Research on Innovative Practice of Packaging Design Course Teaching

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ABSTRACT

In the context of the new liberal arts, packaging design courses have upgraded traditional packaging design based on "traditional media", "traditional printing", "handmade production", "finished product photography", and "conversion from planar into stereo", breaking through the professional bottleneck of "planarization" in visual communication design, upgrading to a new packaging design characterized by "digital media", "digital technology", "virtual effect display", and "diversified shapes", cultivating packaging design applied talents with digital design capabilities and interdisciplinary integration. The packaging design course refers to professional standards, industry standards, and enterprise standards, so as to formulate course standards, and the course implementation simulates the workflow of enterprise packaging design projects, with identifying problems, proposing design solutions, designing implementation, summarizing and reflecting on the design as the basic logic. The course carries out the goal of cultivating moral character and educating people, with "enhancing national cultural self-confidence", "inheritance and innovation", and "professional ethics and literacy" as the three main directions, organically combining cultural values, knowledge transmission, ability cultivation, and quality education.

Keywords: *Traditional packaging, Digital design, New packaging, Interdisciplinary integration.*

1. INTRODUCTION TO THE PACKAGING DESIGN COURSE

The packaging design course is a top-notch offline course in Guangdong Province, as well as a core course for the visual communication design major. It has a total of 4 credits and 64 class hours, with 32 theoretical and practical hours respectively. It adopts a blended online and offline teaching approach, and is taught to undergraduate students majoring in visual communication design. The course starts in the second semester of students' sophomore year. In the context of the new liberal arts, the teaching goal of the packaging design course is to break through the bottleneck of traditional packaging design majors, take digital design as the development direction, and cultivate packaging design applied talents with digital design capabilities and interdisciplinary integration. ("Figure 1")
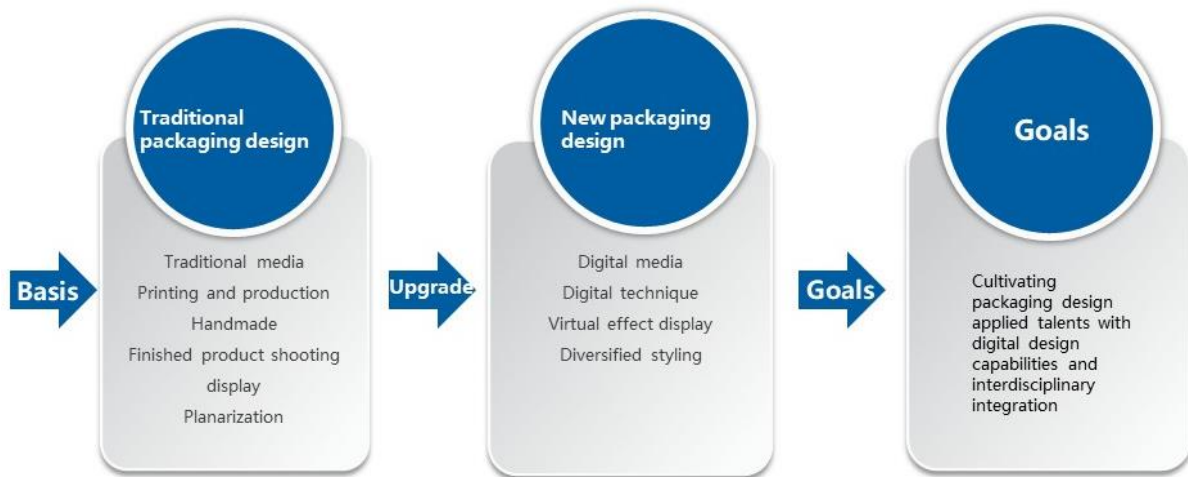
Figure 1 Course positioning.

2. ANALYSIS OF PAIN POINTS AND CAUSES OF THE COURSE

2.1 Pain Points of the Course ("Figure 2")

2.1.1 Emphasizing Design over Research

The logic of packaging design is unclear, and the design results lack research and positioning support.

