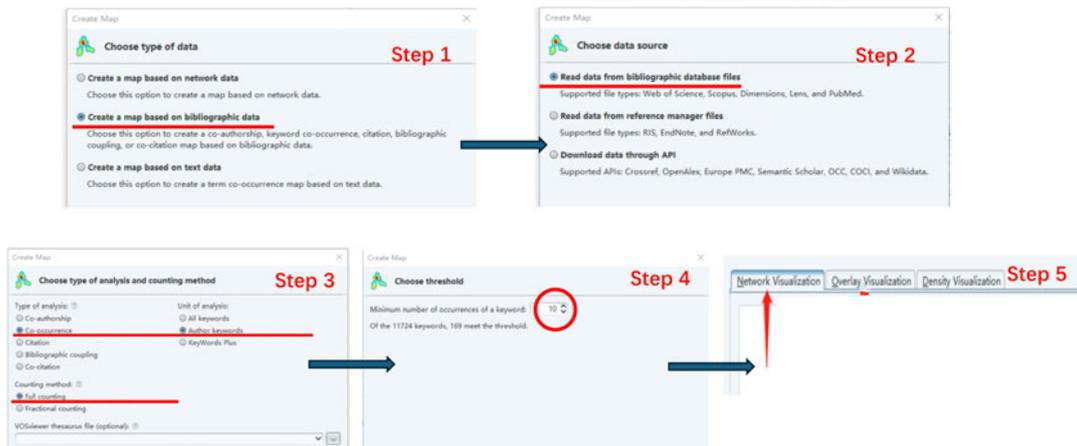
Figure 1 The exported data files were imported into VOSviewer, selecting bibliographic database files and opting for network visualisation. The criteria for setting the minimum number of occurrences of a keyword is 10. Source VOSviewer software screenshotted by Zi in 2023

Data Visualisation and Analysis

In Table 2, the visualisation results indicate that Scopus research on embroidery is mainly linked to textiles, materials, and techniques, while WoS shows a stronger connection with design, culture, and technology. In contrast, CNKI highlights a concentration on embroidery as intangible cultural heritage and its role in education. As shown in Table 3, there has been a growing volume of research across all three platforms over the past decade, indicating increasing academic interest in the intersection of traditional handicrafts, embroidery, and educational practice. This trend suggests a widening research gap and growing potential for further exploration in this field.

Table 2 Comparative analysis of databases' visualisation

| Database	Visualisation (Created by Zi)	Analysis
CNKI		The visualisation of CNKI shows five clusters. The keyword 'embroidery' accounts for a relatively large proportion, suggesting substantial research outcomes. It particularly highlights the strong correlation between *Miao embroidery*, *Inheritance*, and *Intangible Cultural Heritage*. Additionally, it is associated with *Traditional Handicrafts* and *Colleges and Universities*. The close interconnections between these keywords are evident in the lower-right corner of the figure. On the left side of the figure, the focus is more on the study of design elements related to embroidery, such as patterns and colours.
Scopus		In the visualisation of Scopus, a total of five clusters were identified. *Embroidery* is still dominant as a keyword, followed by *Textile Printing*, and the two have an indirect correlation. However, embroidery is strongly connected with *Traditional Handicrafts*, *Cultural Heritage*, and *Sustainable Development*, while its association with *Intangible Cultural Heritage* appears weaker. The figure predominantly indicates that research related to embroidery-related textiles is most prevalent in materials and techniques, such as 3D printing. Although there is no explicit mention of keywords related to education, this absence does not necessarily imply a lack of connection between embroidery and education. It is plausible that education-related keywords have a relatively lower occurrence and are not displayed prominently in the keyword visualisation. This observation suggests a limited volume of research on the connection between embroidery, handicraft, and education within the Scopus database, with a predominant focus on textile-related studies indirectly related to embroidery.

WoS		The figure shows that the data from WoS is relatively scarce, comprising only three clusters in total. Embroidery continues to hold a prominent share, followed by textiles. Notably, both show weak connections with education.

Table 3 Comparative analysis of databases' published year

Database	Published Year (Created by Zi)	Analysis
CNKI	Published Year from 1978-2023	Scopus and WoS had no relevant keywords before 1970, so the statistical analysis commences from 1970 onwards. The overall publication trends in both databases demonstrate an upward trend. Notably, Scopus exhibits a faster rate of increase than WoS. However, Scopus underwent a sudden decline beginning in 2008, which was followed by a rise in 2013, culminating in a peak of 300 publications in 2022. In contrast, CNKI published its earliest articles with keyword retrieval in 1978, demonstrating a gradual upward trend. In particular, it reached its peak in 2019. However, it still falls short of the publication volumes in Scopus and WoS.
Scopus	Published Year from 1970-2023	
WoS	Published Year from 1970-2023	
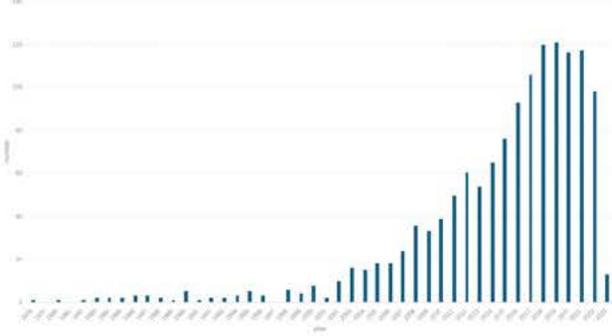
Appendix 7 Reference

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(Accessed: 26 May 2023).

Appendix 8. Walking Alongside the Handicrafts Working Alongside the Handicrafts

WALKING
ALONGSIDE
THE HANDICRAFTS

WORKING
ALONGSIDE
THE HANDICRAFTS

HANDICRAFT

Mengnan Zi

Jewellery Design

Preface

Traditional handicrafts are a form of art that carries unique culture, history, and skills that have been passed down from generation to generation. They represent human wisdom and experience and symbolise civilisation and tradition. These handicrafts are the cultural heritage of a country or region, with a rich history and unique skills. However, due to the influence of modern industrialisation and globalisation, many traditional handicrafts are in danger of disappearing. Therefore, inheriting and innovating traditional handicrafts is essential to preserving them for future generations.

Handicrafts that follow traditional techniques prioritise attention to detail and fine craftsmanship, while emphasising a connection with nature and culture. New concepts and elements can be introduced through innovation that preserves traditional skills to bring a modern and fashionable twist to these crafts.

To keep traditional handicrafts alive and thriving, education and transmission are key. By nurturing the skills and creativity of a new generation of craftspeople, traditional handicrafts can continue to evolve. Additionally, education and promotion of the value and aesthetics of traditional handicrafts can help increase public recognition and understanding of their importance. This can also encourage the development of an aesthetic economy and a sense of social responsibility. Through international exchanges and cooperation between different countries and cultures, the skills and aesthetics of crafts can be showcased globally, and cross-cultural exchanges can be facilitated.

Innovation in traditional handicrafts requires talented individuals with a strong sense of design. In the past, design was seen as a powerful tool for revolutionising people's lives. Its main strengths were its practicality, broad appeal, and potential for rapid progress. However, today's perspective on design has shifted. It has become an object of worship in modern consumer society with the sole aim of creating

something out of nothing. The true mission of a designer now is to create new horizons and push the boundaries of what is possible.

