

FROM RECOGNITION TO REFLECTION: RESEARCH ON JEWELRY DESIGN EDUCATION BASED ON THE SIGNATURE PEDAGOGIES THEORY

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ABSTRACT

Based on Lee S. Schulman's Signature Pedagogies theoretical framework, the research used a qualitative questionnaire survey to explore the experiences of 51 jewelry design students from 19 institutions. By analyzing texts that summarize individual students' embodied experiences, the study aims to identify the signature pedagogies in Chinese jewelry design education.

Research shows that jewelry design education focuses on decentralized metal studios as its main setting. In these spaces, the teacher-student community works directly with materials, using the "thinking by making" cognition principle through a "demonstration-imitation-creation" structure. The teaching method relies heavily on back-and-forth dialogue between teachers and students, based on students' personal experiences and emotional expressions. This "action-reflection-reaction" process helps students develop their design thinking. Not only does it pass on knowledge and skills, but it also subtly influences students' professional values and character traits, such as courage of practice, sensitivity to materials, and meticulous patience, while encouraging them to explore their inner selves.

Using this as a foundation, this study investigates signature pedagogies that have long operated unconsciously and encourages reflection on three open-ended issues: the differences between teaching scenarios and the workplace, the challenge posed by digital technology to the pedagogies' deep structure, and the unique value of uncertain dialogue in teaching. This provides new critical perspectives and directions for research in jewelry design education.

Keywords: Jewelry Design Education, Signature Pedagogies, Chinese Jewelry Design Education, Studio Teaching, Thinking by making

1 INTRODUCTION

1.1 Theoretical framework of signature pedagogies

Lee S. Shulman introduced the idea of "signature pedagogies" to describe the unique ways in which future professionals are trained for their careers. While these pedagogies are common across different fields, they are especially prominent in practice-focused professional education. For example, senior physicians train students' diagnostic skills through teaching rounds, and law students participate in intense debate challenges surrounding their lecturer at the podium. Signature pedagogies aim not just to deliver factual knowledge but also to profoundly change the learner's understanding, behavior, and emotional state, shifting the emphasis from curriculum content to the learner's practical, embodied, and experiential ways of knowing. Shulman's framework examines these pedagogies through three dimensions [1]:

-Surface Structure: consists of concrete, operational acts of teaching and learning, of showing and answering, of interacting and withholding. These can be directly observed.

-Deep Structure: a set of assumptions about how best to impart a certain body of knowledge and know-how. These are often abstract guiding principles that researchers must infer from observations.

- Implicit structure: a moral dimension that comprises a set of beliefs about professional attitudes, values, and dispositions.

Within the field of design education, the studio serves as a central space for signature pedagogies, characterized by a relatively loose, free, and autonomous teaching environment where students and teachers engage in project-based learning and the "critique", during which students receive feedback from both faculty and peers, helping them behave, think, and express themselves like professional designers [2]. However, teaching methods can vary across different design disciplines. For example,

architectural “public critique” might differ from the object-focused displays common in jewelry design. This underscores the importance of studying signature pedagogies within specific disciplinary contexts.

1.2 Chinese jewelry design education: current state and research objectives

The development of Chinese jewelry design education has been influenced by three historical factors: the jewelry manufacturing industry in the Hong Kong-Shenzhen region during the 1980s and 1990s; the pattern and decorative arts rooted in craft-and-arts education since the 1950s; and the localization practices of contemporary jewelry art introduced from the West after 2000 [3]. This diverse background has led to a clear distinction in current teaching approaches: a commercial model focused on technical skills and industry needs within comprehensive universities, and an artistic model emphasizing conceptual expression in art schools [4]. The former adopts a results-driven approach, analyzing how talent cultivation aligns with market demands. It promotes teaching reforms by adjusting educational goals [5], developing curriculum systems [6], and referencing Western teaching models [7]. The latter research mainly focuses on understanding jewelry and design methods (e.g., narrative, techniques, and material). These primarily address subject-specific content knowledge [8-9], while paying less attention to pedagogy (how to teach), echoing Shulman’s observation that university faculty may lack formal pedagogical training and tend to replicate their own educational experiences.

This study addresses this gap by identifying common pedagogies across different Chinese jewelry design education approaches. Transcending institutional differences to create a more unified academic perspective, the research aims to reveal shared elements and provide a framework for future reflection and reform.

2 RESEARCH FRAMEWORK

2.1 Questionnaire design

The research employed a qualitative survey to explore the signature pedagogies encountered by students. First, introduce the background and rationale of the study to respondents. Briefly explain the concept of “signature pedagogies” using the example of the “teaching round” in medical education. Subsequently, ask participants to depict, in the form of a top-view floor plan, “which scene represents the signature pedagogies in your experiences in jewelry design education.” This aligns with Shulman’s idea that teaching methods can even determine the spatial design of educational institutions, which in turn helps to perpetuate these methods.

