

# ***Research on the Construction of Innovation and Entrepreneurial Practice Teaching System for Art and Design Majors***

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**Abstract:** With the rapid progress of our country's society, the current teaching philosophy of higher vocational colleges is no longer solely to transfer knowledge and skills to students, but gradually to become entrepreneurial education. Its main purpose is to enable students to gain a firm foothold in the society in today's employment pressures, and to further develop their goals.

The art design profession, as a highly practical transition in higher vocational colleges, how to carry out innovation and entrepreneurship education is also a question that relevant educators are thinking about. Training art creative professionals with innovative spirit and entrepreneurial ability is an important training factor for the employment of college students in the new period. The innovative and practical orientation of professional personnel training requires that the focus of art and design professional education falls on practical teaching, that is, cultivating students' ability of innovation and entrepreneurship is the core of teaching. A perfect innovation and entrepreneurship-type practical teaching system is the prerequisite for improving the quality of practical teaching, and it is the fundamental guarantee for the university to achieve the goal of personnel training. This article takes the goal of the training of art and design professionals as the guide, explores the principles and influencing factors for the construction of an innovative and entrepreneurial practical teaching system for the art design professional under the background of professionalism, and builds a practical platform for improving students' innovation and entrepreneurship.

## **Introduction**

The primary goal of carrying out innovation and entrepreneurship education in higher vocational colleges is to cultivate applied talents that can adapt to the system of innovation and entrepreneurship. This is also the main way to deepen the reform of higher vocational education and cultivate students' entrepreneurial spirit and corresponding practical ability. The position of the art

design profession in higher vocational education is rather special because of its strong practicality, and most of its educational goals are to cultivate students' independent design ability and creative thinking ability. Therefore, colleges and universities should integrate innovation and entrepreneurship education into the art design profession, so as to cultivate professionals with a solid professional foundation, high standards of professionalism, and rich innovative thinking. This article has made reforms and attempts in teaching theory system as well as innovative and pioneering parks to promote the practice teaching of art design majors. It has formed both professional theory and practice, and analyzed and explored the innovative and entrepreneurial practice teaching system of art and art design specialty.

## **1. Constructing a Teaching Theory System Based on "Innovative + Practical"**

In the knowledge-based economy era, innovation systems and innovation capabilities have become an important basis for national and regional economic and social development and a key factor for competitiveness. The cultivation of new-type construction talents with innovative entrepreneurial spirit is an important trend in today's social development. In order to respond to the national policy and to adapt to the further development of the social economy, cultivating students' ability to innovate and practice has become the core idea of the modern education concept.

### **1.1. Establishing a "Gradually Progressive" Practical Teaching Framework**

In order to build students' innovative awareness and practical ability, they will change the teaching mode in line with the needs of the social structure. In the new teaching plan, they will gradually increase the teaching curriculum of innovative practice, respond to national policies, and conform to social development. In the construction of a "step-by-step progressive" teaching system, combining theoretical teaching with students' abilities in different phases of learning and cognition as the center to carry out teaching activities. It includes "three phases, three capabilities, and four trainings". The "three phases" mainly refer to the completion of basic knowledge accumulation in the initial stage of the first grade; the completion of the innovative thinking process in the second grade curriculum; and the gradual transformation of the third and fourth grades into practical ability, the initial training of its major engineering design concepts, the completion of the integration of innovative thinking and practical application of the stage. The "three capabilities" refers to the progressive ability to cultivate, including innovative thinking ability, professional knowledge application ability, and engineering project practice ability. During the teaching process, we will increase practical ability training without breaking away from the concept of innovation and actively guide students to participate in various design competitions to develop students' innovative awareness and basic vocational skills. The "four trainings" refers to the completion of basic knowledge training for students in the first grade; software application training for design majors in the second grade; professional design competition training in the third grade; and major practice training for the fourth grade. The training should focus on training students' design ability, which is mainly reflected in curriculum design and graduation design. It strengthens the effectiveness and practicality of the training, so that the students can quickly and comprehensively master the engineering design knowledge, and comprehensively improve students' professional practice ability and quality, strengthen their professional knowledge and ability, and integrate practical theoretical knowledge with practical operations.

