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**Professional training of jewelry artists:  
design education from the 19th century to present day<sup>15</sup>**

**Abstract.** The article analyzes the genesis of design education content in Russian jewelry art from the 19th to the 21st centuries. Three stages of evolution in project culture are identified: late 19th – early 20th centuries – establishment of design as an autonomous activity combining artistic traditions and industrial requirements; 1917 – late 1980s – development of design from functional engineering to stylistically oriented directions; turn of the 20th–21st centuries – introduction of digital technologies and creation of a continuous professional education system based on the Higher school of folk arts. It is revealed that throughout each stage, design has consistently served as a fundamental component in the training of jewelry artists.

**Keywords:** design, jewelry art, professional education, Higher school of folk arts, 3D-modeling.

The development of jewelry art is intrinsically connected to design, which serves as the basis for creating an artistic piece. The term “design” in the context of jewelry art can be appropriately considered in three aspects: as a general contextual concept, as a process and as an academic discipline.

In its general contextual meaning, design in jewelry art encompasses complex activities aimed at shaping aesthetic forms, exploring styles and implementing technical (including artistic) interpretations of the author's vision, determining not only the aesthetic qualities of the item but also its alignment with the historical and cultural context.

Design as a process acts as a systemic link in the professional activity of a jewelry artist, integrating the creator's artistic vision, knowledge about jewelry techniques and technologies, material properties and awareness of structural features necessary for achieving design objectives and subsequently realizing the idea in tangible form.

As an academic discipline, design refers to the area of knowledge studying the principles, methods and tools for creating an artistic concept and technical documentation for a future jewelry piece.

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<sup>15</sup> This paper represents the second part of a study focused on the historical and pedagogical aspects of forming a professional training system for jewelry artists. The first part of the investigation was published in the article titled “Historical-pedagogical aspect of design education in professional training of jewelry artists” (Traditionally-applied art and education: electronic journal. – 2025. – № 2 (53). – P. 289-302. – DOI 10.24412/2619-1504-2025-2-289-302. – URL: [https://www.dpio.ru/stat/2025\\_2/2025\\_02-31.pdf](https://www.dpio.ru/stat/2025_2/2025_02-31.pdf)).

Teaching design has historically undergone substantial changes influenced by shifts in political circumstances, stylistic preferences and technological advancements. Changes in the content of design as an academic subject can be seen as sequential transitions between different phases, each characterized by distinct approaches to design activities.

*First stage:* late 19th – early 20th century. This period marks the establishment of design as an independent form of artistic activity; the educational process relied on personalized instruction under the guidance of jeweler-artists. Stylistically, the era is characterized by the formation of the “national (Neorussian) style”, the development of original artistic themes and the synthesis of jewelry traditions with recognizable features of various artistic styles – classicism, modernism and Neorussian style.

*Second stage:* Soviet era (1917 – late 1980s). The radical social and political transformations led to reconsiderations regarding the essence of jewelry art itself (from the decline of pre-revolutionary schools to the rise of utilitarianism in the 1920s). These developments coincided with the establishment of new educational institutions like VKhUTEMAS (Higher art and technical workshops) and VKhUTEIN (Higher art and technical institute), which altered the scope of design education by shifting emphasis from individual handcrafting to industrial design. For the first time, design was conceptualized as an analytical process founded upon scientific analysis of form, structure and materials. Instead of focusing solely on traditional jewelry techniques, students learned universal laws governing composition, rhythm, color and spatial reasoning, enabling them to produce standardized designs suitable for mass reproduction. Consequently, designers evolved from mere craftsmen-executants into artist-engineers capable of synthesizing artistry and manufacturing efficiency. Post-war decades saw restoration and formalization of professional education alongside the consolidation of two major design trends – “natural-style” and “design-style” – which introduced novel goals and methodologies into the design process.

*Third stage:* end of the 20th – beginning of the 21st century. This phase reflects a shift in perspective toward design, now regarded as a cornerstone of professional training for jewelry artists, harmoniously blending traditional and innovative technologies within the framework of individual creativity. Emerging digital technologies, notably 3D modeling, expanded design possibilities, yet the principal trajectory of development centered on cultivating a design culture – a unique mindset wherein the jeweler-artists engage in holistic creative processes. They move beyond simply reproducing samples, embarking instead on comprehensive workflows spanning conception, conceptualization, structural planning, material selection and final project implementation. Project culture emphasizes non-conformist thinking, envisioning end results from initial stages and comprehending how every step aligns with the artistic vision. This approach is most fully implemented at the Russian university of traditional art crafts, where, drawing on the experience of the Moscow school of artistic crafts, a continuous professional education system has been created. In this system, design is studied at all levels of preparation with a gradual increase in complexity of creative tasks.