At the core of the survey, participants were asked to describe their chosen scenario, following the three-dimensional framework.

- Teaching Activity (Surface Structure): What specific activities are happening in this scene?
- Teacher-Student Interaction (Deep Structure): Please provide some typical conversations between teachers and students in this scene.
- Subjective Experience (Implicit Structure): Describe your personal experience in this scenario using three keywords.

Ultimately, the participants explained why they consider these scenarios as signature pedagogies. For interviewees with professional experience, we further inquired about which aspects of the scenario influenced their work experience.

2.2 Respondent selection strategy

To ensure a diverse sample, the research surveyed 51 students from 19 different institutions, including 42 undergraduates (16 from art colleges and 26 from comprehensive universities) and 9 from vocational or technical schools. Most respondents enrolled between 2019 and 2022. The selection criteria required at least two years of specialized education in jewelry design or graduation projects focused on jewelry design to verify sufficient experience.

2.3 Subjective characteristics of the research method

It is important to note that this survey’s findings are based on the subjective recollections of learners. The goal was not to quantitatively observe signature pedagogies but to capture the implicit, often unarticulated, structures embedded in education. By analyzing the content and manner of their expressions, the research focused on the learners’ personalized, embodied experiences rather than formal institutional documents like syllabi.

3 RECOGNITION SIGNATURE PEDAGOGIES OF CHINESE JEWELRY DESIGN EDUCATION

3.1 Educational space: the decentralized metal studio

40 out of 51 respondents identified the metal studio as the setting of signature pedagogies, regardless of their school type, as shown in Figure 1. The studio features a decentralized layout with pairs facing rectangular workbenches arranged in parallel rows. These workbenches are not uniformly oriented; pairs of students sit facing opposite directions, with some even facing the wall. Students occupy fixed or semi-fixed workbenches. When a specific grade is conducting instruction, other students may either continue their creative work or participate as observers. This environment offers high autonomy and flexibility in movement, activities, and time management.

Respondents viewed this space as a signature pedagogy for three reasons: it is the most frequently used setting for both basic craft and advanced design; it establishes the core foundation for jewelry education; and it provides unique, memorable experiences, such as the initial feeling of novelty and interest in making jewelry.

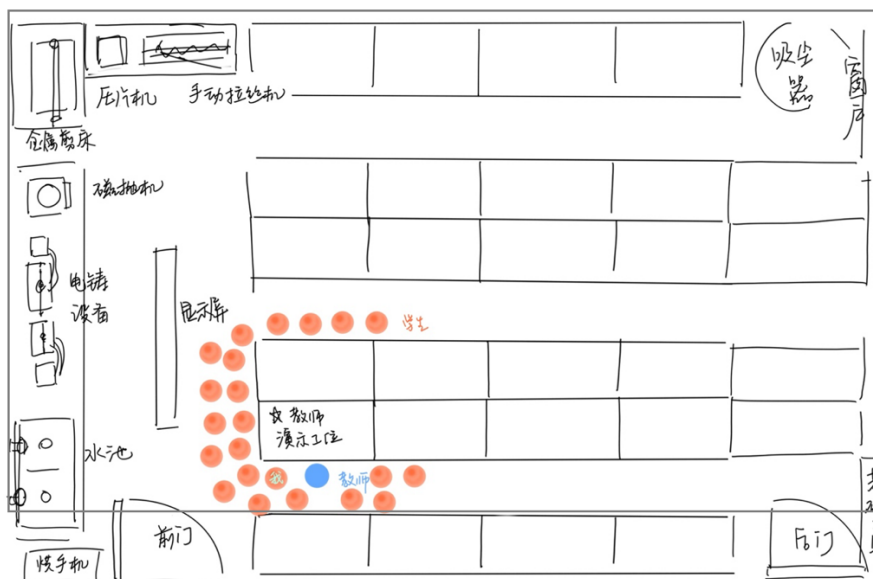


Figure 1. Top-view floor plan of the signature pedagogy scene in jewelry design education, drawn by a respondent

3.2 Teaching activity: the “thinking by making” principle in demonstrations

“Demonstration” was mentioned 27 times as a key teaching activity. The teacher performs metalworking craft demonstrations at workbenches with students gathered around to observe closely. The teacher’s demonstration area is usually at the same level as the student workbenches, without any special centralized setup. After the initial demonstration, the teacher moves around, offering targeted, secondary demonstrations directly at students’ workbenches when they face difficulties. Demonstrations are central to jewelry design education, often preceding theoretical learning by initiating hands-on practice. This activity goes beyond simple technical skills, embodying the cognitive principle of “thinking by making”. It conveys tacit knowledge that cannot be fully explained or observed, such as sensory perception, mind-hand coordination, and attitudes toward materials. This method is rooted in tradition, guiding students from imitation to innovation only after reaching a certain level of proficiency.

