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The historical and pedagogical aspects of design education within the system of professional training for jewelry artists

Abstract. The article is devoted to studying the place and role of design as an integral part of professional training for jewelry artists. The genesis of this field's development from its inception up until the twentieth century is examined. The study explores the peculiarities of the evolution of jewelry art, highlighting the influence of cultural, social, and technological factors on the formation of styles and techniques used in creating jewelry pieces. Special emphasis is placed on key aspects such as the system of education in jewelry-making and the content of design within personnel training in this domain. The works of prominent jewelry artists are analyzed along with their contributions to the advancement of the art form. The impact of current trends on designing jewelry items is also explored. Compositional, technological, and color solutions employed in various jewelry designs have been investigated, alongside different artistic movements within the broader context of fine arts.

Keywords: jewelry art, jewelry design, composition, project, jewelry.

Design plays a pivotal role in the professional training of jewelers because it provides the foundation for transforming creative ideas into unique products. Knowledge of design fundamentals helps students develop skills essential for crafting harmonious and aesthetically pleasing jewelry, as well as making informed decisions about materials and technologies. Design in jewelry art promotes integration between theoretical knowledge and practical skills, fostering systematic thinking necessary for effectively addressing complex challenges in the field of jewelry creation.

In the curriculum of jewelry art education, design is an indispensable component that necessitates the development of modern educational programs for effective learning. This requirement underscores the need to investigate the historical origins of design, understand its relevance in previous eras, and analyze how these insights can inform contemporary teaching practices. Creating innovative curricula that address today's challenges requires a thorough understanding of the discipline's evolution within the framework of professional training systems.

Jewelry art has a long history of development. Its roots lie in the production of simple personal items made from organic materials—bone, mother-of-pearl, coral, wood—which were primarily used as cult religious attributes. Later, jewelry went beyond functional purposes and began to be perceived as symbols of status, wealth, and power [4]. These adornments defined the significance of the owner, indicating his affiliation with a particular social group and location.

The level of development of jewelry craftsmanship in ancient Russia is evidenced by numerous archaeological finds: ancient burial mounds known as “kurgany”, where preserved jewelry has been discovered [14]. For instance, in 1876, a hoard of colts dating back to the twelfth to early thirteenth centuries was discovered near Terekhovo village in Orel governorate. These massive five-pointed stars were densely covered with thousands of tiny metal beads fused onto them [17]. In 1887, another hoard of eleventh-to-twelfth-century jewelry was found on the territory of Mikhailovsky Zlatoverkhiy monastery (Fig.1⁷²) – a pair of gold colts decorated with river pearls and images of fantastic birds with female heads [5], bracelets, earrings called “kolochy,” rings, etc.

Over time, the value and importance of jewelry both in Russia and Europe came to depend not only on the material worth of the metals and stones but above all on the skill and originality of the master who created each unique piece, as well as the distinctive style and creativity embodied in the work. This understanding of the essence of jewelry art implies the development of conceptual foundations for creating jewelry as works of art, utilizing diverse techniques and specialized methods of manual or machine-made production, employing traditional and non-traditional materials. Consequently, design and modeling play a significant role in educating future jewelry artists.



Fig. 1. Jewelry from the hoard of Mikhailovsky Zlatoverkhiy monastery in Kyiv. Silver, gold, iron, enamel, fabric. 12th – early 13th century. State historical museum (Moscow)

Throughout the history of jewelry art, forms of education have evolved over time. According to I.I. Kurakina, there are three main forms of knowledge transmission: *family-based education* (up to the 15th century), *apprenticeships in guild workshops* (from late 15th to early 18th century), and *state-sponsored specialized schools* (from early 18th to early 20th century) [7].

The first form of education predominantly took place within families, where the craft was passed down through generations. It involved transferring knowledge and accumulated experience by explaining and demonstrating jewelry operations

⁷² Fig. 1. Hoard from Mikhailovsky Zlatoverkhiy monastery in Kyiv. – Electronic text / State historical museum website. – URL: <https://nav.shm.ru/exhibits/610/> (accessed March 30, 2025).

and techniques to children or apprentices, who then repeated these actions until they became automatic. A positive aspect of such an educational form was the transmission of family professional secrets, skills, and traditions in applying jewelry techniques during the production process, which contributed to the formation of dynasties of craftsmen. A vivid example of preserved family-based learning is represented by Kubachi village, where traditional artisanal activity involves manufacturing jewelry using artistic repoussé work, filigree, engraving with or without niellage on silver. (Fig. 2⁷³).

The second form, according to B.A. Rybakova's opinion, is associated with training jewelers outside the family [13, p. 703]. Children were apprenticed to master jewelers to learn various metalworking and mineral processing techniques used in jewelry making.