During the course teaching, it is found that students used online resources to piece together research content, resulting in unclear design positioning and unrealistic research content, resulting in loose causal relationships before and after the final packaging design work, loose design logic, and lack of research support in the design.
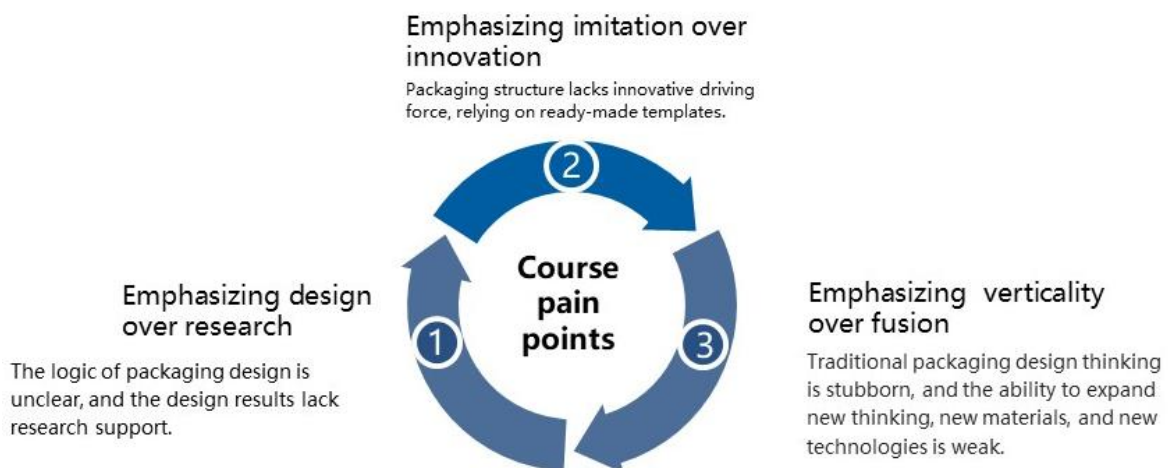

Figure 2 Course pain points.

2.1.2 Emphasizing Imitation over Innovation

Packaging structure lacks innovative driving force, relying on ready-made templates.

Packaging structure design is an important part of reflecting the practical functions of packaging and an important manifestation of design innovation. In course teaching, once the knowledge content of conventional packaging structures is first

taught and standardized knife plate drawing is used, it is found that students find it difficult to break free from the constraints of existing models. Packaging structure design presents a cautious state, showing an excessive reliance on ready-made templates, ignoring the characteristics of product structure and materials, and only considering the outer structure of packaging. The matching degree between the inner structure of packaging and the product structure is relatively low.

2.1.3 Emphasizing Verticality over Fusion

Traditional packaging design thinking is stubborn, and the ability to expand new thinking, new materials, and new technologies is weak.

As the packaging design course in the field of visual communication design, it showcases the characteristics of three-dimensional paper planes, single packaging materials, single packaging structures, reliance on traditional printing techniques, manual production, finished product shooting, and concentrated design thinking. Today, there are many design cases of cross-border integration of packaging, such as the use of accordion stretching structure in the packaging structure of Lamian Noodles, the use of scroll toilet paper structure in the design of tea bags, and the use of traditional clothing buttons as the seal of packaging. At present, students show that cross-border integration of packaging thinking is weak in the curriculum.

2.2 Cause Analysis

Firstly, according to a student background survey, taking the 2021 cohort as an example, 100% of visual communication design students are art students, with strong professional practical abilities and weak theoretical knowledge backgrounds.

Secondly, a questionnaire survey was conducted among 64 students who had completed packaging courses in the 21st grade. 40.62% believed that packaging structure design was more important, and 59.38% believed that packaging visual design was more important. This indicates that the majority of students place more emphasis on packaging visual design compared to packaging structure design.

