

Creative Nail Sculpting as the Future of Competitive Nail Art

Kits Nataliaia

Vancouver, WA, USA

Email: nataliakits[at]gmail.com

Abstract: *Against the backdrop of the rapid expansion of the global nail service market, estimated at 23.6 billion US dollars in 2024, nail art exhibits a qualitative evolution: from a utilitarian service to a technology-intensive competitive practice. The study is oriented toward identifying a paradigmatic shift toward complex creative modeling as a key marker of contemporary competitive nail art. Methodologically, the work relies on a mixed-methods design: a systematized literature review on the sociology of aesthetic labor, a content analysis of the regulations and judging criteria of leading international championships (Nailympia, Nailpro), and a case study of the author's pedagogical model based on original three-dimensional modeling techniques (Quilling, Vitral, 3D Sculpting). The data obtained indicate that mastery of advanced sculptural techniques, integrated into a coherent pedagogical strategy, is the decisive factor for success on the international stage. It is concluded that the trajectory of competitive nail art is determined by a synthesis of artistic virtuosity, innovative materials, and structured educational methodologies, forming a new professional archetype of the practitioner—artist-technologist-educator. The article is addressed to professionals in the nail service industry, championship organizers, educational program developers, and researchers of the sociology of professions and aesthetic labor.*

Keywords: creative modeling, competitive nail art, 3D nail modeling, pedagogy in nail art, international championships, quilling technique, vitral technique, professionalization of craft, aesthetic labor, judging criteria.

1. Introduction

The global nail aesthetics sector exhibits a stable and pronounced upward trajectory. According to analytical reports, the size of the global nail products market in 2024 reached USD 23,6 billion, and the projected compound annual growth rate (CAGR) through 2034 is estimated at 5,2% [1]. This trajectory is supported not only by quantitative expansion of consumption but also by qualitative shifts: increased attention to individualized care practices; the strengthening influence of social media, where nail art occupies a position as one of the most engaging visual categories; and the transformation of nails into a fully fledged medium of self-expression [2, 27].

Market analysis identifies a key regularity — a divergence in growth rates between the mass and professional segments. Whereas the aggregate market, including do-it-yourself (DIY) products, maintains stability at about 5% [1], professional salon services exhibit substantially higher momentum with a projected CAGR in the range of 7,9–9,6% [6]. This divergence indicates a shift of the primary driver of value creation toward high-technology, comprehensive services that are fundamentally non-replicable in home settings. Creative modeling belongs to this category and constitutes the subject of the present study.

Despite the cultural and economic significance of the phenomenon, its academic conceptualization remains fragmentary. Existing studies are predominantly focused on the historical perspective [3], as well as on sociological and anthropological interpretations of nail art as a practice of gender identity, cultural self-expression, and aesthetic labor [3, 4]. At the same time, a substantial scholarly gap persists: there is no systematic analysis of the processes of the professionalization of nail art as a competitive artistic discipline; in particular, advanced sculptural techniques and the corresponding pedagogical models that determine the

training of world-class masters and the judging standards at international championships remain unexamined.

The aim of the study is to analyze the paradigmatic shift toward complex three-dimensional creative modeling as the dominant trend in contemporary competitive nail art.

The scientific novelty lies in the systematic consideration of authorial sculptural techniques in nail art as the methodological core of an effective pedagogical model oriented toward the training of champions of international competitions.

The author's hypothesis asserts that the mastery of advanced sculptural techniques, integrated into a strictly structured pedagogical system, functions as the key determinant of success at international championships and, consequently, sets the vector for the development of the profession.

2. Materials and Methods

To achieve the research objective and test the proposed hypothesis, a qualitative mixed methodology was employed, integrating three complementary approaches.

First, a systematic literature review was conducted: a corpus of peer-reviewed works from the Scopus and Web of Science databases devoted to the concepts of aesthetic labor, the sociology of beauty, and the processes of professionalization of craft industries was analyzed. This stage made it possible to construct the theoretical framework of the study and situate nail art within an expanded academic context.

