INNOVATIVE PRACTICE OF DESIGN MANAGEMENT TEACHING IN COLLEGES AND UNIVERSITIES UNDER THE BACKGROUND OF NEW LIBERAL ARTS - TAKE THE FLIPPED CLASSROOM & ONLINE TEACHING MODE AS AN EXAMPLE

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Abstract
Taking the problem as the orientation, aiming at the "pain points" of teaching such as lack of motivation for students to learn, lack of thinking and innovation awareness, and weak research ability, the course "Design Management" carries out teaching innovation. Innovation is guided by the construction of "new liberal arts", with students as the center, and cultivating high-level abilities as the goal for curriculum reconstruction: First, build ability-oriented teaching content, with "cultural self-confidence" ideological and political content, and build a curriculum that meets differences. The second is to create a capability-oriented ability improvement activity system; the third is to establish a capability-oriented two-tier evaluation system to realize the promotion of learning through evaluation; the fourth is to build a capability-oriented evaluation system. The oriented blended teaching model introduces the research method of Internet + educational information technology, and basically solves the "pain point" problem through the above innovations.

Keywords: teaching innovation; design management; new liberal arts

1. INTRODUCTION
In 2020, under the call of the Ministry of Education of my country, a super-large-scale online teaching activity was launched. All colleges and universities, education administrative departments, education service agencies and related enterprises also took active actions to provide online learning resources and support services for teachers and students. Multi-party cooperation has jointly ensured the smooth development of ultra-large-scale online teaching. This large-scale online teaching provides a stage and opportunity for teachers to test the theoretical and practical achievements of online teaching, and also tests the feasibility of the online teaching mode to the greatest extent. In order to provide evidence for the normalization and large-scale development of online teaching, in July of the same year, 13 departments including the National Development and Reform Commission promulgated the "Opinions on Supporting the Healthy Development of New Business Forms and New Models, Activating the Consumer Market and Driving Employment Expansion". The document pointed out that vigorously develop integration It will build a normalized and integrated development mechanism for online and offline education, and form a benign interaction pattern [1]. In August 2020, the Ministry of Education also fully affirmed the importance of online education, and stated that the integration of online and offline teaching should be further promoted.

Colleges and universities should learn from the experience gained during the epidemic, continue to promote...
the normalized application of online teaching, give full play to the maximum value of online teaching to support the reform of school classroom teaching, and realize the close integration of online and offline, so that both offline classroom and online teaching can be integrated. It can provide a place for teachers and students to conduct knowledge exploration and interaction. Professor Ke Qingchao pointed out that the demand for individualized training of contemporary talents is becoming stronger and stronger, and the large-scale teaching of the class teaching system is difficult to meet the needs of individualized teaching [2]. Professor Huang Ronghua proposed that a smart campus refers to the concept of providing personalized services for teachers and students, providing seamless interoperable network communication, creating a comprehensively perceived physical environment to identify learners' individual characteristics and learning scenarios, and effectively supporting the analysis, evaluation and evaluation of the teaching process. Intelligent decision-making [3]. Huang Yating believes that the learning investment of undergraduates in online and offline mixed teaching is the starting point to explore the effective implementation path of mixed teaching in the context of the epidemic [4]. Li Ke believes that at present, the research on blended teaching mainly focuses on innovative educational models [5]. Therefore, schools should give full play to the characteristics and advantages of online teaching, actively explore a new talent training model of new liberal arts and design management, and form a diversified teaching pattern that integrates online and offline.

2. “PAIN POINTS” IN THE COURSE OF DESIGN MANAGEMENT

Design Management is a core course for product design majors and an advanced course in product majors. This course is a new interdisciplinary research on the management of design projects, helping students to form a broad design vision, breaking the knowledge barriers of cross-schools, and cultivating students' high-level abilities. Through the analysis of learning situation, it is known that students have three major problems in learning this course: insufficient learning motivation, insufficient thinking and innovation awareness, and weak research ability, which also reflects the "pain points" in the previous teaching.

2.1. Difficulty in Motivating Learning

This course is offered in the senior year. Many students are under the pressure of choosing their graduation destination, and they have a strong purpose and utilitarian effect on the course study. If the prospective students think that the practical application of design management courses is general, it is difficult to arouse their interest and attention. In this course, students' learning needs and existing problems are understood through preliminary research. The respondents were grade 18 students majoring in product design, 40 questionnaires were distributed, and 35 valid questionnaires were recovered. From the results of data (1), although students have a strong demand for professional ability improvement, it has not been transformed into expectations and motivation for this course.

At the same time, students have doubts about the fairness of teaching evaluation, especially the evaluation of group activities. In the survey, 68% of the students reported the problem of uneven division of labor and unfair grades, and their enthusiasm for learning was frustrated.