Thirdly, through the 2023 Visual Communication Design Professional Talent Training Program, it can be understood that before

the packaging design course, only courses related to spatial structure were composition and design, and composition and design included plane composition, color composition, and three-dimensional composition. The three major parts of content were directly related to structure, which is three-dimensional composition. Therefore, students lack learning experience and difficulty in packaging structure design, which is also the main reason why students rely on ready-made templates. In addition, the professional courses offered before the packaging design course were all basic courses, belonging to the graphic courses of visual communication design, without involving cross-border and integrated ideas and methods.

3. INNOVATIVE PATHS OF COURSE TEACHING

3.1 Motivation for Innovative Curriculum Teaching - Grasping the "Pain Point" Problems

To transform the pain points of the course into innovative motivation for teaching, there are three key points to solve the pain point problems through sorting out the problems and analyzing their causes: The first is to combine theory with design ability, strengthen design logic, and use design research as the main support for the rationality of design results; The second is to stimulate students' desire for exploration and innovate teaching methods for packaging structure design; The third is to break fixed thinking, integrate and integrate multiple elements to enrich course content and requirements, and enhance students' comprehensive design ability.

3.2 Innovative Paths in Course Teaching

In response to the pain points of students, the teaching innovation path of the course is six major integrations: 1. Interdisciplinary integration; 2. Integration of professional frontiers and course content; 3. Integration of ideological and political elements with curriculum content; 4. Integration of individual learning and team collaboration; 5. Integration of online learning and offline course teaching; 6. Multidimensional evaluation integration.

4. INNOVATIVE CONTENT OF COURSE TEACHING

4.1 Reshaping Teaching Concepts and Objectives

The packaging design course has changed the teaching approach based on textbooks, implementing a blended online and offline teaching approach, referring to professional standards, industry standards, and enterprise standards for course teaching design. Real projects are integrated into the classroom, simulating the workflow of enterprise packaging design, and the course is divided into three major parts: early stage, middle stage, and late stage. The combination of theory and practice corresponds to the three major practices. Integrating ideological and political education into the classroom, ideological and political elements are organically combined according to the course content, aiming to cultivate students' confidence in national culture, inheritance and innovation, and professional ethics and cultivation. The course actively promotes enterprise project cooperation, integrates enterprise requirements and evaluations, encourages teachers and students to participate in competitions, and enhances professional abilities. The packaging design course aims to cultivate packaging design applied talents with digital design characteristics and interdisciplinary integration.

4.2 Reshaping Teaching Content

From "Figure 3", it can be understood that packaging is a highly comprehensive subject that involves packaging systems, packaging engineering, and packaging design. Although the course is packaging design, it also involves the content of the other two parts. Traditional packaging design, on the other hand, includes three major components: flatness, shape, and structure.
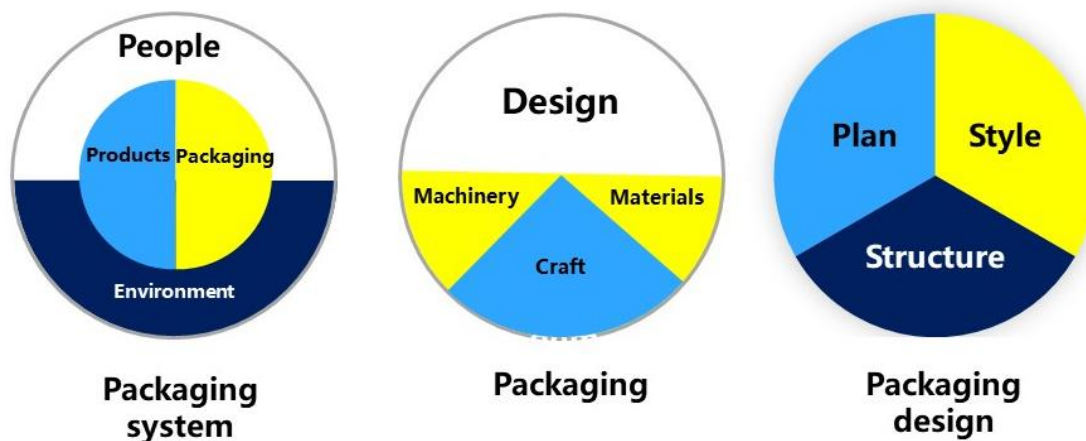

Figure 3 Packaging major relationship diagram.

