

The Design of Cultural and Innovative Products and the Practice in Animation Teaching

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Abstract—The so-called fundamental spirits of Chinese culture substantially refer to the national spirits of China; the cultural and innovative product, as the dynamic integration of culture, creativity and commodity, fully embodies the derivation and development of cultural genes. Currently, the cultural development has become the main topic for discussion on global civilization development, and all countries are intensifying their cultural expansion. The East Asia and Europe and America all have developed successful cases of cultural and innovative products and accumulated abundant experienced, and achieved worldwide successes; while for us, how to guide students to correctly and completely understand the integration of cultural creativities and commercial products in the process of relative teaching, is an inevitable issue in the current higher education links of cultural and innovative industry development in our country, but not the only simple collage of traditional elements and products. This paper makes arrangement and conclusion on the first-tier teaching and the creative experience in cultural and innovative products, expecting to provide theoretical basis for the design and creation of cultural and innovative products.

Keywords—national spirits; cultural elements; cultural and innovative products; animation

I. INTRODUCTION

Cultural and innovative products contain the deconstruction, construction and reconstruction of modern design and traditional arts and its design core rests with the integration of full-bodied regional culture into modern design concept so as to form the ideal product designs of appearance and meaning combined in accordance with modern life and aesthetic demands. By combining with specialty of animation, those cultural and innovative elements will produce many animation images popular by masses as the animation movies are played and spread, and further the mutual effect between animation roles and cultural and innovative products is realized by such forms as costumes, articles for daily use and decorations. For example, the “Totoro” in the works *My Neighbor Totoro* of Japanese animation master Miyazaki Hayao, the image of “Mr. Black” created by the Shanghai Animation Film Studio of China, and the rabbit “Bunny” in the American cartoon *Zootopia*. Moreover, the scope of audiences for animation films is widen from low ages to all ages, which breaks through the age limit, and not only children are inclined to purchasing cultural and innovative products with animation images. The high unity of “signifier” and “signified” stated in

the theory of literature and art, means “with external representation, the composing materials becomes the ‘signifier’, and the meanings and connotation hidden behind symbols is called ‘signified’ ”¹. In modern society, we pay more attentions to the design and creation of cultural and innovative products, and in combination with teaching practice of related specialties, teachers and students should excavate jointly the spiritual connotations and be dedicated to the enhancement of visual recognition of cultural and innovative products and spiritual connotation so as to eventually fulfill the protection and inheritance of traditional culture of our country, which is extremely vital.

II. CURRENT DEVELOPMENT OF CHINESE CULTURAL AND INNOVATIVE PRODUCTS

Cultural and innovative products refer to the works with originalities or ideas from culture, which extract the cultural genes of artifacts for analysis and transformation into design essences and can be applied and expressed by products in the forms that meet modern life after creative design². Nowadays, all countries are consolidating the “soft power” construction of cultural industry, while the cultural industry is defined as “a new pattern industry engaged in the production of tangible or intangible artistic products and creative products (or services) by the development and utilization of cultural content and intellectual property³”. In our country, despite of exceedingly abundant resources and materials on cultural and innovative products, we have a late start; although cultural and innovative industrial parks have emerged in various places of our country, we have few well-known brands of cultural and innovative products and little praise from the public. Different from articles of amusement, cultural and innovative products are developed after the spiritual civilization surpassing material needs in modern society, for the interpretation and reconstruction of semiotic meanings, aesthetic characteristics, humanistic spirits and cultural elements of original arts.

A. The Characteristics and Indication of Chinese Cultural Products

The representatives of domestic cultural and innovative products include: articles of daily use, electronics and the “scholar's four jewels” (writing brush, ink stick, ink slab and paper) exhibited in the Palace Museum, which are rich in royal features in the Ming and Qing Dynasties; the cultural and

innovative products in the Palace Museum are the series of decorations, gifts, articles of daily use that are made with herbariums as the basic elements; while the cultural and innovative products of National Taiwan Museum highlight the harmonious combination of symbols and modern design and integrate the significance and implication to demonstrate the ingenious conceptions in character design. However, there are some rough imitations in the current market, but not forming an individual style.