The teaching achievements exhibition shows the "high-quality, innovative, practice-oriented" art training of Sichuan Fine Arts Institute. This exhibition will showcase our exceptional achievements in design concepts, craftsmanship, and cultural heritage. We aim to set an example for teaching jewellery design and attract more attention and cooperative opportunities. Ultimately, we seek to provide our students with endless possibilities for future development.

The exhibition aims to boost the global reputation of Sichuan Fine Arts Institute's jewellery design teaching, promote the academic excellence of the institute, convey the academic aspirations of its faculty, showcase the artistic vision of its jewellery studio, and share the modern cultural significance of handicraft art.

The Jewellery Studio at the Sichuan Fine Arts Institute strives to nurture designer-makers by helping students acquire and master traditional craftsmanship, which assists in exploring innovative materials and techniques and visualising design ideas. The exhibition showcases the students' ability to develop a new understanding and position for traditional handicrafts using modern materials and techniques. This marks a new chapter in the cognitive understanding of traditional handicrafts.

I am expressing my sincere gratitude to everyone who contributed to this exhibition, including the teachers who provided guidance, the students who created the works, and all our partners who supported us.

Yaxi Zhang
Head of Jewellery Studio,
Sichuan Fine Arts Institute
Associate Professor
Postgraduate Tutor

*O*ver the past thousands of years, the hand working and wise Chinese craftsmen have created various traditional handicrafts of great artistry and originality. As an essential part of the Chinese arts, traditional handicrafts not only embody the general features of arts and crafts, but also suggest the distinctive characteristics of the Chinese culture, fully exhibiting a deep understanding of Chinese aesthetics and creativity.

Traditional handicrafts face a dilemma between tradition and modernity in modern society. Anthony Giddens pointed out that tradition is the means by which the past lives in the present and thus shapes the future. In the post-industrial era, modernity and tradition are no longer opposed. Tradition is seen as something that precedes us, which we have to accept, and we have always had an inseparable relationship.

Culture, however, cannot be lost, and the historical and cultural traditions based on the period have gradually retreated, and people keep returning to history to discover traditions. Therefore, people reconstruct their culture according to tradition rather than the natural environment. However, the question is whether they belong to tradition or modernity. If we say it belongs to tradition, it is a commodity with a modern appearance; if we say it belongs to modernity, it has many Chinese traditional elements. However, the relationship between tradition and modernity is not opposites; it should be a new design concept that needs to be added, so the combination of the old and the new reflects continuity.

I have been asking students the question: "Why did you make this thing? What for?" Their reflection includes: considerations of traditional handicrafts' form; composition; material; function; and aesthetics; all of which are fundamental to our course philosophy and are enhanced by contemplating meaning, emotional investments and intellectual content. Their creative jewellery embodies the cultural

world and ideological dimensions of this period.

Indeed, one of the most valuable contributions that students make, as future designers, is to help others see things in a new light and to recognise unappreciated possibilities for how something might look and feel as a future experience. Whether creating products, apparel, services, or spaces, these designers display a particular sensitivity to the physical, metaphorical, and cultural values inherent in context, forms, and materials and how these are experienced.

These jewellery artefacts, by Sichuan Fine Arts Institute students, explore these conversations to address aspects of the most vital issues in the traditional handicrafts field today. Through the use of traditional handicrafts, the works of the students continuously strengthen the oriental subjective consciousness, not confining themselves to the limitations of tradition, strengthening the in-depth dialogue between the East and the West, between the ancient and the modern. This consist of integrating the root ideas of the Orient with the subjective consciousness regenerated in the fertile soil of the times, forging their own poetic experience, giving birth to many vibrant Chinese proposals, and realising the optimal rebirth of Oriental art.

Mengnan Zi
PhD student in Design
at the University of Gloucestershire
Tutor in the Jewellery Studio
at Sichuan Fine Arts Institute

What is the inheritance we receive from the past, of skills, knowledge and understanding? How do we acknowledge both the responsibility of this and the immense creative potential of these resources? How do we make them available not just as heritage, but as a source of skills and sensibilities that are living, relevant, enriching and innovative?

Mengnan Zi's research has been addressing these questions through her design practice and design teaching; testing, refining and deepening her knowledge and understanding, of those that she has worked with. Through these exhibitions she is sharing generously the outcomes of her research, through her own practice and the work of her students, so that we too can see the creative inventiveness and craft excellence that she has nurtured. Jewellery adorns the body, therefore it has social as well as personal significance; it is a powerful medium for sharing the living inheritance of skills and material expressiveness.

Her research has especial significance for design teaching and its futures; Zi is offering a model for developing a deep personal connection between the craftspeople of the past and the emergent design generation through aesthetic sensibility, cultural understanding and emotional resonance. The skills and approaches she is nurturing in these practitioners will continue to support them in their professional and creative futures: I would like to thank Mengnan for all her work in curating and realising these exhibitions, we have a rare and delightful opportunity to see and enjoy the results her research has already produced.

Jean Boyd
Senior Lecturer in History and Theory
School of Creatives
University of Gloucestershire

It is a genuine pleasure to commend Mengnan Zi's Practice as Research (PAR) exhibition to academic and administrative colleagues, University of Gloucestershire students and to the wider public.

As Yaxi Zhang's preface notes, forward-focused craft pedagogies enable new paradigms for understanding handicraft practice holistically, not just in relation to cultural heritage but also its central place within design education.

Within a western context, craft practice was historically marginalised by the exclusions of various canons and the formalist concerns of a restrictive and typically industrialised design modernism. Mengnan Zi's germinal research underlines the relative continuity of craft's social recognition within China and, more holistically, its practice as a transformational marker of human and symbolic social value.

Mengnan has been closely involved in supporting the practice of students from the Sichuan Fine Arts Institute, enabling us to engage with fresh eyes, the design creativity of a new generation of craft practitioners and their ambition for re-mapping the conceptual horizons for contemporary craft practice.

Dr Grant Pooke
(MA MPhil PGCHE FHEA)
Academic Subject Lead, Design, 2021-23
UTF Award Holder (2023)

CONTENTS

Art should reflect the current times, while crafts should set the fashion trends. Traditional handicrafts should not be left behind and forgotten, because they hold valuable cultural meaning and are treasures that must be preserved. To achieve this, artists must awaken and renew them by incorporating innovative ideas and techniques. This process is not about simply copying the past, but transforming it to create a new culturally meaning relevant for our era.

This exhibition aims to beat the drum for handicrafts, waking people up to supporting the country's rich seam of incredible craftspeople and encouraging new generations to master the skills needed to preserve and continue craft traditions. The creative works of the makers in this exhibition prove that craftsmanship in China is neither dying nor dead but is a continuing and exciting exploration of processes, materials and ideas spanning fashion, art and design.

This exhibition is divided into six sections that showcase innovative design methods for traditional handicrafts through pedagogies. It features teaching materials, achievements, impact, and videos.

Section 1

Mastering traditional handicrafts,
inspiring design ideas,
exploring the culture.