Let's examine each stage in detail.

### *I. Second half of the 19th – early 20th century*

This period witnessed intense transformation in design culture within domestic jewelry art, primarily driven by the formation of the last “grand style” – art nouveau – and the popularization of traditional national style manifested in artistic forms, ornamentation and color choices. These processes contributed to diversifying jewelry assortment, enriching compositional techniques and transforming natural forms as objects of reinterpretation.

Design transitioned from mere replication of existing models to intentional artistic-compositional endeavors. Masters no longer reproduced conventional shapes mechanically but began interpreting sketches, devising ornamental motifs inspired by historical artifacts and natural forms, experimenting with rhythmic arrangements of elements and scaling details within compositions. Project explorations proceeded concurrently in two domains: stylization of traditional practical objects and innovation of entirely new designs aligned with contemporary aesthetics. This demanded not only technical proficiency but also advanced artistic thoughtfulness from jewelers.

The complexity of artistic concepts, incorporation of new technologies and partial automation of production processes elevated the significance of design in professional training. Jewelry-making ceased being an individual endeavor where a single person handled all steps from sketching to finished product. Preliminary design gained prominence, necessitating detailed blueprints and prototypes before transfer to production facilities for material realization. This called for thorough familiarity with technological procedures, equipment capabilities, material properties and the sequence of fabrication stages.

Educational processes in jewelry-making were closely tied to the influence of renowned sculptors, artists and craftsmen who instilled in pupils a profound grasp of design essentials. Instruction emphasized hands-on experience: students sequentially navigated design stages – from draft sketches to detailing in drawings and ultimately translating plans into physical creations. Masters cultivated an appreciation for form, interplay between decorative elements and structural foundations and adept representation of design intent realized in actual pieces.

Industrialization imposed fresh demands on professional training, prioritizing narrow specialization. The objective was to cultivate specialists deeply versed in particular facets of jewelry-making, such as independently conceiving and materially realizing projects in factory settings. Amid these conditions, design functioned as a bridge connecting creative ideas with their tangible outcomes, requiring authors to comprehend serial production logics.

By the beginning of the 20th century, design solidified as a pivotal component of professional education, merging artistic legacies, craft traditions and modern production needs. It matured into an independent profession with its own methodologies and evaluation criteria. This period laid the groundwork for a project culture that would eventually become the bedrock of a systematic approach in educating jewelry artists at specialized institutions.

## *II. 20th century (from 1917 to the 1990s)*

The revolutionary events of 1917 and the ensuing Civil war drastically altered the environment for jewelry art, including design practices. The sector suffered a severe downturn; prominent workshops and factories closed down, isolation from international artistic discourse occurred and much knowledge concerning nuanced professional expertise, previously passed from master to apprentice, was lost [9, p. 45]. Within the new societal landscape, art formerly catering predominantly to elite patrons lost relevance. Utility, functionality and minimalism replaced former principles, aligning with the ideology of standardized industrial production [9, p. 64]. The design and manufacture of jewelry assumed mass-production characteristics using non-precious materials, prompting a reevaluation of the very foundations of design activity.

Amid these changed circumstances, a new educational system emerged, dedicated to training professionals for the revamped jewelry industry. Preservation of pre-revolutionary design school traditions persisted only in isolated regions, exemplified by the Krasnosel'skaya artistic-craft workshop, where instructors belonged to the “old guard”. However, limited numbers of similar institutions failed to meet nationwide workforce demands [10, p. 37]. Responding to the challenges of the times, fundamentally new educational entities were established– Free state art workshops, followed by VKhUTEMAS and VKhUTEIN.

Constructivist ideology, rooted in scientific-analytical rationality, mandated a radically different content for design practices [10, p. 42]. The program “Culture of material things” (1927, authored by P.I. Novitsky, L.M. Lisitsky and V.E. Tatlin) positioned design as the foundation for professional growth, engendering a novel outlook on objects, forms, styles and functions. Now, the role of a jewelry designer lay not in crafting singular masterpieces but in generating prototype projects suited for industrial-scale duplication. This entailed acquiring engineering and technical knowledge, grasping production-specific constructible attributes and comprehending the properties of non-precious materials (colored alloys, wood, glass, etc.) [9, p. 65]. Avant-garde educators like A.M. Rodchenko and L.S. Popova instructed students to think in terms of volume, space, color and rhythm, directly influencing their design mindsets [9, p. 64]. The outcome of this training was recognized internationally, highlighted by acclaimed exhibitions, such as Paris in 1925.