2.2 It Is Difficult To Raise the Awareness of Thinking and Innovation

From the perspective of students' cultural quality, contemporary college students are deeply influenced by the popular Internet culture, but in following the trend, they easily lose their thinking and innovation consciousness. In their daily speeches and assignments, students have a serious situation of blind identification and imitation of popular culture and foreign culture, lacking necessary reflection and criticism,
breakthrough and innovation. Therefore, if teaching only focuses on the dimension of "knowledge" and ignores the dimensions of "thinking" and "ability", students will easily deviate from the correct values and cannot cope with future challenges.

2.3 It Is Difficult To Improve Research Ability

The survey results show that students lack in-depth reading, and feel intimidated by theoretical learning and design management research. There are gaps between text and theory, between reading and research, and between knowledge and ability, and traditional theoretical lecture-style teaching is difficult. Realize the ability transformation of students. (Figure 2) Therefore, students are highly susceptible to "theoretical futility". In fact, it is not that the theory is useless, but the lack of ability training mechanism in teaching, which makes teaching useless.

3. STUDENT-CENTERED "PAIN POINT" SOLUTIONS

All of the above reflections belong to the achievement of high-level ability goals. Therefore, the innovation and reform of this course mainly focuses on the cultivation of high-level ability.

3.1 Innovative Ideas

The reform of this course is guided by the construction of "new liberal arts", insists on taking students as the center, starting from the "pain point" of teaching, aiming at the cultivation of high-level ability, and implements curriculum reconstruction:

The first is to build a graded, hierarchical and classified teaching content and resources based on ability; the second is to create a system of ability-improvement activities based on ability; the third is to build a two-level evaluation system based on ability to realize the promotion of learning through evaluation; The fourth is to build a blended teaching model oriented by ability, introduce Internet + education research methods, and deepen ability training. (image 3)
3.2 Specific Measures

In order to solve the aforementioned pain points, the specific reform measures of this course are as follows:

3.2.1. Reconstruction of Teaching Content and Resources

This course restructures the teaching content system with the goal of high-level ability training, emphasizes the improvement of students' ability, cultural character and moral development, and builds a differentiated, diverse, and high-level archive database according to the individual needs of students.

3.2.1.1 Staged Teaching Content

This course divides the teaching content into low-level knowledge and high-level knowledge from the perspective of ability development. The former focuses on the contextual knowledge of design history, management history, and design management development history; management) mainly. Low-level knowledge is the content of students' self-study, and high-level knowledge is the key content of teaching. (Figure 4)
3.2.1.2 Modular Ideological and Political Content

In order to solve the problem of students' weak thinking ability and practice the fundamental task of "cultivating morality and cultivating people", this course intersperses the ideological and political elements of "cultural self-confidence" in the teaching part of advanced knowledge, in-depth elaboration of theoretical difficulties, and helps students understand advanced knowledge. "Cultural Confidence" is carried out in the class in the form of product cases, focusing on product innovation design issues, analyzing cases according to the logic of "cultural confidence, cultural identity, cultural inheritance, and cultural innovation", systematically improving thinking ability, and achieving the goal of ideological and political education. (Figure 5)

3.2.1.3 Differentiated Teaching Resource Library

Considering the differences among students in cognitive ability, study habits, learning goals, etc., this course builds a multi-level, multi-dimensional and multi-directional network resource library. Considering the differences in students' cognitive abilities, the resource library is divided into low-level required knowledge points and high-level optional content, reflecting the differences in difficulty and depth; considering the differences in students' learning habits, each level of content includes courseware and videos, including related to this course. Research papers, MOOC videos and Chaoxingping Taiwanese materials; considering the differences in students' learning goals, a special test question bank is set up in the elective content to provide discussions related to this course. (Image 6)

3.2.2 Teaching Activities Are Designed To Solve the Problem of Students' Weak Innovation Consciousness and Research Ability

This course has designed 8 activities, from light to heavy, from easy to difficult, from fun to research, divided into 3 types of activities: fun research, creative research and special research, according to the task volume, difficulty value and ability training logic, in each teaching session. (Fig. 7) The fun research activity is a class game + discussion, which stimulates students' interest and leads to topics through games (Fig. 8); helps
students digest and understand theories through topic discussions. Creation and research activities are the pivotal link in capability transformation, including teamwork, brainstorming, and innovative design, which are completed in groups. The original intention of the design is to solve the problems of students’ design collaboration and difficult innovation. Starting from the concept of “team collaboration”, this activity sets the direction for each group, innovatively designs and solves problems according to the requirements, and then shares the created plan with a PPT speech. This not only requires students to have in-depth discussions and a solid grasp of relevant design innovation thinking, but also enables students to experience the process of innovation and research transformation from the perspective of creators, and cultivate innovation awareness and ability. Research activities include cutting-edge research, comprehensive research and thesis writing. Through in-depth reading and creative research experience, students find valuable topics, and then carry out in-depth research on topics through multiple research activities, such as design management review. Among them, thesis writing activities include topic selection and demonstration. Students’ topics must be demonstrated by the whole class, and they will be defended after completing the thesis. After revision, they can be used as the final thesis to comprehensively improve their innovation and thinking ability.(Figure 7) The curriculum activity design table is as follows:

![Diagram of design management activities](image)

3.2.3. Teaching Mode and Method Innovation

In order to comprehensively improve students’ higher-order thinking ability, this course innovatively establishes a mixed teaching mode. Before class, students learn low-level knowledge by themselves, draw mind maps, and turn knowledge into clear logical ideas; teachers give intensive lectures in class. +Student discussion + group activity mode, strengthen the application of design management methods, the core issue of design management, and train innovative thinking; after class, students use the resource library to complete knowledge expansion and activity tasks, and construct research horizons. (Fig. 9)
4. CONSTRUCTION OF TEACHING EVALUATION SYSTEM

This course builds a two-layer system of comprehensive evaluation and positive-oriented evaluation, focusing on improving students’ evaluation ability and stimulating learning motivation.