Traditional Handicrafts, Traditional Culture

Jie Luo

Flexible(Brooch)
Brass, Brush
30x60x13mm

Flexible(Brooch)
Brass, Brush, Xuan paper
70x45x14mm

Xueyuan Lyu

Reinvent(Brooch)
Silver, Foam sheet
72x33x15mm

Reinvent(Brooch)
Silver, Foam sheet
106x42x22mm

Xinyao Chen

Eternal and Present(Necklace)
Copper, S925
Damascene gold filigree

Eternal and Present(Brooch)
Copper, S925
Damascene gold filigree

Eternal and Present(Bracelet)
Copper, S925
Damascene gold filigree

Xueer Yao

Strong Wall(Brooch)
Enamel, Copper
80x60x30mm

Section 2

Traditional handicrafts are skills that crafts-people have acquired for more than ten years. This process includes gaining life experience, cognitive growth, insights for learning and so on. Therefore, traditional handicrafts not only reflect the beauty of objects but also embody the essence of life.

Traditional Handicrafts Embody the Vicissitudes of Life

Students' works under the theme:
"Sweet"
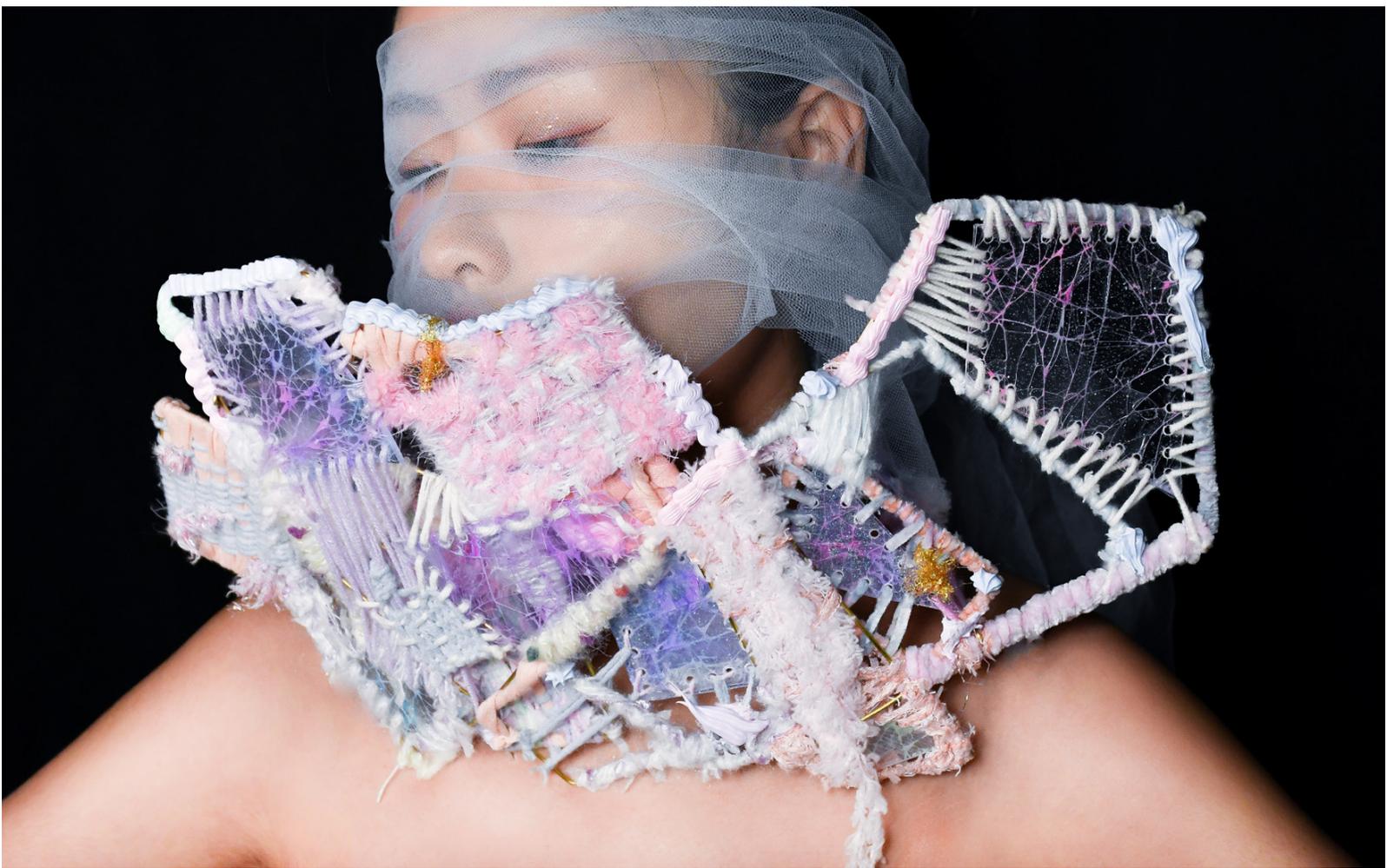
Students' works under the theme: "Sour"

Students' works under the theme: "Bitter"

Students' works under the theme: "Hot"

Section 3

In today's contemporary design discourse, we are often told we live in a post-product age, where the focus shifts to the experiential. If so, what might be the role of the jewellery design students in developing traditional handicrafts in a post product age? Who do they design for?

When Tradition Meets a New Generation of Designers—Customer-Centred

Liuhuan Zhang

Never Fade(Brooch)
Silk thread, Copper wire, Cardboard, Artificial pearls, Agate beads
Chan-Hua craftsmanship

Never Fade(Headband)
Silk thread, Copper wire, Cardboard, Artificial pearls, Agate beads
Chan-Hua craftsmanship

Never Fade(Headpin)
Silk thread, Copper wire, Cardboard, Artificial pearls, Agate beads
Chan-Hua craftsmanship

Minghong Li

Poem Embroider(Headpin)
Wool, Pearl
Embroidery
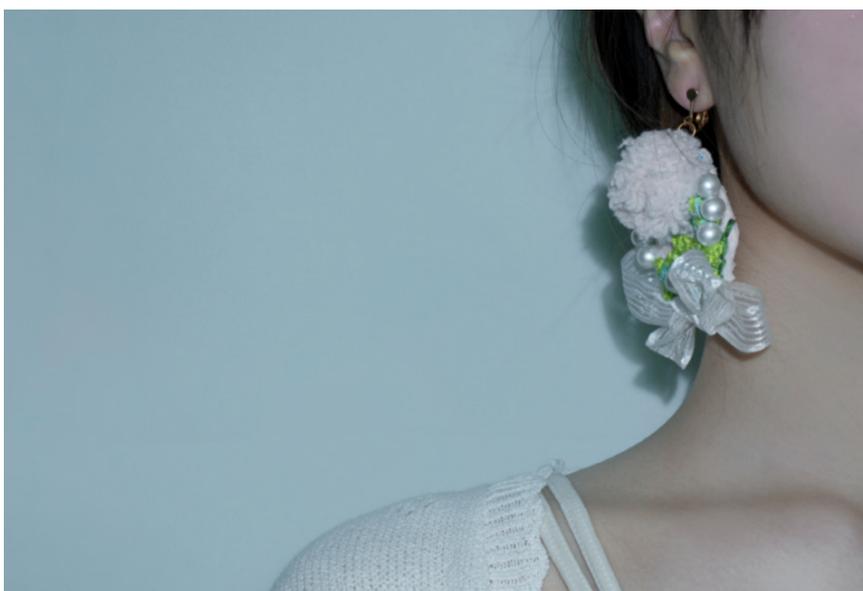
Poem Embroider(Earring)
Wool, Pearl
Embroidery