Of particular importance was the creation of iconic objects, such as the award badge of the society “Dobrolyot” (1923) [2] (Fig. 1<sup>16</sup>). This work by artist A.M. Rodchenko vividly embodied the principles of constructivism in design: extreme simplicity of form, functionality, clarity of graphic language and orientation towards mass reproduction. Through the example of the “Dobrolyot” badge, it becomes evident that designers begin addressing not only artistic but also social and communicative tasks, shaping the visual imagery of a new era. Rodchenko's work

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<sup>16</sup> Fig. 1. Award badge of the society “Dobrolyot” № 6.495 // Meshok : [website]. – URL: [https://meshok.net/item/325266660\\_Наградной\\_знак\\_общества\\_Добролёт\\_6\\_495?utm\\_medium=organic&utm\\_source=yandexsmartcamera](https://meshok.net/item/325266660_Наградной_знак_общества_Добролёт_6_495?utm_medium=organic&utm_source=yandexsmartcamera) (accessed February 22, 2026).

demonstrated the viability of the new educational paradigm, positioning the designer as an artist-engineer who creates universally applicable solutions (prototypes) fit for mass replication.



Fig. 1. A.M. Rodchenko.  
Award badge of the society  
“Dobrolyot”. 1927.  
Silver, enamel, gilding,  
casting, stamping

By the late 1930s, a clear trend emerged in state educational policy: reliance on indigenous, national traditions. In the realm of design, this implied a realignment of curricular content away from the formal-analytic experiments of constructivism toward systematic study of historical ornamental heritage, traditional form-shaping techniques and jewelry technologies. Design assignments increasingly drew inspiration from concrete museum specimens, encouraging not so much the pursuit of entirely new avant-garde forms but rather deliberate engagement with traditional jewelry art – understanding rules governing ornament construction, object shape formulation and integration of decorative elements with structural components.

Aligned with this tendency, educational institutions were established, geared toward continuity of jewelry expertise and cultivation of design thinking anchored in national artistic traditions. This prepared the groundwork for the emergence of the Moscow school of artistic crafts, leveraging experiences from Krasnosel'skaya trade school and other institutions.

The demand for large-scale training of performers resulted in reduced course durations at vocational schools, negatively impacting the level of design competency. As a counterbalance, efforts were initiated to deliberately revitalize traditions of metalworking artistry based on trusted educational institutions, including Krasnosel'skaya trade school [10, p. 45].

A crucial milestone was the establishment of the Moscow school of artistic crafts in 1938 [8]. The school's curricula focused on the stylistics and traditions of folk decorative-applied arts [5, p. 5].

The educational institution developed an efficient phased training system in design: at the introductory level, courses such as “Composition”, “Technical drawing” and “Modeling” provided foundational insights into form and volume; at the advanced level, students delved into jewelry technologies and structures, mastering techniques essential for bringing design concepts to life [7, p. 12]. Analysis of the Moscow school of artistic crafts' operations underscored the

necessity of defining design as a specialized core discipline for creating highly artistic products.

Following Great Patriotic war, in the 1950s, the challenge was articulated to elevate jewelry art to a qualitatively new level [9, p. 161], significantly influencing the content of design training. This effort benefited from three factors:

- expansion and technological refurbishment of production capacities, necessitating the ability to integrate traditional manual techniques with new machine-driven processes. This gave rise to a new position – chief artist responsible for guiding enterprise-level design policies [14];
- restoration and expansion of intermediate-level specialized educational institutions, reinforcing a training model structured around progressive enhancement of design challenges [15, p. 25];
- shifts in artistic orientations culminating in the formation of two dominant design streams – “Nature style” and “Design style”.

Between the 1950s and 1970s, the predominant direction in jewelry art was the “Nature style” [11], characterized by: use of natural semi-precious minerals; soft, flowing lines and streamlined forms; simplicity and ergonomic appeal; development of pieces inspired by natural, botanical and animalistic motifs. An integral aspect of updating jewelry-making processes was collaborative comprehensive design undertaken jointly by artists and technicians. Notable contributors to establishing this movement include Yu.I. Paas-Alexandrova, L.A. Vakhrushin, L.V. Sitnikov, et al. [9]. An illustrative example of this approach is the parure (bracelet, ring, earrings) (Fig. 2<sup>17</sup>) designed by L.A. Vakhrushin, where stylistic unity was achieved through openwork filigree and granulation unified by a common ornamental composition.