Fig. 2. Kishev A.,
Pepperpot "Muchal."
1937. Silver, repoussé
work, confarance
technique, engraving,
gold plating, niellation.
Private collection

The third form laid the foundation for a systematic, step-by-step, and structured pedagogical approach – professional education in jewellery arts. Changes in the system of specialists' training were caused by the necessity to create high-quality artistic jewelry pieces produced both manually and through the use of machinery and equipment. Jewelry art objects created had to primarily meet the needs of the imperial court, "...being luxury items included in palace interiors, thus rendering them socially conditioned" [15, p. 21].

One prominent example of an educational institution that implemented a structured and professional teaching approach was the workshops of the Armory Chamber of the Moscow Kremlin (established at the end of the XVII–beginning of the XVIII century). This educational institution was unique because it focused on preparing jewelers with emphasis on designing jewelry pieces. During this period, jewelry art ceased to be regarded as merely a craft and became classified among fine arts, since a distinction emerged and there appeared a "certain gap" between the design of an object and its artistic execution [15, p. 23]. Jewelry art was taught not only by domestic masters (G. Ovdokimov, I. Popov, D. Osipov), but also by invited foreign ones (G. Yakub, D. Vukhters, S. Loputsky) [3]. Their task was to "not only teach how to cut, carve and polish stones, but also ignite creativity and teach creating beautiful jewelry pieces" [9, p. 31].

Training was conducted based on programs that encompassed fundamentals of jewelry-making and metalwork (sawing, grinding, polishing, etc.), mastery of jewelry techniques (hot enameling, finift – artistic painting on fired enamel, filigree,

⁷³ Fig. 2. Kubachi at the Paris exhibition of 1937. – Electronic text // Journal "Antikvariat, predmety iskusstva i kollekcionirovaniya" ["Antiques, art objects and collectibles"], No. 36 (April 2006), p. 52. – URL: <https://antiqueland.ru/articles/1139/> (accessed April 15, 2025).

artistic repoussé work, metal blackening, etc.) [8, p. 75], study of metals (alloys) and minerals, as well as specifics of working with materials utilized in jewelry art (gold, silver, precious, semi-precious and decorative stones). Among theoretical subjects, one can include the history of jewelry-making. To acquire jewelry-making skills, students executed copies of existing works, and upon improving their skill level, they progressed to creating original pieces under the guidance of experienced masters.

It should be particularly noted that it was precisely then when *the subject of design was first introduced into the curriculum*. Developing (designing and producing) jewelry fostered creative abilities among pupils. The introduction of design studies at the school within the Armory Chamber of the Moscow Kremlin set a new trajectory for the development of this type of art aimed at ensuring the creation of highly artistic jewelry specimens.

Students' acquisition of basic design principles involved not only gaining experience and skills in working with metals and minerals, but also developing the ability to conceive ideas for future products, integrating theoretical knowledge with professional expertise. As an example, we can consider jewelry from the collection of P.I. Shchukin. A brooch made of gold and silver, decorated with precious and semiprecious gemstones (emeralds, diamonds, turquoise) and adorned with a decorative bow, features a complex floral bouquet shape with curved stems and blooming flowers (Fig. 3⁷⁴). Complex mountings and diverse methods of inlaying (thread mounting, closed setting, prong setting) were employed in its creation. The piece is executed in the baroque style, emphasizing dynamism and abundance of floral forms. The author undoubtedly paid significant attention to design, aiming to create a volumetric product reflecting the beauty and diversity of nature.

Significant attention was given to the jewelry workshops attached to the Armory Chamber and the trade school, with the tsar personally overseeing the work processes and training. He could monitor student progress and familiarize himself with their work, including sketches, drawings and finished jewelry pieces [1].

Peter I actively pursued the policy of Europeanization of Russia, which affected people's daily life. He introduced European styles in clothing, accessories, hairstyles, as well as new words, including the term "fashion". This concept spread across all spheres of life, including jewelry-making.



Fig. 3. Brooch-Bouquet.
Gold, silver, diamonds, emeralds,
glass. Mid-eighteenth century.
From the collection of the State
historical museum (Moscow).

⁷⁴ Fig. 3. Russian jewelry ornaments of the 16th-20th centuries: from the collection of the Lenin Order State historical museum / G. Medvedeva, N. Platonova, M. Postnikova-Loseva et al.; Scientific editor: M.M. Postnikova-Loseva. – Moscow: soviet artist, 1987. – p. 87. – Text: direct.

Jewelers created jewelry for people of all social strata. For less affluent citizens, decorations were made from non-precious materials, yet the artistic execution, compositional solution and style remained at the highest artistic level, matching those made from precious metals and gems intended for nobility.