3.3 Educational interaction: uncertain dialogue between teacher and student

The analysis of typical dialogues revealed a three-tiered interaction structure. Fundamental Engagements focus on measurable, factual aspects such as production practicality, material properties, and ease of use. This feedback usually aligns with objective standards and can be easily turned into specific actionable recommendations, like replacing tools or modifying drawings. Deep Engagements concentrate on aesthetic evaluations. Educators provide critiques, like “This content lacks texture”, which involve a lot of subjectivity. Teachers often can’t give clear, straightforward answers. Instead, they use examples from established artists to show what they’re looking for, minimizing personal bias

and randomness. As students work independently, they start to grasp, agree with, or disagree with the teacher's ideas through hands-on experience. The most challenging dialogues revolve around creative ideas and clear expression. Students often say things like "self-reflection" or "childhood memories" to explain their concepts. Teachers ask probing questions to uncover deeper meaning. When a teacher said, "the concept lacks clarity" and suggested "explore divergent ideas around the concept 'mirror'," he reframed the problem. This shifted students' focus from visual form to reinterpretation of the design challenge. Students undertake new attempts and return with new results; teachers start a new round of dialogue based on these findings.

This interaction highlights a key characteristic of jewelry design pedagogy: its heavy reliance on an uncertain dialogue shaped by both teacher and student. Unlike more practical fields like architecture or industrial design, jewelry design has fewer external constraints, such as space, scale, or function. This freedom allows for greater creative exploration. However, its emphasis on more intuitive, internal themes – even philosophical and metaphysical ideas – requires longer self-discovery [10]. As a result, teaching is fundamentally based on students' personal experiences and perspectives. Through ongoing, iterative interactions between teacher and student, a "action-reflection-reaction" pathway is formed. This is the core scenario for jewelry design education, helping students develop critical thinking, individual perspectives, and creative styles.

3.4 Personal experience: serenity within intense focus

Through word frequency analysis of respondents' subjective experiences in Table 1, we found that "focus/immersion/concentration" forms the core of the learning sentiment. At the same time, "fun/interesting/exciting" and "comfortable/relaxed/calming/healing" collectively reflect a positive and pleasurable learning state. Additionally, terms like "meticulous/precise/patience/caution" and "quiet/slow" not only reflect behaviors reinforced by jewelry craftsmanship but also become internalized as character traits. These terms also align with the process of gaining a "sense of accomplishment/breakthrough," "exploration/research," and "inspiration/enlightenment" through hands-on practice.

Table 1. The top ten subjective experiences of the respondent

No.	Subjective Experience	Word Frequency (times)
1	Focus/Immersion/Concentration	16
2	Fun/Interest/Excitement	11
3	Meticulous/Precise/Patient/Cautious	11
4	Comfortable/Relaxed/Calming/Healing	7
5	Fresh/Novel	5
6	Quiet/Slow	4
7	Sense of accomplishment/Breakthrough	4
8	Exploration/Research	4
9	Inspiration/ Enlightenment	4
10	Crowded/Compact	3

Notably, 11 respondents detailed teaching activities and feelings related to soldering. They mentioned vivid instructor guidance like "Stop! Move the torch 5mm further from the solder joint" and emotionally charged descriptions such as "the glowing silver sheet resembled a setting sun." They also highlighted key moments, such as the "mirror moment", the silver transitions from solid to liquid. Soldering captures a unique jewelry-making experience, requiring sharp sensitivity to materials and timing. "Mirror moment" can only be perceived by those who are "present in the moment," creating a threshold in learning; once crossed, individuals gain an identity as "jeweler". This heightened presence and focus allow the seemingly conflicting experiences of "excitement" and "quiet" to come together, ultimately yielding a profound sense of "healing". Therefore, jewelry design education provides a special environment where intense mental focus blends with the joy of overcoming challenges, leading to inner calm and fulfillment.

3.5 The structure of jewelry design signature pedagogy

Summarizing the above analysis, we can create a clear picture of the signature pedagogy in jewelry design education. At the surface structure, the decentralized layout of the metal studio fosters a

“community of practice” between teachers and students. This is accomplished through teachers’ physical closeness, shared space with students on equal footing, and the common use of tools and technical terminology. The fundamental teaching framework is built upon the sequence of “demonstration-imitation-creation.” At a deeper structure, the cognitive principle of “thinking by making” and the practical path of “action-reflection-reaction” emphasize the coordinated unity of hand and mind in craftsmanship and conceptual expression. This educational process subtly instills values such as “cherishing equality” and “courage of practice,” while cultivating character traits like “material sensitivity” and “patient meticulousness.” Dialogue and critical inquiry foster profound exploration of inner insights, constituting its implicit structure.