Second, a comparative content analysis was applied. The objects of examination were the official regulations, participation rules, and judging criteria of leading international nail art championships, primarily Nailympia and Nailpro. During the analysis, institutional standards of

craftsmanship and requirements for execution technique, originality, and degree of complexity were codified and systematized, which enabled an objective assessment of the skills and competencies demanded at the highest competitive level.

Third, the central methodological component was a case study analysis based on primary materials in the field of creative modeling.

3. Results and Discussion

Historically, the work of the nail service professional was placed in the category of aesthetic labor — practices of managing the client's appearance in accordance with normative codes of beauty [9]. At present, however, the industry demonstrates a shift from a purely service logic to the recognition of nail art as an autonomous artistic field. A decisive role in this paradigm shift is played by international championships that perform institutional functions of

legitimizing and standardizing the highest level of mastery.

The platforms Nailympia and Nailpro shape a global competitive infrastructure within which professional growth receives a formalized trajectory. The introduction of transparent divisions: Novice, Apprentice, Master/Veteran, establishes a predictable career ladder and stimulates the continuous complication of skills [21]. The stringency of the regulations and the detailed judging criteria not only codify norms but also raise the threshold of the craft: evaluation extends beyond simple aesthetic attractiveness and focuses on technical complexity, structural integrity, originality, and the wow effect, that is, the capacity of a work to produce a strong impression [17]. Thus, the competitive scene becomes a key catalyst for innovation, shifting the emphasis from routine salon procedures to the creation of unique, complex, and artistically significant works.

Below, Table 1 will present a comparative analysis of the characteristics of the leading international nail art championships.

Table 1: Comparative analysis of leading international nail art championships (compiled by the author based on [16, 19, 20, 21, 24]).

Criterion	Nailympia	Nailpro
Organizational philosophy	Independent competition not affiliated with brands, with an emphasis on impartial judging and global standards. The aim is to identify and reward the highest level of skill and creativity.	Competitions with a long history oriented toward industry professionals. Emphasis on a variety of categories that allow the demonstration of both salon and creative skills.
Key sculptural/creative categories	• Stiletto Nails (Stiletto) • The Joy of Nails (Joy of Nails) • Mixed Media (Mixed media) • Fantasy Nail Art (Fantasy design)	• Extreme Stiletto Design (Extreme stiletto design) • 3D Nail Art (3D nail art) • French Twist (French twist) • FiveStyle Sculptured Nail
Main judging criteria	Structure, complexity, wow effect, originality, technical proficiency, cleanliness of execution, adherence to the theme, overall harmony.	Structure (C-curve, arch), design complexity, balance, line cleanliness (smile line), finishing, originality, wearability (for salon categories).
Division structure	Division 1 (Novice), Division 2 (Apprentice), Division 3 (Master). Clear rules for progression between divisions based on previous wins.	Novice (Novice), Veteran (Veteran), with separation into Art and Extension categories. Advancement to Veteran after the first win in the respective category.

The central vector in the development of competitive nail art has been the shift from planar painting to three-dimensional modeling. This is not a change of fashion but a profound transformation that redefines the set of professional competencies, the properties of the materials employed, and the artistic thinking itself. The foundation for creating complex, temporally stable volumetric constructions is provided by modern polymer systems — acrylics, builder gels, sculpting gels, and polygels [25, 26]. Their rheological and mechanical properties make it possible to literally build volume on the nail plate.

In parallel, the tooling base is evolving. The emergence of specialized solutions, including signature lines of professional brushes, has become a critical prerequisite for the high precision required to execute miniature sculptural compositions.

Within this paradigm, several signature techniques stand out, demonstrating an extreme command of material and form.

3D Sculpting: a core skill involving the formation of volumetric elements — flowers, figures, abstract structures — directly on the nail from acrylic powders or high-viscosity

gels. The method requires not only artistic intuition but also competent control of polymer behavior to regulate consistency and the polymerization process [9, 20].

Quilling: adaptation of the practice of paper quilling to nail art [10, 11]. Lace-like, ultrathin patterns are created from special polymer filaments or thinly rolled gel; the elements are twisted, shaped as needed, and assembled into complex compositions on the nail, which imparts the characteristic airy texture unattainable by other approaches. At European championships the technique is valued for its elegance and novelty [8, 22, 23].