## 1.2. Establishing a "Dual-Qualified" Team of Teachers for the Purpose of Innovative Practical Teaching

For the art and design profession, to improve the quality of practical teaching, a highly qualified "dual-qualified" teacher team is indispensable. It must have a systematic theoretical knowledge and rich experience in engineering practice. To establish a high-quality "dual-qualified" teacher team, we must first break the inherent traditional concepts, establish a scientific and perfect modern vocational education concept, and adhere to the educational ideology of "practice-based, teaching-assisted" as the core. In the process of building a "dual-qualified" teacher team, actively bringing in first-line experts with rich practical experience to enter the school to give lectures and guide the practice has important implications for students to understand the latest industry knowledge and information as well as to improve their innovative capabilities.

## 1.3. PsoRank, an Evaluation Algorithm Based on Particle Swarm Optimization

One kind of PSO algorithm is a swarm intelligence algorithm. It searches for the optimal solution to the problem through the information interaction between each individual in the group, and measures the quality of the searched optimal solution through a specific fitness function.

Combined with the quality of art design students and the quality of the courses, the factors that affect the innovation and entrepreneurship ability of art design students are considered in all aspects, so that the courses can be evaluated fairly and fairly.

After the reposting or reposting of information between students  $i$  and  $k$ , the increase in influence of the course can be evaluated by formula (1).

$$VIS_i(p) = VS\_Self_i(p) + \inf v_k(p) \quad (1)$$

Among them,  $VS\_Self_i(t)$  represents the impact of student  $i$ 's own quality on the influence;  $\inf v_k(t)$  represents the impact of the quality of student  $i$ 's course  $k$  on student  $i$ .

Taking the change in the influence index caused by the interaction between users as the speed  $v$ , the speed update formula of the PsoRank algorithm is shown in formula (2):

$$v(m+1)_i = a \cdot b_i(m) + \mu_q \cdot Retweet_i + \mu_1 \cdot Tweet_i \quad (2)$$

## 1.4. Establish a Diversified Practical Teaching Model

(1) School + enterprise. The diversified teaching framework system is the external guarantee of practical teaching, and the implementation of practical teaching needs to be associated with related companies. As a highly practical art design professional, it should make full use of its professional characteristics and integrate it with relevant enterprises to expand students' training space. Break the inherent education model, move the classroom into the enterprise, move the project into the classroom, and synchronize the students' innovation and practice, and realize the "school + enterprise" teaching system.

(2) Teaching + research. The depth of teaching depends on the depth of scientific research conducted by the instructors. Teachers with a higher level of scientific research have more thorough understanding of teaching and are more likely to make students enter the state in class. Their achievements in scientific research continue to be used in the classroom. This will break the inherent limitations of teaching, make the content of the teaching no longer limited to written, and lead students to conduct more in-depth discussions, and their impact on students is not merely in

terms of knowledge, it is more about enlightening students' thinking methods and learning this rigorous research attitude and the spirit of diligent study.

(3) Concentration + dispersion. "Concentration" refers to the latest developments in the development of science and technology in art design according to the practical teaching plan. New technologies, new techniques, new equipment, new theories, etc. are used to organize students to practice learning. For students who have not actually contacted the engineering project, quantitative practical learning can make up for the problems faced by students in decentralized training, and enhance the students' knowledge reserves so that the students' learning content can be integrated. "Dispersion" is the best supplement after intensive learning. It is a practical measure for students to practice and fully demonstrate their abilities during their school days. An internship plan is developed according to the student's characteristics. The student independently selects the internship unit according to his employment orientation and interests. In order to cultivate the overall quality of students and adapt their work ability, they should exercise their ability to independently solve problems and enhance their sense of responsibility and social practice.