On the basis of traditional packaging, the course incorporates virtual displays to change traditional packaging design teaching. In the past, students were limited by their knowledge background, materials, and production conditions, and could only choose paper materials as packaging materials, resulting in problems such as single packaging materials and single structures. In the context of the development of digital design, packaging design companies both domestically and internationally have reached the stage of dynamic display packaging. Through virtual dynamic display, the effect of packaging design can be seen, and three-dimensional virtual display will undoubtedly be the direction of content reform in this course.

The course is divided into three major parts based on the workflow of enterprise packaging design: early stage, middle stage, and late stage.
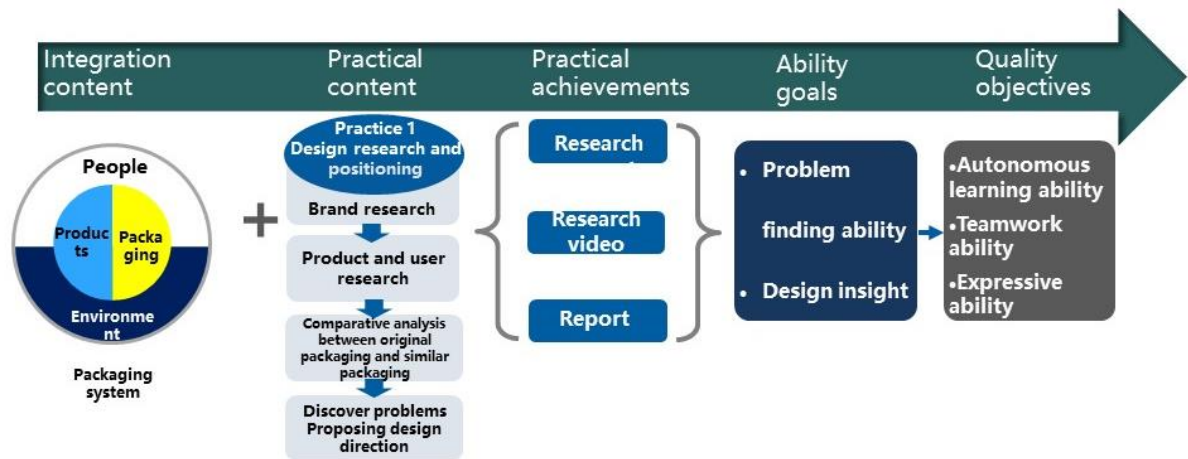
Figure 4 Practical teaching of the early stage.