Vitral: imitation of stained glass. First, a framework of opaque material (gel or gel paint) is formed on the surface of the nail, after which its cells are filled with translucent colored gels [12, 13]. Layer-by-layer application with intermediate polymerization generates an effect of depth, inner glow, and volume, transforming the nail into a small-scale jewel-like object.

The totality of these techniques constitutes a complex competence matrix that defines the profile of the contemporary champion (Fig. 1).

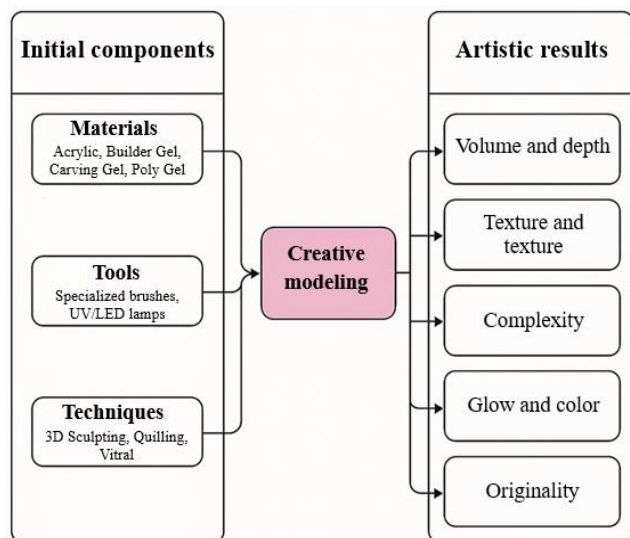


Figure 1: Conceptual model of advanced techniques of creative nail modeling (compiled by the author based on [8-13]).

The author's pedagogical model, which has ensured the success of an entire cohort of champions, functions as an integral framework that is substantially broader than the mechanical acquisition of techniques. It is based on four interrelated components:

- 1) **Technical mastery:** purposeful refinement of basic operations (setting the form, filing/finish filing, working with the material) in conjunction with in-depth mastery of advanced modeling techniques — Quilling, Vitral, 3D Sculpting. At this stage, a technological foundation is formed, without which the realization of the most ambitious creative designs is impossible.
- 2) **Creative development:** the formation of compositional thinking, color literacy, and skills in conceptual design. Learners focus not on replicating samples but on generating their own solutions, consistently building an individual authorial style.
- 3) **Competitive strategy:** the training process deliberately simulates time scarcity and a high-stress load. Targeted mastery of the regulations and scoring rubrics of specific championships makes it possible to configure the design and technique to the anticipated logic of the judging panel with the aim of optimizing the score [18].
- 4) **Psychological preparation:** development of cognitive-volitional qualities critical for the high-level stage — sustained concentration, confidence in one's actions, stress resilience, and competitive motivation.

The effectiveness of the model is empirically confirmed by a direct correlation between completion of the full educational cycle and prize-winning placements of graduates in leading international competitions (Fig. 2). This demonstrates that targeted pedagogical influence is the key determinant in transforming a master into a world-class champion.