Jinyan Chen
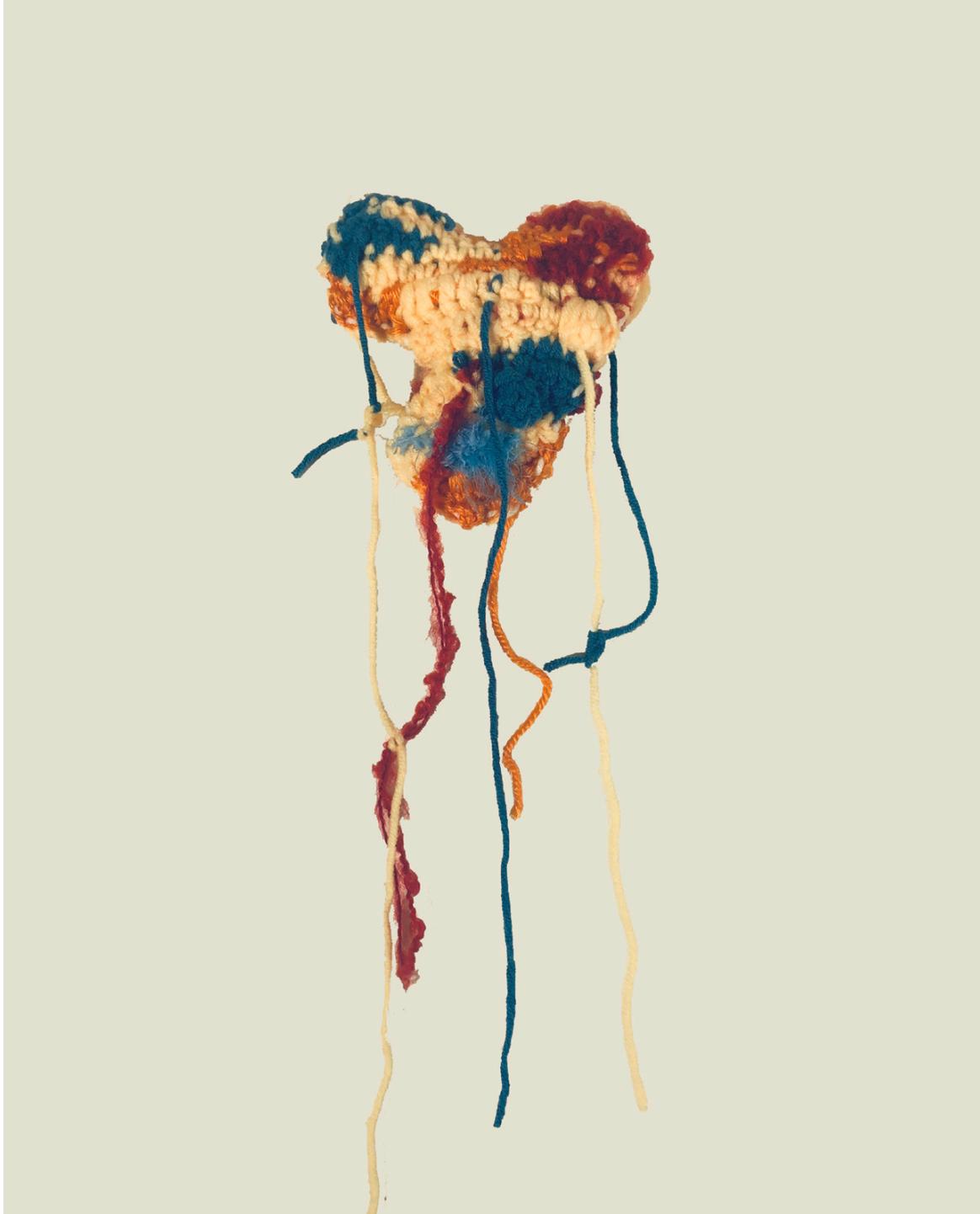
Spirit Clinic(Brooch)
Woolen yarn, Cotton
Embroidery
100x100x30mm

Zhanpin Sheng

Summer Solstice(Brooch)
Thread, Fiber, Silver
Embroidery
30x10x5mm

Yachun Yang

Pursuit of Light(Brooch)
Thread, Fiber, Silver
Embroidery
100x30mm

Section 4

Guided by the UNESCO 2030 Agenda for Sustainable Development, UNESCO's Culture Conventions, China's 14th Five-Year Plan, and within the project framework of "Conservation and Management of World Heritage Sites in China" Phase IV (2021-2024), UNESCO plans to strengthen the Miao embroidery sustainable livelihood pilot activity in Fanjingshan World Heritage site. In 2021, the "Miao Embroidery for a Vibrant Homeland" sustainable livelihood pilot was launched in Songtao Miao Autonomous County. This pilot activity is led by UNESCO in close collaboration with Songtao County People's Government, Suzhou Art and Design Technology Institute, and Tongren Municipal Culture, Sports, Broadcasting, Television and Tourism Bureau. As one of its initiatives, the "Creative Guizhou - Songtao Gift" now launches an open call to the civil society for creative cultural design products.

Designing for the Countryside—Creative Guizhou, Songtao Gift

Xiangyi Pan

Miao Territory(Earring)
925 Silver, Silk thread, Fabric
Miao embroidery
80x52x25mm

Nanjiang Liu

The Way Home(Earring)
925 Silver, Pearl, Chalcedony, Fabric, Thread
Miao embroidery
28x90mm

Jing Luo, Qiusha Meng, Huiwen Ma

Zhuan Ji(Earring)
925 Silver, Silk thread, Fabric
Miao embroidery
30x30x60mm

Yuxin Xiang
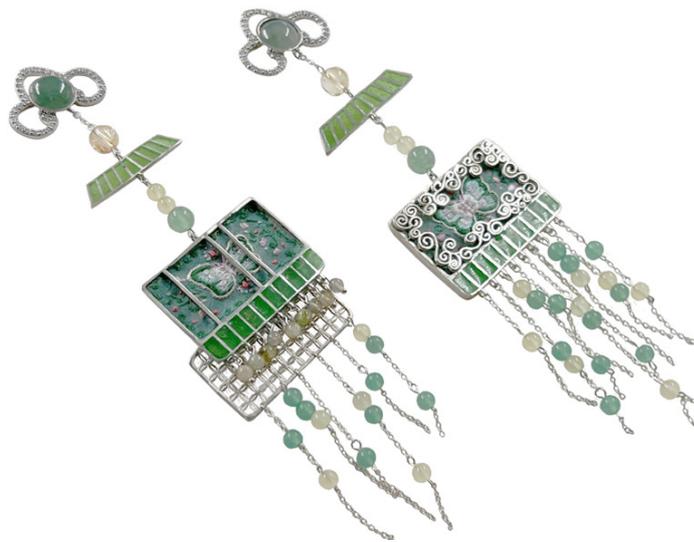
Walking in Thousands of Miles(Earring)
Silver, Jade, Enamel, Dongling stone, Chalcedony, Fabric, Thread
Miao embroidery
35x120mm

Xiaoge Zhu, kangran Zhao, Zibin Ren, Jialin Mao

Ling Ge(Earring)
Silver-plated copper, Glass
45x40mm

Ling Ge(Earring)
Silver-plated copper, Glass
30x30mm

Ling Ge(Earring)
Silver-plated copper, Glass
70x20mm

Ling Ge(Necklace)
Silver-plated copper, Glass
50x30mm

Qiyue Zhang

Our Story(Object)
Cupronickel, Miao embroidery
280x160mm

Our Story(Object)
Cupronickel, Miao embroidery
270x280mm

Section 5

The importance of the subsequent impact of the teaching model on students' careers provides a potential design impetus for the sustainable development of traditional handicrafts.