The corresponding practice is to conduct design research and positioning in Practice 1. Students are required to form a research team of no more than 5 people, conduct on-site research based on the research directory provided by the teacher, cooperate with the team to shoot research videos, and report the completed research content in class. In addition, the research content is shared within the group, and students each fill out the design research and positioning report. The teaching setup and requirements after the reform of Practice One aim to solve the problem of false research among students, use team strength to solve practical problems encountered during research, enhance students' teamwork spirit, share research materials, and allow students to independently complete research report writing. In addition, teachers can also test the design positioning and whether it is true and reasonable through the practice one completed by students. Practice 1 is to combine team collaboration with individual performance, strengthen students' design logic, and use design research and positioning as practical support for packaging design. Teachers use self-built open courses to provide students with online micro lesson videos, research methods, research videos, and other materials, and provide students with online learning resources.
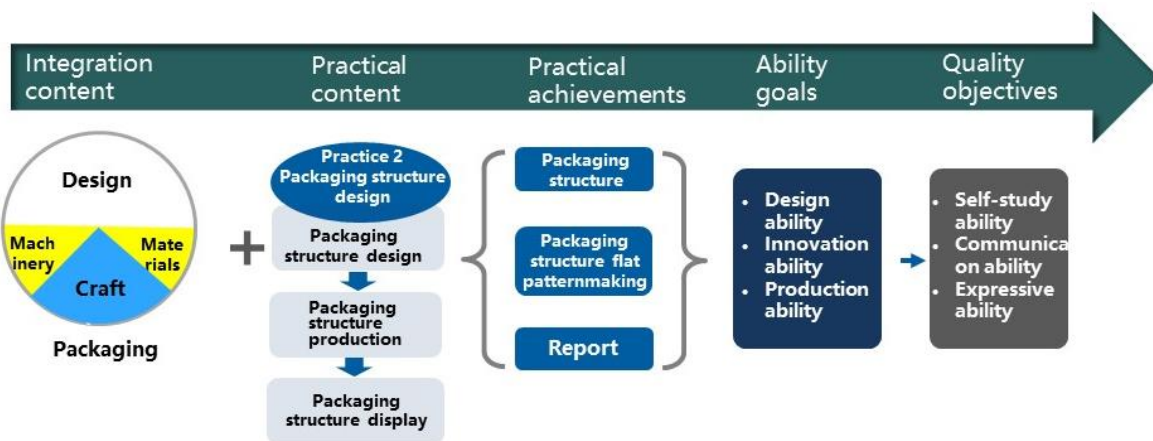

Figure 5 Practical teaching of the middle stage.

The middle stage is the packaging structure design part ("Figure 5"), where the concept of forming a paper opens the door to creativity for students, and then uses conventional packaging structure knowledge to make corrections. The corresponding practice is packaging structure design. It is an important part of the practical function of packaging, and the curriculum has changed the previous teaching approach of teaching conventional packaging structure models. The

teaching philosophy is to explore and innovate first, and then standardize and adjust. The fourth chapter is about innovative packaging structures, and the fifth chapter is about conventional packaging structures. The Chapter 4 of innovative packaging structure integrates unconventional packaging structure content such as traditional Chinese mortise and tenon structure, one-paper forming concept, environmentally friendly packaging design, and award-winning innovative packaging design works, opening the door to creativity for students,

guiding them to explore design and carry out design practice. When the students have completed the preliminary packaging structure model, they will be taught Chapter 5 on conventional packaging structures. Using professional packaging structure knowledge, students are required to revise the packaging model. Self-built online open courses can be utilized to provide students with online micro course videos, packaging structure design related materials, and serve as a learning database for students outside of the course.
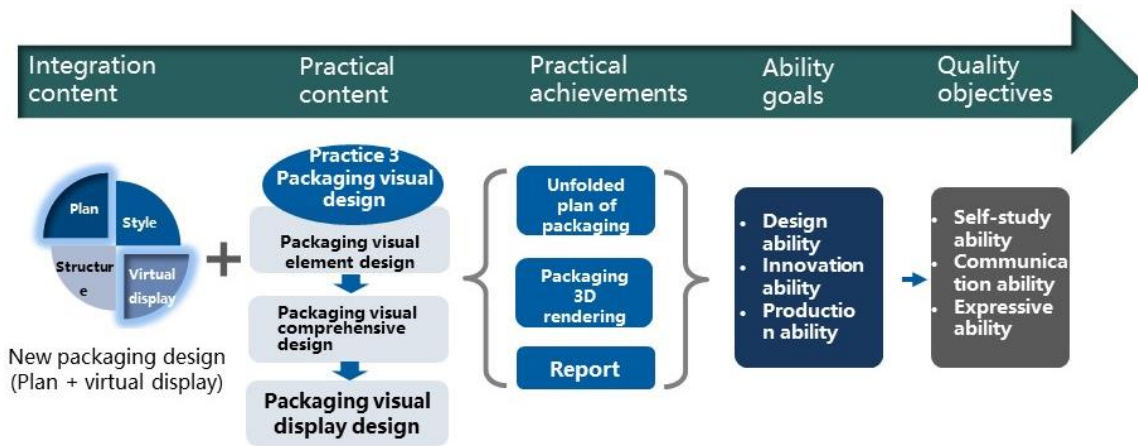

Figure 6 Content of theoretical teaching in the later stage.