The rapid development of contemporary network attracts various media to attach much attention to web reviews, and the shopping experience of customers in B2C e-commerce platform is also an important reference and consideration for the development and sales effect of cultural and innovative products. With the voting results of “the Top 10 Popular Cultural and Innovative Products of China⁴” as example, the waistbands, court beads and waist ornaments used for emperors are ranked top three among the museum exhibits, and as the drama in royal palace of the Qing Dynasty is in vogue, these three products have monarch’s domination and humor, integrate knowledge of cultural relics and fashionable life, gain the favor of numerous customers and create unprecedented commercial interests; meanwhile, it not only attracts the emphasis of audiences on the cultural and innovative products but gives consideration of the diffusion of traditional royal court culture. Such design of “isomorphism” products, which are constructed by advantage of the symbolization of cultural elements and intrinsic product characteristics, is sufficient to guide the aesthetic taste of customers.

B. Styling Features of Domestic Cultural and Innovative Products

When the elements full of unique regional and folk cultural styles are presented by the design of cultural and innovative products, the diffusion and inheritance of cultural connotation is realized ultimately. Additionally, the design and creation of cultural and innovative products depends on the designers’ understanding for the cultural connotation and creativities, and it is one of the significant indexes for appraising the cultural and innovative products to realize the modern evolution of cultural genes and make irreplaceable inventiveness. Current product design pursues more than practicality and lays emphasis on aesthetic demand and humanistic care, so the product design of styling features requires a consideration of ergonomics, and from the perspective of social development, this is a symbol of living standard and quality improvement and also a reflection of the progressive social civilization⁵.

C. Folk Culture in Domestic Cultural and Innovative Products

The design of cultural and innovative products is a synthetic art inseparable from folk belief system, and “such countless and diversified expressions, are not be shown by images of human, but by applying the emblems signified by various kinds of images⁶”. In other words, those exquisite, delicate and personated, humorous, thought-provoking, extraordinary refined and still improved cultural and innovative products, with profound meaning, have a

combination with folk culture, which is not a simple collage of the elements of legends, landscape, traditional Chinese operas, Spring Festival pictures, clay sculptures and shadow puppets etc., but is really blent with national spirits, reflecting the “harmony between the nature and human” in Chinese civilization and really reflecting the historic culture, national wisdom and living needs.

III. PRACTICE OF CULTURAL AND INNOVATIVE PRODUCT DESIGN IN ANIMATION TEACHING

As a cultural and innovative product curriculum of animation, the cultural and innovative products form a unique style in the education of animation. As a new medium of cultural transmission, animation takes the important mission of culture output and national aesthetic taste and cultural quality promotion. Our existing animation education, animation movies creation and derivative products design have been stuck in the dilemma of imitation, uncertainty and lack of unique style and recognition. Even if at the beginning of the twentieth century, our country has accelerated the construction of animation in colleges and universities, with almost saturated animation talents, but the entire domestic cartoon industry has few quality animated movies, with little satisfaction for people.

Chinese animation, has experienced an all-around growth from the education to industry links, under the historic witness of *Pleasant Goat and Big Big Wolf* in 2007, *Boonie Bears* and *CUG: King of Heroes* in 2015, and appealing but not applauded *Big Fish* and *Begonia and Rock Dog* in 2016; before 2000, most of Chinese cartoon and puppet films or animations are manufactured without brand awareness, let alone animation derivatives consciousness; in the contrary, from Disney to our neighbor Japan, commercial interests and cultural transmission functions of anime peripherals and derivatives have been well aware as early as we can image, and their successful cases can be exemplified in the teaching and study of the institutions of higher learning. The design of cultural and innovative products of animation is a process of information visualization, and it substantially is a sort of modeling reconstruction of objects; in the animation teaching, three-dimensional contouring and 3D modeling are the two courses that most directly implement the materialization and visualization of theories on cultural and innovative products; among them, the former is designed to enlighten innovative thinking of students by the combination of art development history to generate theories, and the latter is to bring the imaginations of students into reality.