Graduate Creations—Sustainability Impact of IEM Model

Hello!!!Parents
Feather, Brass
80x80x90mm

Hello!!!Parents
Feather, Brass
160x150x80mm

Xueyuan Lyu

Hello!!!Parents(Brooch)
Feather, Brass
60x60x30mm

Hello!!!Parents
Feather, Brass
180x130x80mm

Jingbo Wei

Lonely and Incandescence(Object)
Brass, Red bronze, Silver
80x80x270mm

ShuJuan Ran
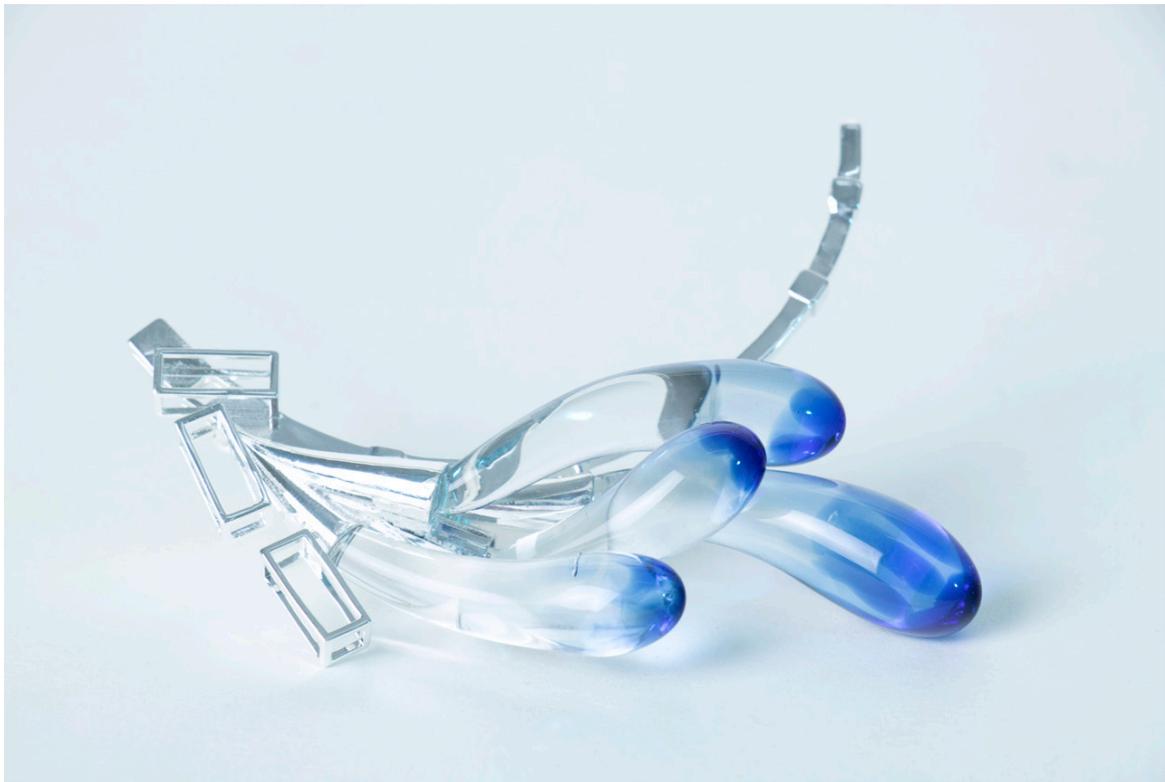
Everywhere(Earring)
Lamp glass, Silver

Xiaoyang Peng

With Cat (Shoulder Ornament)
Nickel plated copper, Stainless steel, Cardboard

With Cat (Bracelet)
Nickel-plated copper, Brass, Stainless steel wire

With Cat (Ring)
Nickel plated copper, Sisal

With Cat (Foot Ornament)
Nickel-plated copper, Tree branches, Sisal

Yintong Chen
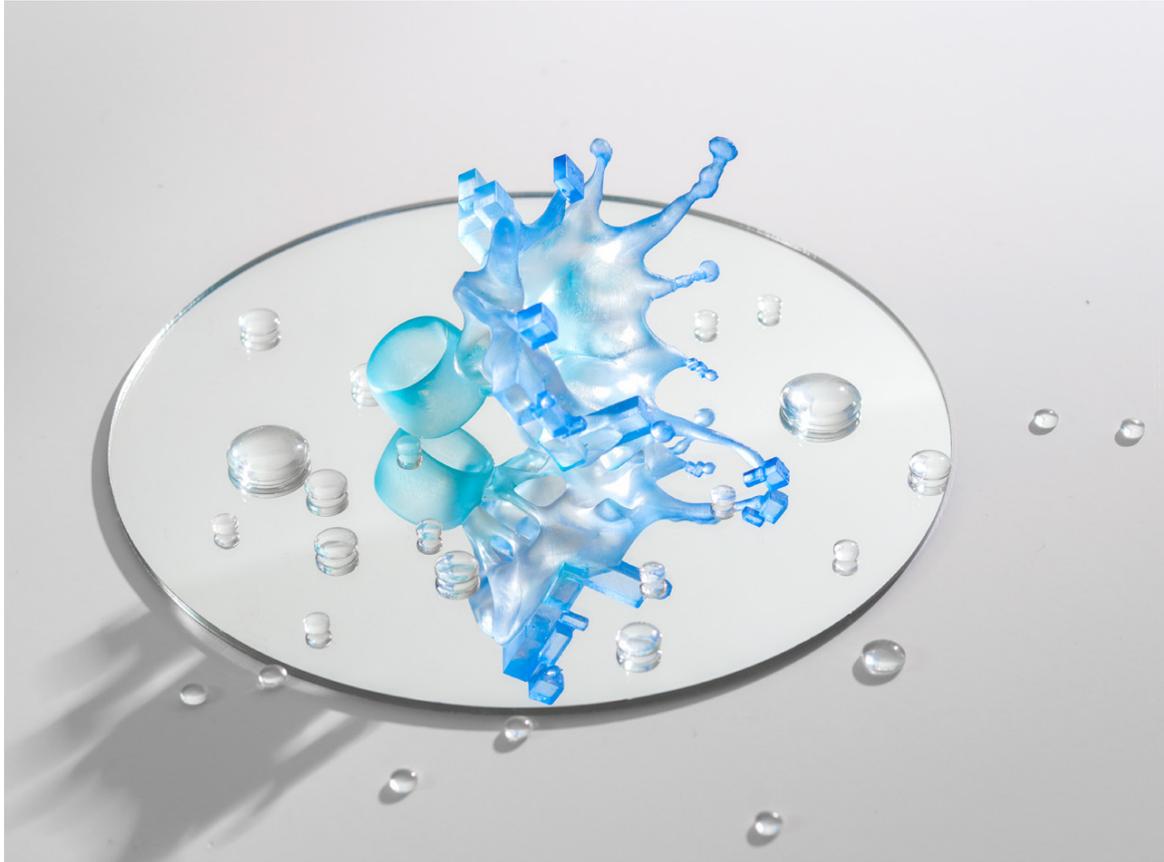
Moment(Ring)
Resinous material
Variable size
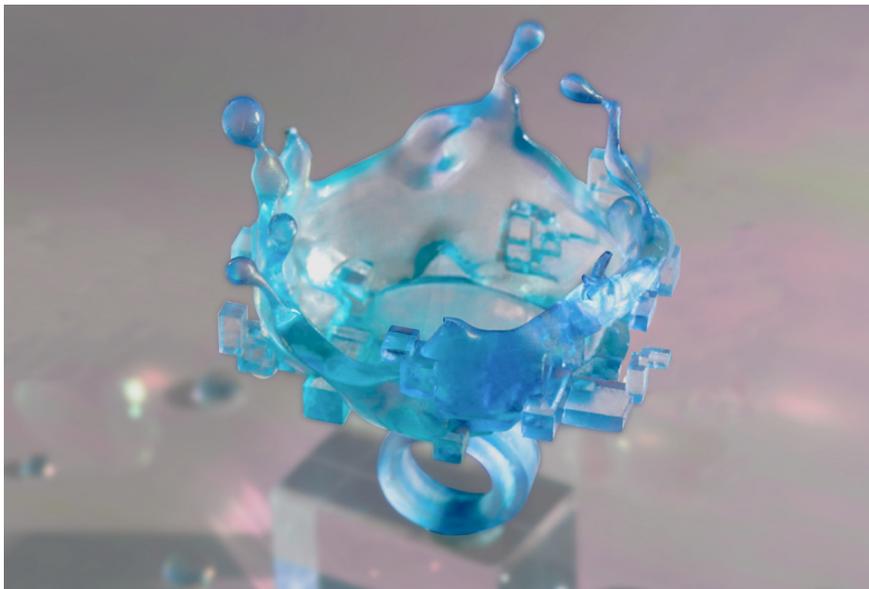
Jinyan Chen

