

Discussion on Construction of “Studio” Teaching Mode from “Spirit of the Craftsman”

Taking Research and Development of Coffee Cup Products as Example

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Abstract—With requirements of ceramic enterprise transformation, original design with spirit of craftsman becomes problem that needs the most attention. This article constructs studio teaching mode with training of “spirit of craftsman” of students as the objective, through improving drawbacks of existing universities in designing studio teaching model, reaches the conclusion that the main research objects of constructing studio teaching mode include four aspects such as “training objective of studio, setting of course content and course pattern of training and configuration of personnel in studio”, takes research and development project of coffee cups as example to analyze concretely, meanwhile, combine with problems and solutions produced in cooperative process before, and formulates definite plan of studio teaching mode in the future. Finally, make students continuously absorb the most advanced technology through studio teaching model, create coffee cup products with spirit of craftsman and achieve the realm of unceasing improvement and pursuit of perfect.

Keywords—*spirit of craftsman; studio teaching model; construct; research and development of coffee cup*

I. INTRODUCTION

In recent years, the price of raw fuel materials rises. The appreciation of labor force and RMB leads to increase of cost. Many countries such as European Union and Indonesia take anti-dumping policy for ceramics of our country. The cutthroat competition of price war produced by original equipment manufacturer greatly influences production and marketing of household porcelain of ceramic enterprises, so ceramic enterprises are in urgent need of seeking road of enterprise transformation and pay special attention to problem of original design. In nowadays society, people are impatient. Most enterprises pursue immediate interests brought by “short, adaptable and fast” (small investment, short cycle and fast effectiveness), and neglect quality and soul of original products. Most ceramic enterprises are big but not strong, with low overall level of products and relatively weak capability of independent innovation. The reason is that it lacks of excelsior spirit of craftsman on original design. In March 5th, 2016, in government work report, Premier Li Keqiang firstly put forward “spirit of craftsman” (means craftsmen work at their products with great care and excelsior spiritual idea),

encouraged enterprises to carry out personalized customization and soft production, cultivate excelsior “spirit of craftsman”, increase species, improve quality and create brands. The founder and CEO of Xiaomi puts forward at the same time: China-made products require excelsior “spirit of craftsman” to meet requirements of the era for consumption upgrade. “Spirit of craftsman” justly responds to drawbacks of modern design concept and provides effective direction for enterprises to solve problems in transformation.

II. CHANGE THE ABUSE OF TEACHING MODE, IMPROVE THE STUDIO SYSTEM

The major of ceramic arts and design cultivates high quality talents with high skills in design and production of ceramics. It is in accordance with requirements of ceramic enterprises for talents. Teaching programs of schools often consider overall situation and form mature and fixed teaching model. The construction of studio teaching mode is more favorable for centralized research and development of certain project product of students in the studio. Course contents and process completely center on research and development of products. Because the scope of design task is narrowed, the teaching period is prolonged, the course is flexible, teachers can arrange teaching contents purposefully, teaching contents can be deep and centralized, it is more favorable for students to deeply design project item of certain product, especially deal with details. It is more suitable to cultivate excelsior, patient and dedicated spirit of craftsman of students and train “spirit of craftsman” of students as designers of research and development department of products in enterprises. However, the research on “studio” teaching mode of arts specialty has become relatively mature in foreign countries such as Germany, Japan and America. In recent years, quite a few universities of our country are trying and exploring, but they are at the initial stage and have some deficiencies: For example, many “studios” follow the pattern that supervisors teach students (such as teaching mode for graduate students), but course content and teaching progress do not change, and only the number of students reduces. They do not systematically and deeply specialize in design items; “studio” teaching mode has obvious deficiencies in implementation and management of operation; most research results often neglect actual manufacture of design products and acceptance level of the market and rest on unrestrained creative effect picture or

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experimental design and creation, instead of truly form products and launch on the market; defects such as relatively weak renewal ability, cannot keep up with the development of social practice and lack sustainability exist.