In the course of training in jewelry techniques and technologies, particular emphasis was placed on achieving results in artistic (design) activities, manifested in the complexity of ornamental compositions and shapes of artifacts, as well as the use of different complementary techniques.

The emergence of new mechanisms and tools improved the process of creating jewelry, influencing design solutions based on traditional and contemporary technologies of that time.

In the second half of the eighteenth century, the pace of jewelry production increased due to the growth and modernization of manufactories [12, p. 62], supported by the state, according to N.A. Koveshnikova's view [6, p. 48]. The appearance of machines and new technologies in jewelry-making contributed to refining design solutions. For instance, steam-powered machines for cutting minerals enabled more expressive forms, necessitating the development of new settings to highlight the beauty of stones in jewelry.

At the end of the eighteenth century, a national jewelry school began to take shape, successfully assimilating the Europeans' secrets of craftsmanship. This led to the advancement of jewelry artistry to a new level, evident in improvements both in technical execution and design. Interest in national traditions was prominently reflected in ornaments and artistic motifs found in portrait brooches with enameled inserts, silver belts and buckles, golden and silver buttons, as well as pearl-inlaid jewelry [11, p. 74]. From the late seventeenth century onwards, elements of Baroque and Rococo began to infiltrate Russian jewelry art, elegantly blending with traditional motifs and organically incorporating national stylistics with fashionable European stylistic features.

In the eighteenth century, the national flavor in jewelry works becomes most distinctly pronounced. Masters of gold-silver art clearly demonstrate it in works made of precious metals: services, vases, cups. As an illustration, one can mention the exquisitely crafted silver service (with gilding) created by the masters of the Sazikov firm (Fig. 4⁷⁵), showcasing a high degree of both artistic conception and technical execution.

Another important feature confirming the growing significance of design in jewelry art is the emergence of thematic composition and narrative in works, influenced by the Baroque style. Narrative in jewelry design plays a crucial role in revealing the artistic image, imbuing the item with uniqueness, conceptual depth and high aesthetic value through the use of symbols.

⁷⁵ Fig. 4. "Russian Benvenuto Cellini" // "Russian Benvenuto Cellini". – Electronic text // ANTIQUELAND: [website]. – URL: <https://antiqueland.ru/articles/298/> (accessed April 20, 2025).



Fig. 4. Service of grand duke Konstantin Nikolayevich. F.G. Solntsev. Firm "Sazikov". 1848. Fabergé Museum (Saint Petersburg)

An example of jewelry art can be seen in a highly artistic piece – a wine vase (Fig. 5⁷⁶), executed in the tradition of the Baroque style, featuring a multiframe composition. The vase is made of silver using casting, chasing, and texture-imparting techniques. The main themes discernible in the piece—joyfulness, playfulness, and wine—are emphasized by elements such as grapevines and clusters of grapes, Bacchus mascarons, and the base of the vase shaped like cloven hooves, putti figures holding wine glasses, characteristic Baroque plant ornaments with birds and a cartouche on the body of the vase.



Fig. 5. Wine vase. Silver, casting, chasing. Second half of the eighteenth century. Collection of the State Hermitage museum (St. Petersburg)

A notable representative of Russian jewelry art was P.F. Sazikov, who founded a manufactory, factory and school in 1793. He is considered the founder of the Russian style in jewelry art, as he created pieces utilizing national traditional motifs. Although there are no direct accounts of specialized instruction in design at

⁷⁶ Fig. 5. Masterpieces of the Sazikov firm, hallmarks of Russian silver. – Electronic text // Antique shop ANTIQUEZONE: [website]. – URL: <https://antikzone.ru/antique-russia-silver-trade-marks-09> (accessed April 18, 2025).

his school, analysis of his works indicates a high standard of preparation, necessarily involving knowledge of design basics, without which the creation of such masterpieces would have been impossible.

Nineteenth-century jewelry art is characterized by large factories equipped with modern machinery, employing numerous masters and apprentices trained in various specialties, such as design, artistic casting, embossing and engraving. One of the key characteristics of the early nineteenth century was a process initiated towards the end of the eighteenth century—the displacement of foreign jewelers and their replacement by Russian masters. "Serious training, i.e., schooling, and established traditions carried forward throughout the entire nineteenth century" [12, p. 29]. During this period, there was a decline in the creation of highly artistic jewelry pieces produced by guilds and private jewelers, unable to compete with factory-made goods manufactured using advanced equipment. Primarily, these craftsmen engaged in repairing jewelry and utilitarian objects. The jewelry "craft" continued to exist, but its primary output consisted of simple items. All-Russia and international exhibitions, starting with the first one held in St. Petersburg in 1829, served as powerful stimuli for development, influencing fashion trends in jewelry-making.