Packaging visual design in the later stage ("Figure 6") includes three parts: packaging visual basic design, packaging flat unfolding diagram, and packaging three-dimensional effect diagram. Students can use the knowledge learned before the course and guide them to complete it smoothly, which is relatively simple. Therefore, in addition to strengthening the innovative ability of students in visual basic design, this part of the reform should also enhance their comprehensive design ability, expansion ability, and integration ability. On the basis of integrating AI software technology, PS graphics processing technology, and digital photography technology, the course has added C4D 3D modeling content, requiring students to use 3D modeling software to create 3D renderings according to design needs. At present, students are able to achieve static 3D modeling effects, but their technical abilities are not sufficient to support dynamic packaging design displays. It is necessary to use online open courses to provide technical support and learning expansion for students.

4.3 Reshaping Course Assessment and Evaluation

This course completes learning assessments from six dimensions, including online learning duration, online exchange situation, attendance, practice 1, practice 2, and practice 3. Design research and positioning include group tasks, emphasizing the cultivation of students' teamwork ability, while exercising their communication and expression skills through on-site reports and personal analysis reports. The entire assessment includes process assessment and summative assessment, each accounting for 50%. The summative assessment is practical assessment, while the rest is process assessment, which can complete a comprehensive assessment of thinking, knowledge, ability, and quality by focusing on different aspects of the assessment items.

4.4 Reshaping Course Organization

4.4.1 Course Activities

The packaging design course revolves around real projects, and the implementation of the course is divided into three parts: pre class, in class, and post class. According to the design process of real projects, the course receives projects before class, analyzes projects during class, executes projects, and provides feedback on projects. After class, the course expands projects as the axis. By discovering problems, solving problems, summarizing problems, and drawing lessons from others, it serves as the basic steps of course implementation.

4.4.2 Teacher Activities

Teachers analyze students based on their learning situation, establish corresponding teaching objectives, classify knowledge, write lesson plans, create courseware, and improve online platform resources. The packaging design course combines various teaching methods, including heuristic teaching, design demonstration, teaching method, task driven method, BYOD teaching, discussion method, and combination of learning and practice. In addition, the teachers create a large number of illustrations by hand, write course content stories, help students understand the course content more easily, add fun to the course, and organize corresponding classroom games to liven up the classroom.

4.4.3 Students Activities

Before the course, students obtain course information through online platforms, understand the course content, listen to the teacher's lectures in offline courses, participate in course interaction and exploration, and after class, according to the teacher's homework arrangement, use online platforms to learn independently and complete course assignments.

5. THE TWO-ADVANCEMENT AND TWO-CHALLENGES REFLECTED IN THE TEACHING OF THE COURSE

5.1 Advanced Knowledge of the Course

The course reflects a student-centered teaching setting, starting from conventional paper packaging design, locally improved paper packaging design, innovative paper packaging design, innovative traditional packaging design, and diversified packaging design in terms of structure, form, and material. The course results present a development ladder from basic to advanced, meeting the basic and advanced needs of students in learning packaging design. In addition, the core courses of "Packaging Design", "Cultural and Creative Product Design", "Cross disciplinary and Integrated Design", and "Comprehensive Design" complement each other, enabling students to have the systematic ability to integrate spatial and structural design with other courses.