Therefore, under the compliance of “spirit of craftsman”, the construction of “studio: teaching mode must be improved to avoid engaging in idle theorizing. Take design project of coffee cup as task, formulate training objectives purposefully, compile training program of course and formulate teaching evaluation and truly and effectively train students into high quality and high-skilled applied talents of design and production of ceramic products, carry out design and manufacture of original coffee cup products and strive to put them into production. Aiming at defects of domestic studio teaching model, the concrete contents of improvement include.

- Improve educational concept on design in school. Teaching mode of “studio” is to take “ceramic creative design skill training center” of ceramics institute as carrier of studio, integrate course and classroom with production practice and change traditional closed teaching in schools into open teaching that faces actual production, base on curriculum knowledge, center on “application of professional technology”, take “spirit of craftsman” as the guidance, introduce experts of the industry and enterprises to participate in teaching of studio, take undertaking technical project as the main task, closely connect production and teaching, let teachers lead students to complete training of comprehensive professional technology in the process of undertaking and finishing projects of production technology.
- Improve teaching objectives. Serve local ceramic enterprises, provide creativity and design through cooperation with enterprises to research and develop ceramic products and finally achieve the purpose of launch ceramic products on the market.
- Improve requirements for teachers team. Regard “practical training” teachers as backbone of the team and integrally improve skill level and market experience of teachers, which play a positive role in cultivating “double-professionally-titled” teachers team.
- Follow “spirit of craftsman” to arrange course contents and train excelsior design styles and skill level of students. And then let design and production of products reach the requirements of increasing variety, improving quality, carrying out personalized customization and promoting product value.

III. FORMULATE THE MAIN CONTENT OF TEACHING MODE FOR STUDIO

It is concluded that under the guidance of “spirit of craftsman”, the main research in constructing teaching mode of studio includes three aspects: take cultivating high quality and high-skilled talents of design and production of ceramic products as the objective; personnel allocation in studio that cultivating high quality and high-skilled talents of design and production of ceramic products; course contents and course

pattern to cultivate high quality and high-skilled talents of design and production of ceramic products. This thesis bases on “spirit of craftsman”, under technical support of Tensymic Company Limited, carries out project of “research and development of coffee cup products” and strives to complete the project through “studio” teaching mode and launches products production on the market, promotes the cultivation of “spirit of craftsman” of students to lay solid foundation for them to become designers in the future. The project that integrates research object of studio teaching mode with coffee cup design can be summarized as:

- talent development: Take cultivating high quality and high-skilled design talents of household porcelain as training objective, strive to cultivate students into high skilled and high quality design talents who have solid foundation of theoretical culture, relatively strong ability to apply skills, “spirit of craftsman”, experimental spirit, master the latest design information constantly, relatively strong cooperative spirit of group, communication skills and good professional ability and can be competent for job of ceramic products production in enterprises after graduation. In the project of coffee cup design, students shall master theory on design and craftsmanship of coffee cup, including style design, decorative design (carving, decal, hand painting and color glaze) and forming process (molding, rolling and throwing). Meanwhile, they shall have the ability to communicate with professionals of Tensymic Company and the ability of teamwork. Master latest information on new technical information and design related to ceramic design constantly.
- personnel allocation in studio: Teachers and students are interdisciplinary and get more communication on knowledge and experience through cooperation of different disciplines and reach more targeted interdisciplinary research on professional knowledge. Teacher team is composed by teachers of art and design in schools and technical personnel in enterprises (such as Tensymic Company Limited). Students are determined through selection. The first part is students from ceramic art design specialty to research design and production of appearance of coffee cup products. The second part is students from specialty of ceramic materials, and technical personnel of enterprises, responsible for cooperating to solve technical problems in production of coffee cup production and researching and developing as well as allocating new glaze material, pug and methods for kiln firing. The third part is technical personnel of enterprises. Enterprises provide professionals to formulate report of business plan for research and development of coffee cup and offer data reference of marketing. Members with different backgrounds communicate with and enlighten each other and cooperate to complete research and development topic of coffee cup products of enterprises.
- course contents of studio: Carry out specific systematic arrangement of related courses. For