(4) In-class + extracurricular activities. "In-class + extra-curricular" refers to the learning of basic required courses through classroom teaching, expanding the level of knowledge, and strengthening the understanding of basic theoretical knowledge. Extracurricular activities will actively guide students to participate in various design competitions and social practice activities, combine their own characteristics, and build a platform for extracurricular training services to stimulate students' interest in independent study and research, and to encourage and encourage students to develop innovative thinking and creativity. Consolidate and sublimate student's theoretical knowledge, highlight the students' individuality development, and exercise students' awareness of innovative practice.

## **2. Constructing Students' Innovative Consciousness and Practical Ability by Using Teaching Methods Combined with Theory and Practice**

The cultivation of innovation ability mainly comes from the cultivation of observation ability, thinking ability, practical ability and information acquisition ability. With the development of society, practical teaching has become a common education system in some colleges and universities. However, some problems have also been exposed. The basic methods of basic training have been overemphasized and the requirements and procedures for practical projects have been too rigid. This not only limits the student's thinking mode, but also makes this inconsistent with the original intention of teaching.

1) Constructing students' creative design ideas with targeted teaching. The key to students' entrepreneurial training lies in the cultivation of their innovative consciousness. A targeted teaching plan is one of the important ways for students to succeed. In the junior stage of the university, students lacked professional knowledge, had little knowledge of the content of their work, and had unclear plans for future goals. They should construct a teaching system for students' own problems. In the first grade, students are in the stage of concept construction, instilling in the latest industry knowledge content and design concepts, broadening their horizons, clarifying career goals and future development directions, and practicing learning cycles for 1-2 weeks. The second-year students have certain professional knowledge and literacy. To strengthen their practice and observation skills, they combine the "dual-qualified" teachers in the school to guide students and organize students to participate in various practical activities. The teachers lead students to carry out some simple projects. Under the tutor, teachers are directed to guide students to participate in the

activities of some design companies to improve their professional qualities and their ability to learn under class. The third-year students have relatively perfect professional knowledge and ability to innovate in certain projects. They are interspersed with the study of internship courses in teaching, introducing new design concepts, broadening students' thinking, aiming at the characteristics of students, guiding students in design innovation, and guiding them to participate in various types of project innovation simulation training, improving their practical and innovative capabilities. Strengthen the contact with the market and understand the latest market conditions. The students independently select the relevant design company to practice according to their own characteristics. While strengthening their own capabilities, they can understand the job market and stimulate entrepreneurial innovation. Fourth-grade students have a certain degree of professionalism. Build a platform for innovation and entrepreneurship services for students and encourage students to actively innovate and start businesses. They should enter the relevant industry to apply for the actual work to improve their own shortcomings, and accumulate basic work experience.

2) Improve student's professional practice ability through the teaching method of project training. The art design profession has a strong practical application, making it very closely related to market companies. In response to this feature, make full use of its development of school-enterprise cooperation, expand the practical teaching platform, move the project into the college, move into the classroom, make students more accessible and easier access to the social market, understand the social market conditions, deepen the strengthening of professional Knowledge understanding and social practice capabilities. Make full use of the school-enterprise cooperation relationship and receive projects from related companies, so that students can directly absorb the necessary knowledge in practice to cultivate students' practical ability, competitive awareness and teamwork ability. The teaching system of project training breaks the traditional closed system. The teaching mode enables students to have more opportunities to directly participate in teaching, participate in discussions, and participate in the whole process of actual design and development. To improve students' practical ability in an all-round way, students can even directly face the market, understand social needs, conduct research on them, and master their comprehensive scientific work concepts and design methods, so that students can find their own problems in practice and gradually improve themselves. Through the method of project training, students can learn in a more free space, strengthen their practical application ability and ability to solve problems, and gradually become familiar with the various procedures of adaptation to practice, so that students can achieve the process from theory to practice. It comprehensively improves the students' professional practice ability.