5.2 Advanced Ability of the Course

The packaging design course breaks through traditional thinking, techniques, and methods while meeting the basic abilities of "independent series design", "conventional thinking", and "traditional technology" in traditional packaging design. It integrates new technologies, new media, and new thinking to enhance the advanced abilities of "combination series design", "innovative thinking", and "digital technology". This not only cultivates students with basic packaging design professional abilities, but also enables some students to receive advanced abilities, achieving the upgrading of packaging design course results.

5.3 Challenge Level of Course Homework

The homework setting for the packaging design course meets the requirements of students at different professional levels. Based on brand building, complete a series of packaging designs that include at least two different packaging structures. Note that products can be packaged separately or in combination. The homework setting has a certain degree of flexibility. Students with average professional ability can complete "separate packaging", while those with strong professional ability can complete "combined packaging". Students can choose topics based on their own actual situation.

Based on completing course assignments, encourage and guide students with strong professional abilities and outstanding performance to participate in school enterprise cooperation projects and subject competitions, and enhance their project execution and professional competitiveness. Based on completing course assignments, teachers can encourage and guide students with strong professional abilities and

outstanding performance to participate in school enterprise cooperation projects and subject competitions, enhancing their project execution ability and professional competitiveness.

5.4 Challenge Level of Course Resources

As an applied university, the packaging design course combines practice and theory, with each section accounting for half of the class hours. On the basis of its own construction, the packaging design course borrows external resources: Chen Liling, a national boutique course "Everyone Knows Packaging"; The first-class course "Packaging Wisdom in Life" on the National Higher Education Smart Education Platform, Li Ying; "Packaging Design", a textbook for the 13th Five-Year Plan of ordinary higher education, compiled by Li Li, Ren Yi, and Zhang Jian. The above three resources are all national high-quality courses and first-class course resources, which are closely coordinated, complementary, and indispensable. Other resources based on this can be selected and supplemented to adapt to the students of Neusoft Institute Guangdong.

6. EFFECTIVENESS OF COURSE CONSTRUCTION

The textbook "Packaging Design Case Tutorial" edited by the course leader is published by Tsinghua University Press, and includes a total of 190 excellent works of student packaging design

courses. And the course members are the deputy chief editors of three course related textbooks, among which "Illustrator Classic Practical Tutorial" is a high-quality planning textbook for the 14th Five-Year Plan.

The course leader presided over the construction of a total of 6 course projects, among which the 2023 Packaging Design course was approved as a first-class offline course in Guangdong Province, and a total of 11 course related papers were published. The packaging design course has been selected three times as a typical and excellent case of ideological and political education in the school curriculum. The course leader has won a total of 14 awards related to the course, including 2 national teaching level awards, 1 provincial teaching level award, 1 national excellent guidance teacher award, 3 provincial excellent guidance teacher awards, and 7 school level awards. The course team guided students to win 21 national level awards and 15 provincial-level awards. Among them, in the 2023 China Packaging Creative Design Competition, three students from the 21st level won national first prize, second prize, and third prize, respectively. The packaging design course actively promotes cooperation with enterprises. In 2022, packaging designs were completed for Lingbaihui ("Figure 7") and Bingshibo brands, and the design proposals were approved by the enterprises and put into production.

Figure 7 Lingbaihui school-enterprise cooperation project (already implemented).

7. CONCLUSION

As a first-class offline course in the province, the packaging design course, based on the real pain points of the new liberal arts, starts from cultivating

packaging design applied talents with digital design ability and interdisciplinary integration, improves the course content and teaching mode, focuses on student development, and explores an innovative teaching path of "six integration + four reshaping".

The course should be upgraded on the basis of traditional packaging design, which focuses on "traditional media", "traditional printing", "handmade production", "finished product photography", and "flat and three-dimensional". It should break through the professional bottleneck of "planarization" in visual communication design, and upgrade the teaching innovation and practice of new packaging design courses characterized by "digital media", "digital technology", "virtual effect display", and "diversified shapes".

ACKNOWLEDGMENTS

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