example, courses of research and development project of coffee cup include: knowledge related to brew methods of coffee, use and classification of coffee cup; related basic theoretical knowledge of coffee cup design (including modeling and decorative design as well as forming process); visit enterprises or carry out on-the-spot operation (internship) in workshop of enterprises; understand technological process of production of coffee cup products; know about design and making process of decal of ceramics. The specific design flow includes: ① investigation and analysis on coffee cup design, formulate questionnaire of design and conclude design suggestions through statistic data and analysis and conclusion through questionnaire, and plan design direction and theme of products in the future ② draw first draft of design ③ discussion and evaluation of the team on first draft of design ④ modify first draft of design and finalize the draft ⑤ make cad three views and 3dmax effect picture ⑥ draw a design and produce ⑦ adjust and modify further according to situation of actual finished products of firing, to make the appearance and function perfect.

- course pattern of studio: Engineering combines with characteristic courses, teaching of coffee cup course and visiting enterprises and internship. On one hand, school teachers are responsible for guidance on theory and design of coffee cup. On the other hand, professionals of enterprises undertake technical support of coffee cup production, transmission of market information and communication of evaluation criterion. Students learn theoretical knowledge on design in school and learn research and development methods on design and ceramic production technology in enterprises.

“Spirit of craftsman” plays an important role in transformation of ceramic enterprises. Studio teaching mode carries out teaching, design and production purposefully according to design project of enterprises and more effectively trains “spirit of craftsman” of students as well as lay solid foundation for them to become designers in the future. In addition, college and enterprise strongly support construction of studio teaching model. The college provides room 201 in laboratory building as site for teaching in “studio”, teaching attachments and teachers, model machine, withdrawal device, equipment for decal production, ceramic table, kiln and materials. Enterprises provide technical personnel, market data, design experience, technology and production support. Besides, innovation training center for ceramics once cooperated with Tensymic Company Limited on design projects such as decal of coffee cup (with theme of petty bourgeoisie and sold in supermarket) and storage tank. Recruit fifteen students (from the major of ceramic arts and design, major of ceramic materials and major of ceramic sculpture). Professional teachers teach courses including “constitution of design, graphic design, design methods for ceramic products, theory on ceramic decal and visiting in decal laboratory as well as evaluation and discussion on assignments” and modify designing scheme. Meanwhile, manager Chen, designer Liu

Yanting and expert advisor teacher Cai of Tensymic Company Limited teach students and bring forward suggestions on revision and finally determine first draft of design of decals (as shown in the figure), with certain basis and experience on cooperation.

In the process of previous cooperation, key problems remain to be solved: how to effectively arrange teaching courses in studio beyond school curriculum, and carry out cooperation with enterprises in research and development project on products; how to determine evaluation criterion on design; how students can apply “spirit of craftsman” to skills and design and embody on products. The following solutions can be concluded through analysis:

- how to effectively arrange teaching courses in studio beyond school curriculum and cooperate with enterprises to carry out research and development project on products. Make use of after-class time, such as noon or evening. In addition, the course arrangement of students in art major has characteristic, often occupying the whole morning or the whole afternoon. Therefore, they can make use of the time when students do not need to attend class and teach related professional knowledge and practice contents aiming at design project of coffee cup.
- how to determine evaluation criterion on design. Generally speaking, college teachers and designers of enterprises have different evaluation criterion on product design. College teachers are partial to manifestation of artistic or design aesthetics but often neglect production cost in practice, rate of formed ceramics, and degree of acceptance of the market. Designers of enterprises are inclined to popular products on the market and consider design of products and cycle of launching on the market, interests brought by products. Therefore, it occurs the “situation that enterprises carry out money encirclement first and then replace new design products”. Because of attraction of interests, quite a few enterprises will copy design of others or slightly modify hot-sale products on the market and then launch them on the market, go against deep design of products and neglect quality and soul of products. Therefore, criterion of design evaluation needs professionals in enterprise and school teachers to communicate according to the market, consumers and future development trend, so that the evaluation criterion determined can be fairer and more effective.
- how students can apply “spirit of craftsman” to skills and design and embody on products. On skills, the spirit of craftsman is mainly embodied on skilled mastering of skills to achieve the desired effect that the products manufactured are meticulous. At the meantime, the spirit of craftsman is also embodied in the situation that product manufacturers continuously go deep into, improve and update it and pursue perfect state. On design, the spirit of craftsman is mainly embodied on deepening of design, continuous modification and improvement. Pay attention to

decorative design of overall modeling as well as detail design of components, appearance design and design of functions, as well as quality and soul of products.