Psychic Clinic (Brooch)
Gold plated copper, Glass
Variable size

Psychic Clinic (Ring)
Gold plated copper, Glass
Variable size

Psychic Clinic (Ring)
Gold plated copper, Glass
Variable size

Psychic Clinic (Ring)
Gold plated copper, Glass
Variable size

Jiarui Lin

Constellations in the Hand(Hairpin)
Silver, Moissanite, Screws
Variable size

Constellations in the Hand(Earring)
Silver, Moissanite, Screws
Variable size

Constellations in the Hand(Brooch)
Silver, Moissanite, Screws
Variable size

Constellations in the Hand(Ring)
Silver, Moissanite, Screws
Variable size

Xiaohan *Zhang*

Ray(Earring)
Brass, Thread, Pearl
Chan-Hua craftsmanship
150x90x70mm

Sky Ladder(Earring)
Brass, Thread
Chan-Hua craftsmanship
130x130x50mm

Hanya Zhang

Mask Makeup Research Institute(Mask)
Polyethylene glycol, Cashew lacquer, Brass, Metal foil, Jack glass, Glass

Mask Makeup Research Institute(Earring)
Polyethylene glycol, Cashew lacquer, Brass, Metal foil, Jack glass, Glass

Mask Makeup Research Institute(Earring)
Polyethylene glycol, Cashew lacquer, Brass, Metal foil, Jack glass, Glass

Huijun Tang

Shadow(Ring)
Resin
Variable size

Yachun Yang
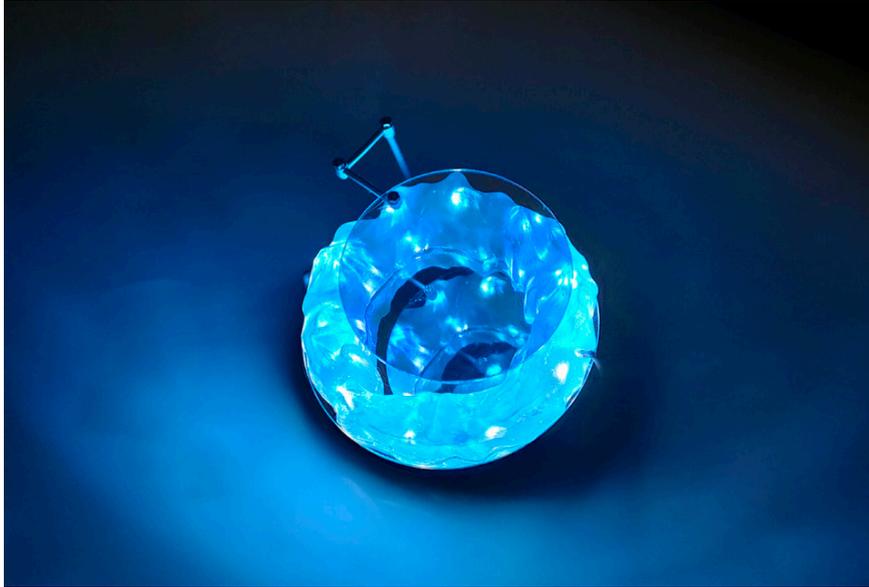
Mountain(Brooch)
Resin, Copper, Plastic, Lamplight
70x70x50mm

Mountain(Brooch)
Silver
30x30x12mm

Section 6

*Jewellery design incorporating embro -
dery pushes the boundaries of tradi-
tional stitching and forms, revealing
the vast potential of this craft.*