4.1. Comprehensive evaluation system

The evaluation mechanism of art and design disciplines should be flexible and balanced between individualization and standardization. This course relies on the Chaoxing platform to complete the assessment of attendance, speeches and objective questions, which ensures the objectivity and accuracy of the data; an assessment scale is designed for group activities and final papers to ensure the standard consistent; ad hoc high-level additional evaluation to facilitate students to achieve high-level goals. The "Innovative Design Advanced Ability Scale" and "Advanced Ability Assignment Scale" designed by the teaching team provide an effective reference for additional scoring. (Fig. 10)

The group cooperation evaluation in the comprehensive evaluation system focuses on solving the problem of fairness. The teaching team has designed a method of hierarchical scoring + parallel scoring. After the teacher assigns tasks, the team leader will issue a task list to clarify the completion standards and assign scores for the team members. The team members complete the tasks and provide supporting materials and self-assessment reports. Mutual evaluation between group leaders and group members provides a partial basis for teachers' fair scoring. (Fig. 11)
The advantages of this evaluation model are mainly reflected in three aspects. First, the scoring is based on evidence, the task list, corroborating material, scoring scale, report, comprehensively determine the score, avoiding subjectivity to a certain extent; second, using the group results as the benchmark score for everyone, encouraging students to sincerely The third is that the group leader assumes the responsibility of some teaching assistants. Teachers can learn about the cooperation in the group through the report and verify the authenticity of the evidence based on the supporting materials.

4.2. Positively Oriented Evaluation System

The positive-oriented evaluation system is an important guarantee for this course to promote learning through evaluation. It focuses on stimulating students’ learning motivation, and mainly adopts three innovative methods:

1- Innovation and research activities award ceremony. Trophies are awarded to each group for their outstanding performance in a certain aspect, and the award speech is a summary evaluation of the completion of each group's activities.

2- Excellent students' works were selected for the paper "Teaching Innovation of Product Design Majors in Colleges and Universities under the Background of New Liberal Arts - Taking Design Management as an Example" written by the teaching team.

3- The secondary evaluation mechanism for the final proposal tender. After the speech session, the teacher will send the speech record to the students to encourage them to revise again and improve their scientific research ability.

5. THE EFFECT AND PROMOTION

5.1 Effect Evaluation

Based on the high-level training objectives, this course evaluates the teaching effect in view of the "pain points" in teaching. Through the investigation of cultural cognition and tolerance ability, we can see the improvement of students' thinking ability and the effect of ideological and political education. During the pre-class interviews, the students knew little about the overseas influence of Chinese companies, and they advanced their self-confidence and sense of identity with the national culture through teaching activities. Faced with controversial scenes, students also showed strong cultural awareness (Figure 13). Through the investigation of critical thinking and innovation ability, it is found that after the reform and innovation, students can study specific innovative design product works from a cross-cultural and interdisciplinary perspective, which solves the pain point that the comprehensive ability is difficult to improve. Especially after the topic selection and argumentation, the students further know the design in management, the management in the design project and why the design should be managed. (Figure 14) The survey results of problem finding and solving ability show that students have improved in terms of teamwork and learning effects (Figure 15), and the hierarchical evaluation has effectively solved the "fairness" pain point.
5.2. Promotion of Achievements

5.2.1. Student Achievement Transformation

A number of students have invented utility model patents. Inspired by the "tea culture", Li Chunliang and Huang Jinying, a 17th grade major in product design, invented the utility model patents for "a storable and compressed tea set", "a refrigerator side door beverage machine" and product design. Professional achievements in recent years.
6. TEACHING REFLECTION

In teaching innovation, there are two main problems in this course. First of all, many senior students are in the process of choosing where to graduate, and they still need to complete the graduation design task at the end of the semester. The academic pressure is relatively heavy, which affects the learning effect. In future courses, the amount of tasks should be adjusted appropriately to ensure the quality of completion. Secondly, the in-class interaction function of the Superstar Learning Pass platform can meet the needs of basic courses, but the course resources cannot be directly transmitted with other platforms, the live broadcast function is also limited, and after-class expansion is limited. In the future reform, we will continue to explore other technical means to improve the quality of teaching. It is necessary to make full use of modern information technologies such as AI and VR to guide students who do not have a strong sense of participation and stimulate their enthusiasm for independent learning.

REFERENCE LIST