In the second half of the nineteenth century, the Russian Empire underwent a technological and cultural upsurge. In jewelry art, this manifested itself in a significantly expanded range of jewelry and utilitarian items, requiring greater focus on acquiring the secrets and subtleties of design, leading to the organization of specialized training and labor in factories.

Manufacturers of the second half of the nineteenth century, such as firms like K. Faberge, P. Ovchinnikov, I. Khlebnikov and Grachyov brothers, were equipped with state-of-the-art technology "...new mechanical equipment" [10] and staffed with masters of various specializations. Each factory had classrooms dedicated to drawing and design classes, where students primarily practiced copying tasks (copying and studying) [1, p. 17]. For example, Faberge's company produced series of jewelry items (fireplace clocks, Easter egg gifts, sets, etc.).

One iconic piece of jewelry art is considered to be the Easter gift egg known as "Chicken" (Fig. 6⁷⁷). This original "matryoshka" style piece "unveiled the famous series of fifty Imperial Easter eggs" [16], created in 1885 from gold, hot - enamelled,



Fig. 6. Easter egg gift – Chicken. Gold, hot enamel, rubies, chamois leather.
1885. Fabergé Museum
(Saint Petersburg)

⁷⁷ Fig. 6. Masterpieces of the collection: Easter egg "Chicken." – Electronic text. // Fabergé Museum: website. – URL: <https://fabergemuseum.ru/kollekczi/shedevryi-kollekczii/> (accessed April 20, 2025).

rubies and chamois leather. The commission for creating a similar gift to Wilhelmine's egg, originally made in France in the early eighteenth century and belonging to Denmark's royal family, came from the imperial court [16].

Carrying out the imperial order, Fabergé created an elegant interpretation of an antique piece—an Easter egg called "Chicken." In conceiving the artistic solution, the designer omitted many details (polychrome enamel, painting, stone inlay, etc.). The result was a simpler yet expressive and harmonious form for each element. White enamel mimics the shell, while the yolk is rendered in glossy polished gold. Inside, there is a small chicken figure cast from differently colored gold alloys, originally containing a tiny diamond crown pendant (now lost).

According to E.V. Efremov, "work in factories producing gold and silver items played a vital role for trainee jewelers" [2, p. 24]. They acquired a broad spectrum of knowledge and skills in producing jewelry of varying complexity, enhancing their technical and creative capabilities. This formed their understanding of technological and technical aspects of production, essential for design.



Fig. 7. Punch bowl set. Silver, hot-painted enamel. 1894. I. Khlebnikov firm (Moscow)

The nineteenth century marked a significant stage in the evolution of design in jewelry art, introducing new trends and infusing national character into developed jewelry pieces. Jewelry artists incorporated national motifs into forms, compositions, ornaments and color schemes. An example reflecting current trends is a punch bowl set (Fig. 7⁷⁸), created by the firm of I. Khlebnikov, made of gilded silver with cloisonné hot-painted enamel, restrained in saturation but harmoniously balanced in color palette, and landscape inserts executed in the technique of finift. Four plaques are inset into a chalice of Baroque type, featuring a complex silhouette. The plaques depict iconic structures of Moscow: Kremlin, Saint Basil's cathedral, and the

monument to Minin and Pozharsky. The drinking vessels share a simplified but similar form to the punsch bowl. Handles are designed in the shape of mythological birds. All items in the set feature characteristic national floral motifs and lettered borders in the style of Old Russian script. Artistic movements such as Classicism and Art Nouveau contributed to the diversity of stylistic solutions and expanded the range of products in art. The complexity of artistic images and the use of modern technologies led to the modernization of production processes, which increased the importance of design and craftsmanship in professional training. In education,

⁷⁸ Fig. 7. A silver-gilt and cloisonné enamel punch bowl set, Ivan Khlebnikov, Moscow, 1894. – Electronic text // Sothebys: website – URL: <https://ru.pinterest.com/pin/596656650603076599/> (accessed April 17, 2025).

emphasis was placed on specialized training for professionals studying technological operations and artistic design. In educational institutions, renowned sculptors, artists and masters of decorative arts continued to play a significant role by helping students develop a deep understanding of the essence of design.

Thus, by the beginning of the twentieth century, jewelry art reaches a qualitatively new level of development. Knowledge of design fundamentals is crucial in creating works of art. This enables jewelers not only to elaborate their artistic ideas in detail but also to thoroughly work out the technical aspects of their creations. Collaboration with sculptors, painters, architects, as well as modern machinery and advanced jewelry techniques and technologies played an important role in this process.

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