Remoulding Life in Creation

Mengnan Zi
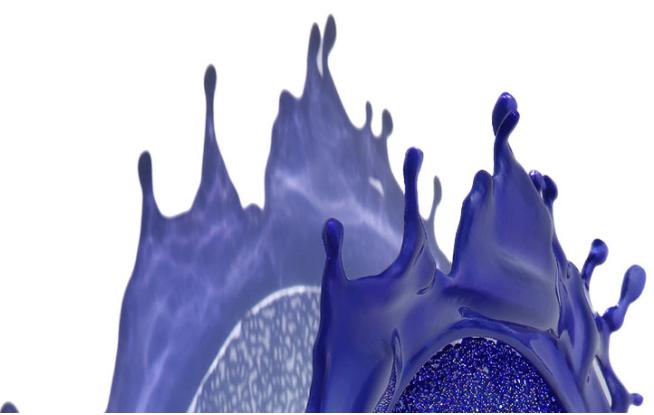
Ripple(Sculpture Object)
2022
PVC, Thread, Bead
450x430x30mm
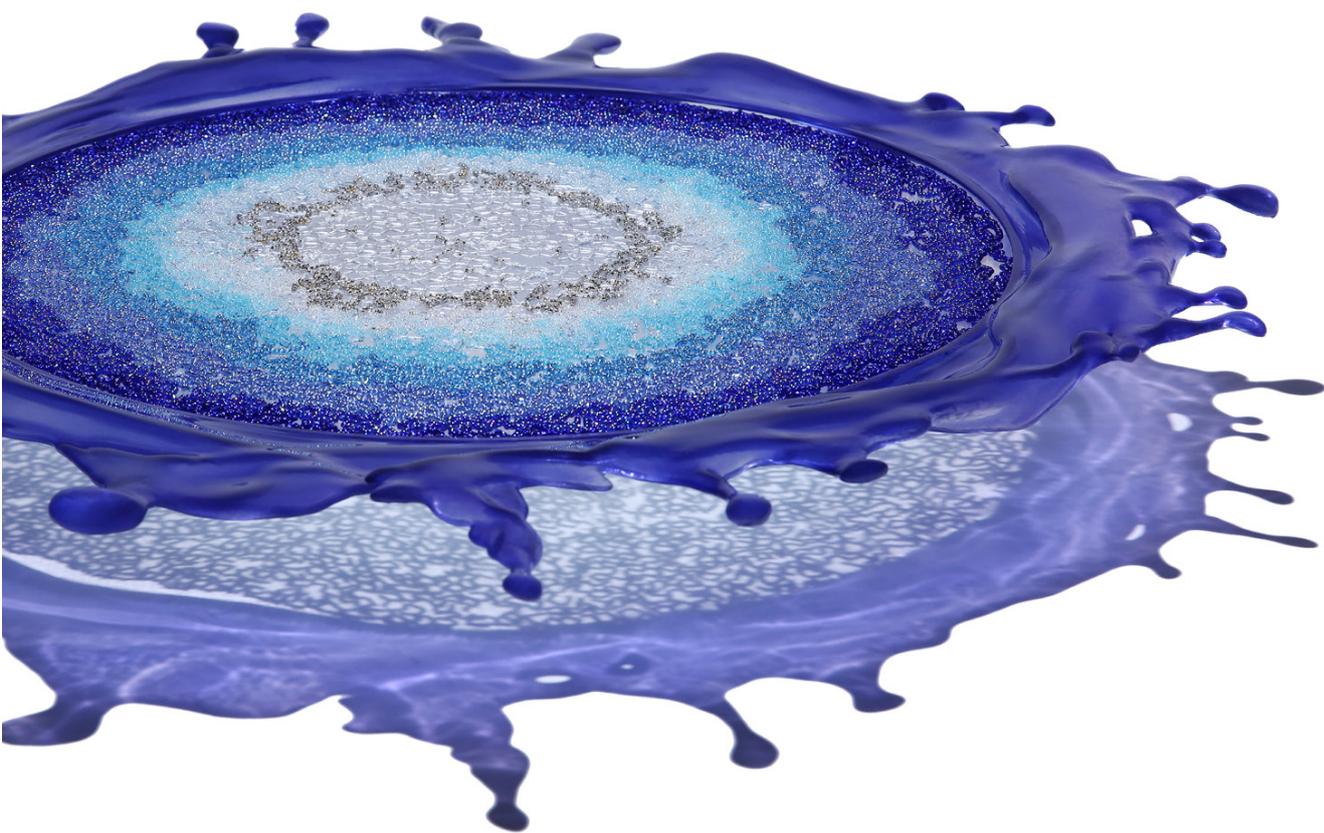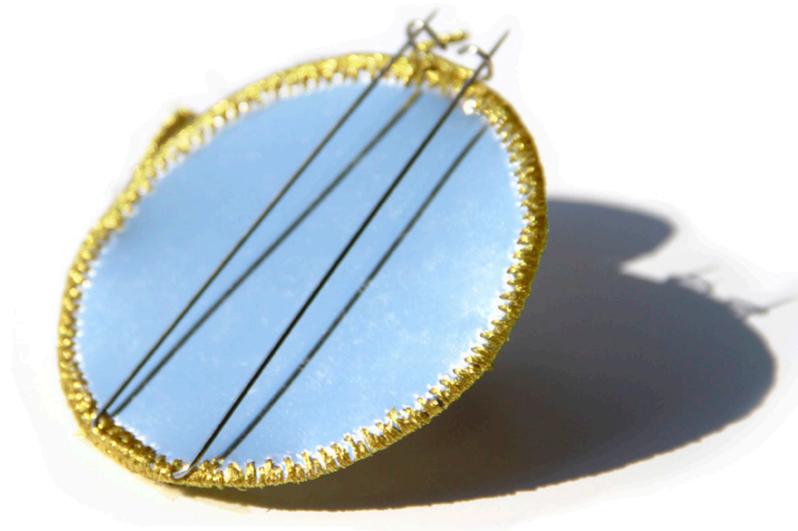
Sky in Your Heart(Brooch)
2021
Mirror PVC, Thread, Steel
100x100x40mm

Form of Being(Necklace)
2019
PVC, Thread
320x240x10mm
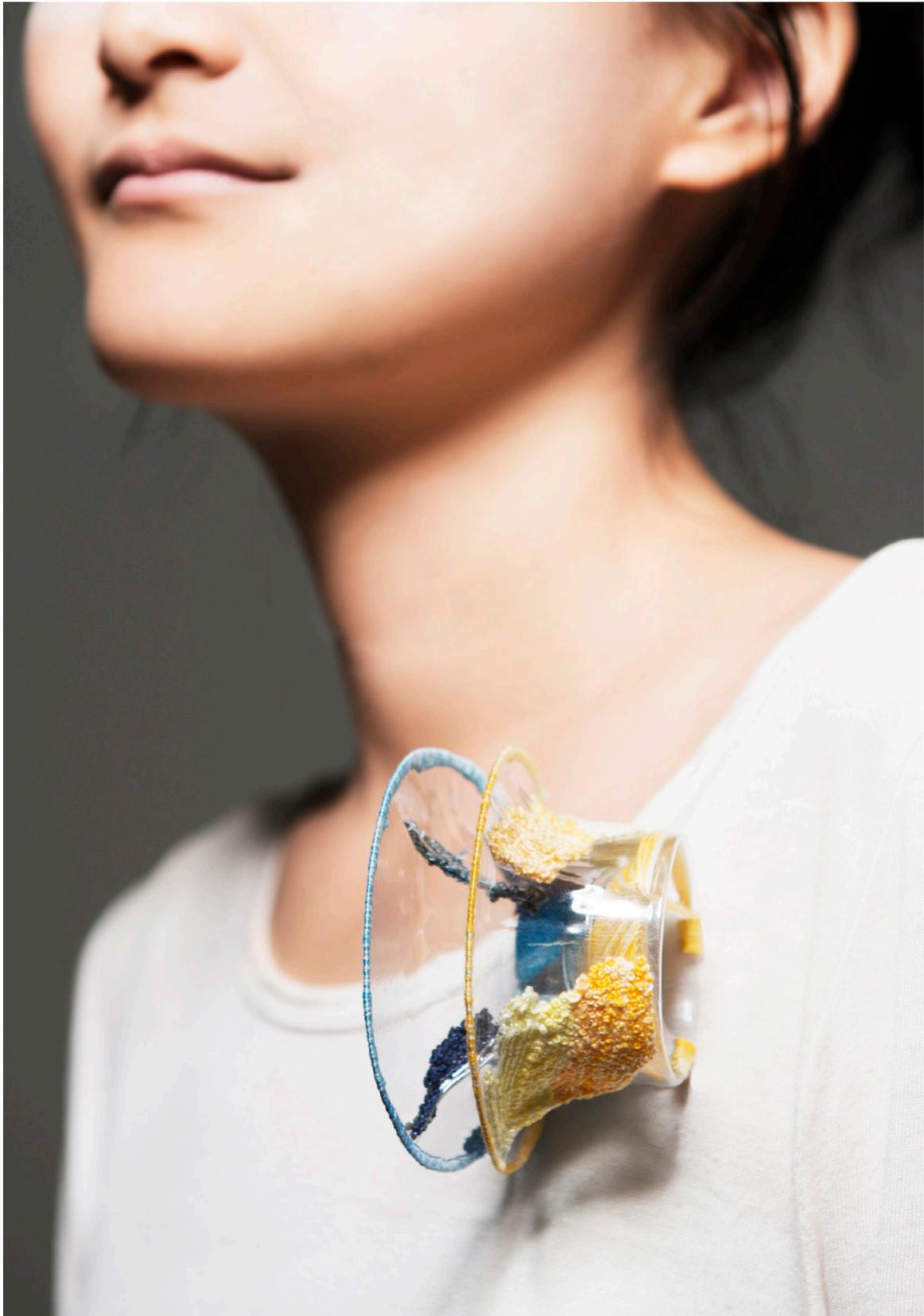
Transformation(Brooch)
2013
PVC, Thread
90x80x50mm