A. Teaching Practice of 3D Modeling Courses

Three-dimensional contouring, as the core and major course of animation, is mainly involved in the anime modeling design and study and application of skills, making students grasp the relations among concepts, design and handicraft in addition to the modeling laws related to cultural and innovative products, toys and models etc. Among multiple modeling courses of animation, it lays stress on highlighting modeling advantages but simultaneously reserving the essence of traditional culture to accurately convey messages. The results of three-dimensional contouring courses are classified into polymer clays, carved oil slurries, velvet clothes and other

compound materials; all the course results are completed by adopting handcraft techniques, reflecting the creation spirits and concrete modeling capacity of makers. Moreover, the three-dimensional contouring course is provided according with the CDIO engineering education concept that consists of conception, design, implementation and operation. Students conceive cultural and innovative cartoon characters before class and draw layouts; then materialize the ideas by handicraft and other means, finally realize the operation of product effects through displaying cultural and innovative design and attending the relative design competitions.

B. Teaching Practice of 3D Modeling Courses

3D modeling, as the core course of animation, has a close connection with cultural and innovative products, in which the first step is the materialization of art concept in virtue of frequently-used 3D conceptual software such as Autodesk Maya or 3Dmax; then lead the model forms in the engraving software like Autodesk Mudbox or Pixologic Zbrush and meanwhile use Adobe Photoshop to design some black and white Alpha images that can be computed as the craving brush forces after being led to the dedicated image channel for Alpha chartlets of engraving software, to provide customers with convenience for drawing and refining the texture details; at last, the decided model file can be output into OBJ or STL formatted files that are different in mathematically computational algorithms, so distinctions of printed model precision exist. STL is applicable for users with a higher precision requirement and now it can be effectively recognized by 3D printers of various specifications. The current desktop-level printers are equipped with matched slicing software and adaptable to the two common materials – PLA and ABS; for students, it is suitable to use food-grade PLA materials which are extracted and purified from corns, odorless and environmental-friendly, but with a lower melting point. In addition, due to no need for heating inking pad, it requires to increase the friction between the models and inking pad by pasting textured paper etc. on the pedestal to fasten overall models gradually rising.

An the improvement of technology supports the quick realization of conceptual design materialization of an individual maker, and more closely links 3D courses with the design and implementation of cultural and innovative products; especially as the 3D printing technique works up, design concept models can be visually revealed in a short time to realize the true concept materialization.

C. Deconstruction of Traditional Elements and Reconstruction of Modern Animation Elements

Chinese traditional elements, such as moiré, auspicious patterns, bats pattern, Spring Festival pictures and clay sculptures etc., as the saying goes, “in essence, show the creativity and natural instinct of cultural connotation, and are rooted in culture orientation ⁷”; “Modernization of national spirits lies in burnishing traditions with a new life ⁸”; “All rivers run into sea; greatness lies in the capacity”, so do the development of culture. According to the modern design master Kan Tai-keung, “harmony between the nature and human” and “moderation” are the essences of Chinese

traditions; the inheritance of traditional elements or reconstruction of national styles is not the simple addition of “福”, “寿”(two Chinese characters meaning blessing and longevity respectively), or “dragon design” in the product design, which is only a superficial collage, while it should reflect the supremacy of Chinese culture that is much more than a visual sense, but all of a spiritual resonance.

IV. CONCLUSION AND EXPECTATION

The core of cultural and innovative product design lies in originality and culture, which means, the derivations of existing folk customs, legends and themes should be carried with the cultural idea charm and the tradition and fashion, which highly tally with the popular spirits of a craftsman. Just as any deconstruction aims at blending specific concepts into a new construction, the design of cultural and innovative products not only requires the assistance of modern science and technology, but blends traditional handicraft arts. “How to combine traditional handicrafts with the modern market, and to enable consumers to understand the rich historic culture and increase product value, is the mission of this generation for traditional handicraft inheritance⁹”. As commodities, cultural and innovative products must adapt to the market where an enormous consumer group exists. How to design and make good use of cultural and innovative products, to fully integrate the originality, practicability, artistry, edutainment, cultural transmission and inheritance into a six dimensional one, and to realize the cultural transmission and inheritance, is a subject worth of our study in animation teaching and even art, design science, marketing and other education.

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