Through this analysis, we explore how jewelry design education transcends the transmission of factual knowledge and technical skills, enabling students to act, feel, and think like professionals. This approach propels them from peripheral design community members to core practitioners. Such education serves career development and positions the profession as a lifelong calling for personal growth [11].

4 DISCUSSION AND REFLECTION

4.1 The power and dangers of signature pedagogies

As a default teaching method, the signature pedagogies’ stability acts as a learning scaffold, helping teachers and students by reducing the time spent on participation rules so they can focus on complex topics. However, it also risks rigidity and complacency, making adaptation difficult amid external changes. Its power and dangers are two sides of the same coin, requiring us to recognize when it benefits—by maintaining consistency—and when it hinders, needing active change. By identifying the signature pedagogies in jewelry design education in China, this study raises open-ended questions rather than providing definitive answers.

4.2 Significant difference between the metal studio and the workplace

Rounds with doctors, mock courts, and studio systems in architectural design education closely mirror real professional settings, helping students adapt to the workplace in advance. However, when jewelry design students enter the workforce, they often find themselves in cubicles within office buildings, primarily engaged in modeling and drafting work via computer—a stark contrast to the atmosphere of metal studios.

This difference led some respondents to state that while the studio was the primary setting during their studies, it had little impact on their work. Some even lamented that they “could no longer make jewelry after becoming designers.” This phenomenon appears to validate concerns about the misalignment between current jewelry design education objectives and market demands [12], supporting the view that craft courses should be reduced while design thinking and creativity cultivation should be strengthened [13].

This raises a critical question: How should we address this difference? Saying creativity in jewelry design is in design classes rather than craft courses separates hand and mind, ignoring the cognitive principle of “thinking by making” in jewelry design. How can we cultivate “creativity” through hand and mind coordination? Or, as Gert Biesta inverted the question on modern education, we should not only ask from a utilitarian viewpoint, “What can schools bring to society?” but also reflect on, “What kind of society can school demand?”[14] For example, how can we encourage jewelry companies to make the metal studio the core of inspiring creativity, thereby preserving the most charming and exciting aspects of jewelry design?

4.3 Digital technology triggers deep structural changes

Online teaching powered by internet technology has transformed traditional education, making it more accessible and equitable. However, the success of education is not just about the unaltered transfer of knowledge from one point to another. Instead, it involves creating meaning through interaction, fostering shared understanding between educators and students [15]. This is especially true for jewelry design education, which relies heavily on embodied experience and tacit knowledge. Lack of physical presence limits knowledge sharing and deprives students of the studio’s atmosphere of focus, tension, and excitement, undermining the intrinsic transformation through shared practice with teachers.

Furthermore, digital technologies—such as AI-generated content (AIGC)—are becoming increasingly common design tools. Since “making” is an essential part of jewelry design thinking, when the act of “making” changes, it not only shifts the tools used but also fundamentally challenges the basic cognitive

approach.

This calls for carefully reconsidering how digital technologies can enhance teacher–student communication and alignment around shared goals, thereby securing similar emotional and intellectual dispositions. It also sharpens two central questions in practice: where should we draw the boundary of “making”? Which stages may be appropriately augmented by AI-mediated professional environments, and which must remain reserved for hand–mind coordinated training?

4.4 The need for further exploration of dialogue structure

As analyzed, jewelry design education heavily depends on a cyclical and uncertain dialogue between teacher and student, where guidance is dynamically adjusted in real-time. This process is crucial for helping students navigate ambiguous design problems. Dialogue externalizes the thinking process through language to help students understand the progression of design thinking. So, behind these sporadic and uncertain words, is there a certain mental structure that can help us further understand how creativity develops in jewelry design education? Or should we focus on shaping this understandable structure to make teaching more effective, rather than turning it into authoritative pressure and blind obedience?

5 CONCLUSIONS

This study uses the theoretical framework of “signature pedagogies” to provide a structured approach for observing and analyzing the diverse aspects of jewelry design education in China. The goal of identifying signature pedagogies isn’t to judge its merits or create an authoritative definition, but to gain a deeper and more comprehensive understanding by describing its characteristics. The paper poses three open-ended questions based on jewelry design pedagogies, aiming to spark further reflection and serve as a foundation for more in-depth discussions on jewelry design education.

The study surveyed 51 students in jewelry design education, highlighting memorable course moments often overlooked by teachers. These experiences deeply influence students, even though they’re rarely included in syllabi. Jewelry design education is a practical, small-scale model where personal interactions often impact more than the teacher’s expectations. This approach challenges the focus on certainty in modern education but restores education’s core—human freedom, inherently unpredictable.

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