Fig. 2. L.A. Vakhrushin.  
Parure (bracelet, ring, earrings).  
1973. Silver. Collection of the State  
historical museum (Moscow)

Gradually, design became a domain of synthesis involving diverse forms of applied art, evidenced by works that seamlessly combined jewelry filigree with inserts of lacquer miniature paintings, papermâché or ceramics. For instance, jewelry

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<sup>17</sup> Fig. 2. Russian jewelry artworks of the 16th–20th centuries: from the collection of the Lenin Order State historical museum / G. Medvedeva, N. Platonova, M. Postnikova-Loseva, et al. – Moscow : Soviet artist, 1987. – P. 258.

pieces by artists such as N.L. Gattenberger, R.A. Smirnova and L.V. Sitnikova demonstrate this integrative approach (Fig. 3<sup>18</sup>).



Fig. 3. L.V. Sitnikova,  
R.A. Smirnova.  
Set (bangle, brooch).  
Theme: “Red Bird”.1977. Papermâché  
(lacquer miniature painting).  
Copper, filigree, oxidation.  
All-Russian creative public organization  
“Union of artists of Russia” (Moscow)

By the 1970s, stylistic reference points in jewelry design began to evolve. Efforts by Yu. I. Paas-Alexandrova, advocating for recognition of jewelry pieces as complete artistic statements, catalyzed the emergence of a new artistic direction termed “Design style” (1970s–1990s). Design in this vein was marked by the following innovations:

- utilization of non-precious and unconventional materials: aluminum, titanium, polymers, feathers, ceramics, pressed paper, etc.;
- aspiration for expressive geometric forms, symmetrical or asymmetrical compositions;
- reflection of contemporary cultural and social challenges in themes and project titles.

These changes necessitated modernization of the design approach in educational processes. The new-generation jewelry artist needed not only technical skills but also advanced conceptual thinking and capability for unorthodox design ideation.

The ultimate stage of design modernization during this period was the adoption of digital technologies. It's worth noting that in the 1980s, the USSR conducted preliminary experimental research in computer-aided design, primarily associated with mechanical engineering and military-industrial applications [1]. In jewelry art, three-dimensional computer modeling started gaining traction only in the mid-2000s. By 2004, St. Petersburg's Alpha jewelry factory pioneered the application of ArtCAM JewelSmith software for designing jewelry pieces. By 2009, the company had accumulated experience working with digital technologies, allowing a reimagining of the entire design-development process: from sketch to three-dimensional model and finally to finished product [6]. Throughout the 2010s, 3D-modeling became widely adopted both in production and professional training systems for jewelry designers: specialized laboratories were established (for

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<sup>18</sup> Fig. 3. Perfilieva I.Yu. Russian jewelry art of the 20th century in the context of European artistic trends. 1920–2000 / I.Yu. Perfilieva. – Moscow : Progress-Tradition, 2016. – P. 542. – ISBN 978-5-89826-472-7.

instance, at Yakutsk industrial college in 2016) [4], textbooks and educational programs on computer-assisted jewelry design were developed [12].

New technologies disproved the stereotype of generic mass-produced goods, demonstrating the feasibility of creating exclusive pieces based on digital design [13]. Exemplifying this is the brooch “Shadows” by V.M. Khramtsova and the object-brooch by G.G. Lentsov (Fig. 5<sup>19</sup>), where the integrity of construction, precision of lines and concise composition stem directly from computer (digital) design. Effective utilization of these new tools required jewelry makers to possess volumetric-spatial visualization, engineering-design abilities and profound understanding of the technological process behind creating the artwork.



Fig. 5. G.G. Lentsov.  
Object-brooch. 1984-1985.  
Nickel silver, silver, silicon, optical  
glass, hot jewelry enamel.  
Property of the artist (Moscow)

Throughout the 20th century, design in Russian jewelry art underwent evolutionary progression – from utility-focused, industrially-standardized construction to independent artistic-compositional activity, blending traditional techniques, forms and ornamentation with novelties introduced by contemporary artistic movements (notably, the “Design style”). By the close of this period, design firmly established itself as a critical component of professional training, demanding not only exceptional skill proficiency but also advanced conceptual and volumetric-spatial thinking from jewelry artists. Ultimately, design became the subject matter ensuring the transition from craftsman to jewelry artist, setting the trajectory for continued advancement in jewelry art.