Transformation(Brooch)
2013
PVC, Thread
115x110x40mm

Transformation(Brooch)
2013
PVC, Thread
150x110x60mm

Transformation(Brooch)
2013
PVC, Thread
150x115x60mm

Transformation(Brooch)
2013
PVC, Thread
110x90x80mm

Transformation(Brooch)
2013
PVC, Thread
100x90x70mm

Cocoon(Earring)
2020
Silver, Thread, Light Cloth (Chinese Traditional Cloth)
40x40mm

Cocoon(Earring)
2020
Silver, Thread, Light
Cloth, Pearl
20x20mm

Cocoon(Earring)
2020
Silver, Thread, Light
Cloth, Pearl
40x60mm
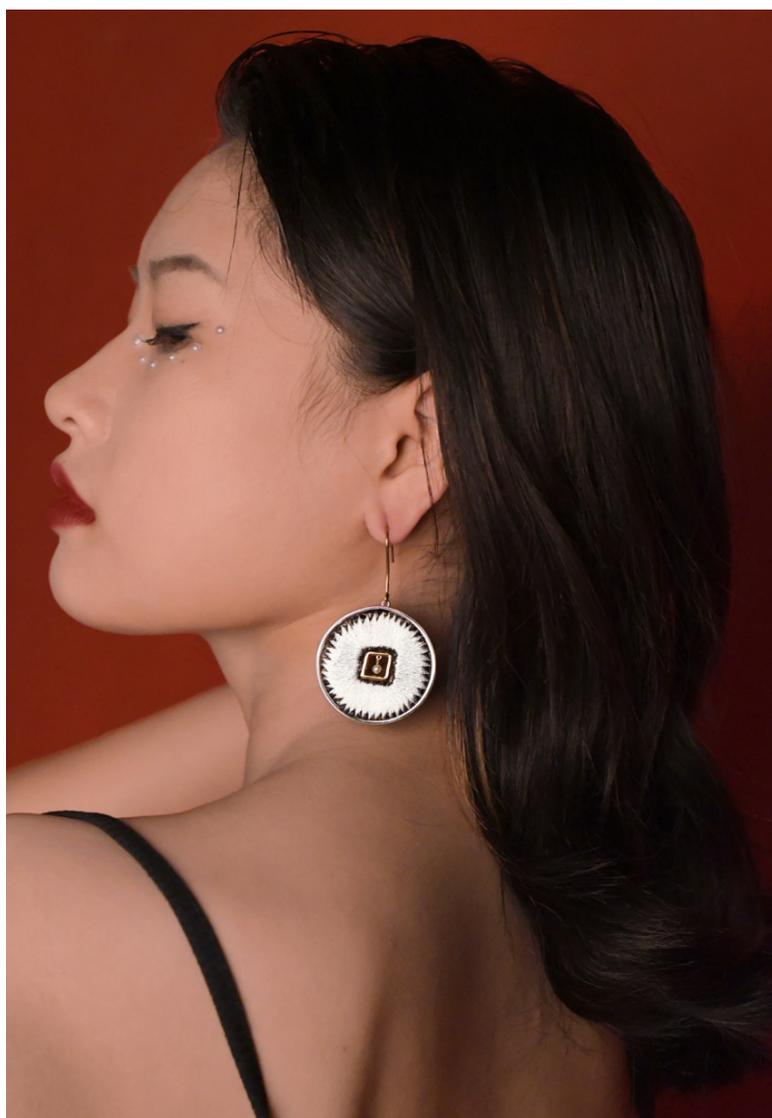
Cocoon(Earring)
2020
Silver, Thread, Light Cloth (Chinese Traditional Cloth)
50x100mm

Cocoon(Earring)
2020
Silver, Thread, Light Cloth, Pearl
20x73mm

Cocoon(Earring)
2020
Silver, Thread, Light Cloth, Pearl
10x75mm

Cocoon(Earring)
2020
Silver, Thread, Light Cloth
20x70mm

Cocoon(Earring)
2020
Silver, Thread, Light Cloth
40x80mm

Cocoon(Earring)
2020
Silver, Thread, Light Cloth, Pearl
40x40mm

Acknowledgements

Opening ceremony for Cheltenham Exhibition
切尔滕纳姆展览开幕

Exhibition Private View: *Monday 22 January 2024, 3 pm-5 pm*
展览开幕时间：2024年1月22日，周一，15:00-17:00

Continues: *Tuesday 23 – 31 January 2024, open daily 10 am-5 pm*
展览时间：2024年1月23日-31日，每天10:00-17:00

Meet the artist and curator conversation event – *Thursday 25 January 2024, 3 pm-4 pm*
与艺术家和策展人会谈时间：2024年1月25日，周四，15:00-16:00

Venue: *Project Space, Design Centre, Park Campus, University of Gloucestershire, Cheltenham, UK, GL50 2RH*
地点：英国，格洛斯特郡大学，Park 校区，设计中心

Opening ceremony for the London Exhibition
伦敦展览开幕

Exhibition Private View: *Sunday 18 February 2024, 2 pm-8 pm*
展览开幕时间：2024年2月18日，周日，14:00-20:00

Continues: *Monday 19 – 20 February 2024, open daily 2 pm-8 pm*
展览时间：2024年2月19日-20日，每天14:00-20:00

Venue: *38 Neal Street, London, UK, WC2H 9PS*
地点：英国，伦敦，Neal Street

Walking alongside the Handicrafts
Working alongside the Handicrafts 携"首"同行
Contemporary Jewellery Teaching Practices of Sichuan Fine Arts Institute
四川美术学院当代首饰教学实践
2024

学术支持，Jean Boyd
项目主持：张亚西
Academic Support: Jean Boyd, Grant Pooke, Xiaoyu Bai
策展人：蒙野箐 力
Project Hold: Yaxi Zhang
Curator: Menghan Li
学术支持：Jean Boyd, Grant Pooke, Xiaoyu Bai, Yi Fan, Huyu Shi, Bosen Liu
视觉设计：曾安宇
Graphic Design: Anyu Zan
策展助理：曾湛频，罗菁
Curatorial Assistants: Zhanpin Sheng, Jing Luo

Host: *Sichuan Fine Arts Institute, School of Design*
University of Gloucestershire, School of Creative Arts
主办单位：四川美术学院设计学院
格洛斯特郡创意艺术学院

Organisers: *Sichuan Fine Arts Institute, School of Design，Crafts and Arts*
承办单位：四川美术学院设计学院手工艺术系

Special Support: *WEVE2050*
特别支持：WEVE2050

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Walking
alongside
the Handicrafts

Working
alongside
the Handicrafts

携"首"同行

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Graphic Designer: Anyu Zan

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