### 3. Promoting Practical Teaching of Art Design Specialty with Innovation and Pioneering Park

In order to enhance students' interest in learning, this article conducted a questionnaire survey for students majoring in art and design. By designing a questionnaire for students' opinions on the implementation plan of the entrepreneurship park teaching, 50 students were invited to participate, and then the questionnaire was sorted out, and the content results obtained are as follows in table 1:

*Table 1: Support rate of students for dual-guide system and studio model*

	School Professional Tutor	Enterprise Related Personnel
Two-tier Tutoring System	29	21
	Teacher+Student	Student+Student
Studio Teaching Mode	32	18

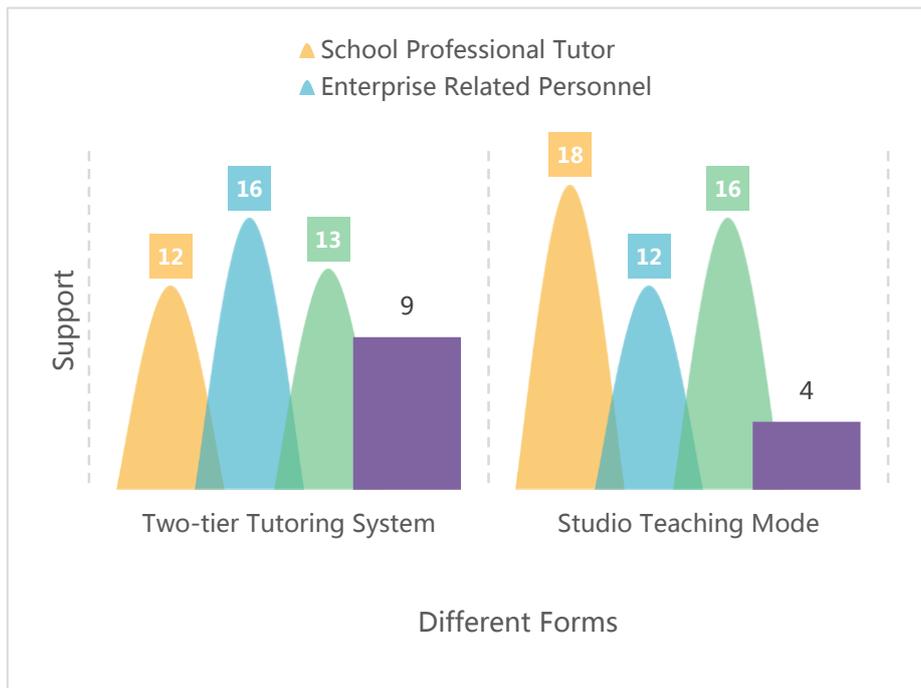


Figure 1: Support rate of students for dual-guide system and studio model

From Figure 1, we can see that students agree with the dual-instruction teaching method. Judging from the support of school guides and company staff, students believe more in the teaching of company entrepreneurs. In contrast, four more people support the company's staff teaching and guidance. As for the studio model, the student + teacher entrepreneurial model is more popular. Because teachers have knowledge reserves of relevant research and are more thoughtful, students are more inclined to start businesses with teachers.

1) The whole process of double-tutoring system. The so-called double-tutoring system is to provide students with two tutors, one is a professional tutor in the school and the other is a related person in the enterprise, in the process of students accepting innovation and entrepreneurship education in the innovation and entrepreneurship park. The two instructors are mainly responsible for students' professional training, work-study alternates, and internships. Among them, school teachers are responsible for ideological and political education during practice and provide professional theoretical knowledge; and related personnel of the enterprise are responsible for the training and instruction of students' professional abilities, as well as conveying the company's philosophy to students and helping students to better establish entrepreneurial ideas.

2) Studio teaching mode. The construction of the studio here is generally responsible for the professional teachers in the school, recruiting students with the same interests and interests to register and team up to form the simplest corporate model. In this model, the combination of professional knowledge and the actual work of the company is mainly to allow students to enter the working state more easily. The studio teaching mode not only enables full communication between studios, increasing students' relevant work enthusiasm, but also enables competition among working hours, stimulating the students' potential and developing the characteristics of each studio. In the end, the studio became the cradle for fostering the entrepreneurial spirit of higher vocational college students.

## 4. Summary

Colleges and universities pay attention to pragmatic training in cultivating art and design professionals and build a creative and entrepreneurial practice teaching system to enable arts and design students to truly get closer to the market, approach the society, and gradually establish a progressive and scientific art design teaching system.

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