IV. DEVELOP SPECIFIC IMPLEMENTATION PLANS

According to experience in previous cooperation, solve problems and reach concrete implementation plan through cooperating with Tensymic Company Limited to research and develop project of coffee cup products:

- teachers and students: Teachers are composed by professional teachers in ceramic college, experts and technical personnel in Tensymic Company Limited. Teachers of major of ceramic arts and design are responsible for appearance design of ceramic products, formulation and teaching of courses of craftsmanship. Teachers of animation major are responsible for formulation and teaching of such courses as design of cartoon characters, graphic design and analysis on fashion color. Teachers from major of materials are responsible for teaching of ceramic technology. Experts (Tensymic Company Limited) from Taiwan convey market information and give technical guidance. Technical personnel (Tensymic Company Limited) teach method of using engraving machine. Students are undergraduates from major of ceramic products, major of ceramic materials and major of ceramic sculpture who enter college in 2012, 2013 and 2014 (with total number of 20 to 25).
- investigate and survey several enterprises and colleges, collect, sort and analyze data, determine thought and framework for construction of “studio” teaching model. Construct studio environment, optimize and combine professional teachers in and outside school, determine organizational method of teaching and evaluation system.
- carry out cooperation in coffee cup project. The basic contents of explanation include coffee brewing and drinking method and technological process of ceramic production. Lead students to visit Tensymic Company Limited, design and production process of ceramic products and go to coffee houses to observe and learn coffee brewing and drinking method.
- enterprises provide information on market data of coffee cup. Teachers and students process data of consumer groups of coffee and design questionnaire to survey appearance design and function of coffee cup. Discuss and think on data processed and analyze and plan products to be designed in the future.
- explain design method of coffee cup, design first draft according to themes required by enterprises. Teachers teach related course contents and cooperate with designers of enterprises to modify first draft of students and formulate final draft.
- evaluate, modify and improve after formulating the final draft. Different from other industrial products, ceramic products have special materials and

technology, especially contingency after firing. The final product will be different from original design. Therefore, after formulating final draft of coffee cup, it is necessary to further deeply modify and improve appearance effect and use function, especially appearance change produced because of process and materials. They must make appearance design conform to manufacturing technique of ceramics and habits of consumers in using, take “spirit of craftsman” as guidance and carry out excelsior design as well as improve quality of products.

V. CONCLUSION

Using “spirit of craftsman” as guidance to construct studio teaching mode is the innovation of training mode for design talents with high quality and high skills as well as the innovation of education teaching method of design. Under technical support of Tensymic Company Limited, the studio carries out project of “research and development of coffee cup products”, strives to take “spirit of craftsman” as the guidance and completes project through “studio” teaching mode and better improves construction of studio teaching mode with the help of experience and materials acquired in the project process. Enterprises produce and launch products on the market, serve economic development of this region, promote cultivation of “spirit of craftsman” of students and lay solid foundation for them to become designers in the future.

Construction of studio teaching mode can help to build studio into cultivation base for high-skilled talents that base on integration of classroom and training room, with advanced facilities and high technical content, have real working environment, face the industry, market and region; help to improve teaching level and relatively strong practical ability of teachers, build “double-professionally-titled” teacher group with reasonable structure; help interdisciplinary learning and communication; let courses connect with enterprises on the market, effectively solve practical problems and then serve local enterprises. Courses center on contents related to design projects of enterprises and take design, research and development of original products as purpose. Students can improve their skills and design level through this process and reach excelsior standard. Base on serving regional economy and actively provide design service for enterprises. In a word, it improves reform and development of talents training model of schools, promotes university-enterprise cooperation and meets demands of enterprises as well as quickens regional economic development.

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