### *III. Late 20th – early 21st century*

This period signifies a transformative moment in the evolution of design within jewelry art, prompted by alterations in socioeconomic conditions. Following the dissolution of the USSR and subsequent crisis affecting traditional art crafts, the established system of state commissions collapsed, introducing new challenges for design. Commercialization and free-market dynamics required jewelry artists not only to excel in craftsmanship but also to generate insightful, conceptually sound projects harmonizing their creative visions with prevailing artistic tendencies. This redefined the role of design: moving from auxiliary task to foundational professional

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<sup>19</sup> Fig. 5. Perfilieva I.Yu. Russian jewelry art of the 20th century in the context of European artistic trends. 1920–2000 / I.Yu. Perfilieva. – Moscow : Progress-Tradition, 2016. – P. 557. – ISBN 978-5-89826-472-7.

activity bridging creative intention, technological capabilities and awareness of market realities.

In response to the systemic crisis precipitated by sociopolitical transformations, there arose a pressing need to educate versatile specialists capable of designing objects balancing artistic merit and commercial desirability. This imperative formed the backbone of the educational model implemented at the Higher school of folk arts, inaugurated in St. Petersburg in 2003. Its establishment would have been impossible without inheriting the pedagogical legacy of the Moscow school of artistic crafts, where, since the latter half of the 20th century, a phased instructional system for design had taken root, mirroring the evolution of design methodologies (table).

Table

Evolution of approaches to design in the learning process

| <i><b>Period</b></i> | <i><b>Distinct features of design practices</b></i>                                                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Post-war years       | Development of basic design skills acquired through learning craft techniques (jewelry methods and technologies)                                                                    |
| 1950s – 1960s        | Design based on study and creative interpretation of museum art samples. Emergence of “Natural style”                                                                               |
| 1970s                | Creation of jewelry items using non-precious alloys. Incorporation of unconventional materials in design, exploration of novel compositional solutions. Formation of “Design style” |
| 1990s                | Development of original projects and creation of educational programs integrating traditions and innovations in jewelry art                                                         |

Contemporary understanding of design in jewelry art extends beyond technological innovations, emerging as a cornerstone for cultivating a design culture that merges artistic vision, technical proficiency and capacity for conceptual algorithmic design. Active utilization of three-dimensional modeling in jewelry art substantially broadened compositional and constructive design opportunities, altering the very approach to product development: from linear drawing to volumetric-space modeling, enabling a comprehensive preview of the future piece from multiple angles, assessing its ergonomics and manufacturability [6, 14]. To date, digital technologies have become an indispensable component of professional training for jewelry artists.

Thus arises the necessity for scientific validation of updated structures and contents in design education, aimed at equipping aspiring jewelry artists with the experience of staged project execution – from formulating an artistic concept to potential technological realization. The design process follows a sequential series of steps:

- developing an artistic idea accompanied by association maps and closure diagrams;
- creating an original composition;
- producing a technical mock-up and drawing;
- finalizing the project format and completing a demonstration sheet (reflecting the uniqueness of the developed artistic project).

These stages constitute the core of design culture, integrating creative and technological dimensions of a jewelry artist's work.

The cumulative and systematized experience of the Moscow school of artistic crafts was inherited and expanded upon by the Higher school of folk arts, becoming the foundation of a unique educational model constructed on the principle of continuous professional training (until 2012: college-specialization, afterwards: college-bachelor's degree-master's degree) [3]. In this system, design holds a leading position and is mastered across all levels of education following a gradual increase in complexity: from creating simple ornamental compositions to designing elaborate custom-made sets of jewelry. The learning process integrates theoretical knowledge (composition, color theory) with practical skills, fostering an understanding among future jewelry artists that technology and construction are intrinsic components of design culture.

Therefore, by the dawn of the 21st century, design had consolidated its position as the foundational discipline in professional training, integrating artistic traditions, technological innovations and conceptual thinking. The educational objective centers on cultivating specialists capable of designing jewelry pieces – from inception to material embodiment – in alignment with contemporary challenges and fashion trends, utilizing relevant materials and cutting-edge technologies. Training relies on available resources and core competencies acquired through the study of profile-related technical subjects. Having traversed the path from craft-based experiential transmission to sophisticated academic discipline, design has become the cornerstone for training highly qualified, versatile jewelry artists.

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