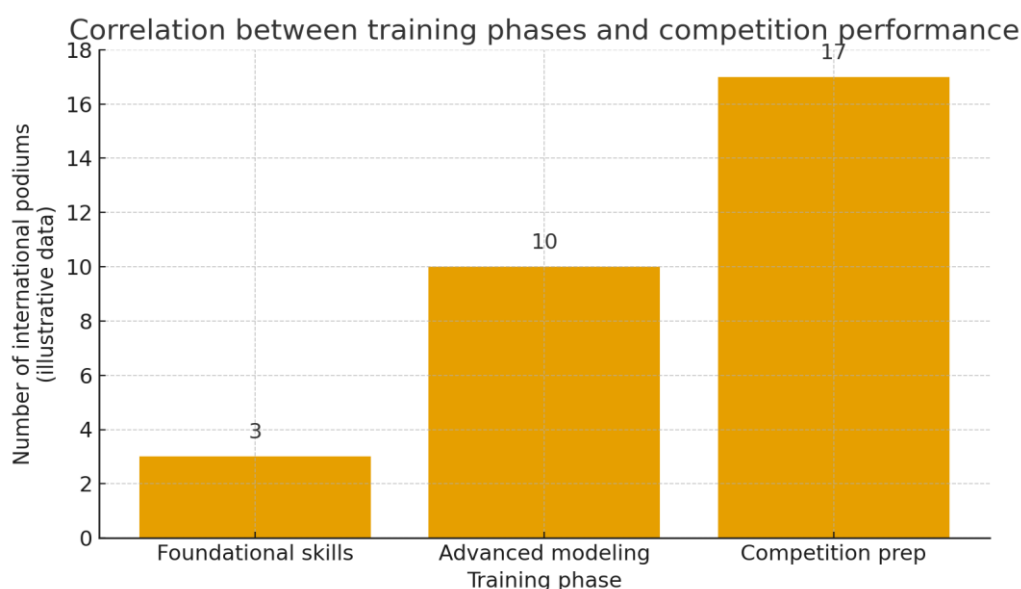


Figure 2: Illustrative diagram of the correlation between specialized training and the number of prize places in international competitions (compiled by the author based on [5, 7, 18]).

The development of creative modeling as an elite discipline highlights a set of system-forming trends and challenges that will determine the trajectory of the industry in the near term. Thus, the market exhibits a pronounced asymmetry in mastery of advanced sculptural techniques. The European school demonstrates outpacing development both in the design of complex methods and in their practical implementation, whereas in other major arenas, including the United States, adaptation proceeds with greater inertia. The resulting gap creates a window of opportunity for

international circulation of knowledge and technologies and simultaneously sets the preconditions for the transformation of these approaches into a global standard in the foreseeable future.

The increasing complexity of chemical compositions and the procedural architecture of materials drives heightened requirements for safety and biocompatibility. The risks of incorrect application or removal of coatings — onycholysis, allergic reactions, infectious complications — assume

paramount significance [8, 15]. As a result, professionalization inevitably shifts toward the inclusion of basic dermatological and anatomical modules in educational programs. The new-type practitioner is obliged to combine aesthetic impeccability with clinical precision, ensuring demonstrable safety for the client [14, 17].

The evolution of competitive nail art serves as an illustrative case of the development of artisanal practices in the 21st century. Against the backdrop of broad debate about the fate of labor under automation and AI, this industry demonstrates that technology (UV lamps, high-power manicure machines, complex gel chemistries) does not displace the practitioner but radically expands the instrumental arsenal, enabling levels of complexity and creativity previously unattainable. The core value proposition of elite nail art — a unique, personalized, handcrafted design on the client's body — is inseparable from intimate human interaction and the authorial creative process, which remain beyond the reach of AI. Thus, nail art functions as a microcosm in which traditional craft does not oppose technology but enters into productive synergy with it, forming high-value, hyper-personalized creative services.

4. Conclusion

The conducted study demonstrates that creative modeling, grounded in the use of high-technology materials and original three-dimensional methods, has become the core and leading driver of the evolution of premium competitive nail art. A comparison of the institutional weight of international championships, the increasing technological complexity of current works, and the effectiveness of formalized didactic practices makes it possible to state that a status shift has been completed: nail art has definitively moved beyond a service offering and has secured itself as an autonomous artistic-technical discipline.

The proposed hypothesis has been verified: a direct, stable, and reproducible relationship has been established between the introduction of innovative sculptural techniques (Quilling, Vitral, 3D Sculpting), the authorial pedagogical model, and the documented successes of practitioners on international platforms. Success in contemporary competitive nail art is not accidental but the regular outcome of long-term systemic preparation integrating impeccable technique, creative thinking, and strategic engagement with the logic of the competitive environment.

The practical value of the study lies in setting clear guidelines for the key actors of the field. For contestant practitioners, a sequential road map is proposed for the development of competencies necessary to attain the highest level of professional mastery. For educators and heads of training centers, a proven and effective scheme for designing educational programs. For the industry as a whole, an articulation of priority trends, skills, and standards that ensure further growth, increased prestige, and deeper professionalization of the nail service sector. The discipline's prospects are associated with a new professional archetype — a practitioner who combines the roles of artist, technologist, and educator.

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