

# Technology Empowerment: Research on the Training Mode of Innovative Teachers of Art Design in Colleges and Universities in the New Era

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**Abstract.** Higher education in China has entered a new era of quality improvement, emphasizing the importance of cultivating innovative teachers. Under the impetus of digital education, higher art education should deeply integrate art education and information technology, analyze the practical dilemma of teacher training, and promote teaching practice, resource selection, collaborative co-education and evaluation verification through technical empowerment, so as to build a new training mode for innovative teachers of art design in colleges and universities, empower teachers of art design in colleges and universities to transform, so as to meet the social needs and promote the healthy development of higher education in China.

**Keywords:** Technological innovation; Art design; Innovative teachers; Cultivation mode

## 1 Introduction

Education develops with science and technology, and the digitalization of education provides an important driving force for innovating educational ideas, educational means, teaching models and educational structures, and provides an important guarantee for building an educational power. For art design majors in colleges and universities, innovation is the core of design. Digitalization of education provides diversified and multi-modal platform support and technical support for art design majors in colleges and universities, and is a strong guarantee for creating innovative teachers to carry out innovative teaching of art design in colleges and universities. Therefore, colleges and universities urgently need to be upright and innovative, deeply study the training mode of technology empowering innovative teachers of art design in colleges and universities, and deepen the reform of teachers' team construction in the new era. This is the development requirement of teacher education in the context of the new era, and it is also an important foundation and prerequisite for cultivating innovative teachers.

## 2 The connotation of innovative teachers.

For the explanation of the connotation of "innovative teacher", Tian Shixu, Song Wei and others think that innovative teachers are teachers who attach importance to the cultivation of students' innovative spirit and ability, understand the law of innovation, are good at creating an innovative environment, are brave in innovation in education and teaching, effectively apply

new technologies, new equipment and new methods, and constantly improve their professional development[1].Based on the understanding of the responsibility and mission of art educators in the new era, this paper summarizes the main characteristics of innovative teachers of art design as follows: First, understand the latest higher education policies, development goals and trends, and closely link teaching design with social development; Second, pay attention to the innovative application of knowledge, integrate innovative spirit into teaching practice, and use innovative practice to effectively expand teaching horizons; Third, the teaching curriculum should be integrated with humanistic connotation and artistic aesthetics, enrich aesthetic education practice and strengthen the integration of aesthetic education spirit and ideological and political education; Fourth, have extensive and systematic knowledge, integrate and apply knowledge from interdisciplinary and interdisciplinary fields, and cultivate students' innovative ability of cross-border cooperation; The fifth is to have the spirit of innovative thinking and lifelong learning, and constantly improve their professionalism, innovative awareness and innovative ability.

### **3 The Current Dilemma in the Training of Art Design Teachers in Colleges and Universities**

At present, the high-quality development of national modernization has put forward higher requirements for the quantity and quality of innovative talents training in colleges and universities. Many colleges and universities have realized the urgency of cultivating innovative teachers and consciously practiced the exploration of innovative teachers' reform. However, the main body of teacher education is "education for people" rather than "materialized education", and the grand, complete and beautiful outline is bound to make the cultivation of innovative teachers a utopian idea[2].The art design education in colleges and universities in China has not yet established a perfect talent training system. Through the analysis of technological innovation, there are many practical problems in teaching content, educational resources, educational environment and educational evaluation, which need to be reformed urgently to meet the needs of the times.

#### **3.1 Limitation of technology and particularity of art design education**

The education system of art design is creative, open, pluralistic and uncertain. Its research content and service object are unique, involving the complexity of teaching content, the comprehensiveness of interdisciplinary, and the comprehensive cultivation of humanistic quality and design ability. The development of information technology promotes the innovation of art design teaching, but excessive dependence on technology may lead to the limitation of creativity. Some teachers ignore humanistic knowledge, aesthetic education and ideological and political education, which leads to the lack of cultural connotation in students' works. This teaching concept is not conducive to cultivating innovative talents with both professional skills and humanistic quality.

#### **3.2 The innovation of educational resources is slow, lacking practical ability and innovation foundation.**

Higher education needs to actively respond to the pace of social transformation, further face

up to the lack of digital technology support in the teaching infrastructure of art design majors in colleges and universities, and make a thorough reform of educational resources. There are some difficulties and obstacles in the art design major of most colleges and universities, such as unbalanced resource allocation, low resource utilization rate and worrying prospect of sustainable development. Art design major is a practical major, without corresponding practical resources and bases as hardware support or not fully utilized, which leads to students' lack of practical ability and innovative foundation, unable to integrate theory with practice, and unable to meet the diverse needs of society.

### **3.3 The traditional education mode is dominant, and the educational concept is relatively backward.**

The higher art design education in China is developing rapidly, and the market demand is increasing rapidly, but the education is not yet mature and there are many problems. It mainly focuses on the core literacy, curriculum construction, teaching reform and textbook updating of teachers' education implementers. The structure is relatively simple, and the diversified professional background and educational experience are seriously lacking, which limits the innovation and development of teachers' training mode. At the same time, young teachers lack teaching experience, older teachers find it difficult to update their ideas and lack technical support, which leads to the failure to make full use of digital technology and innovative methods in teaching and to realize the personalization and diversification of education and teaching. Secondly, students' own professional skills are lacking, and what the society needs and enterprises want is not what the students learn, but what the students are good at, which leads to the increasingly serious phenomenon of "adventureland" among college students[3].

### **3.4 Traditional educational evaluation concept is single.**

Educational evaluation is a crisscross three-dimensional evaluation system, which includes comprehensive evaluation of teachers' literacy, students' literacy, teaching quality, educational resources, educational environment and other aspects and levels[4]. With the deepening of digital intelligence technology in the field of education, the traditional educational evaluation places too much emphasis on standardized formative evaluation. In the practical evaluation of art design teaching, the evaluation index is usually designed by measuring students' works as the comprehensive mapping of evaluation results, and taking the utilitarianism of employment, achievement and certificate as the guidance, which ignores the realization of the ontological value of educating people to a certain extent, which is not conducive to the growth and all-round development of students' personality, and improves the all-round, diversified, professional and scientific educational evaluation, which is the realization of the new era[5].

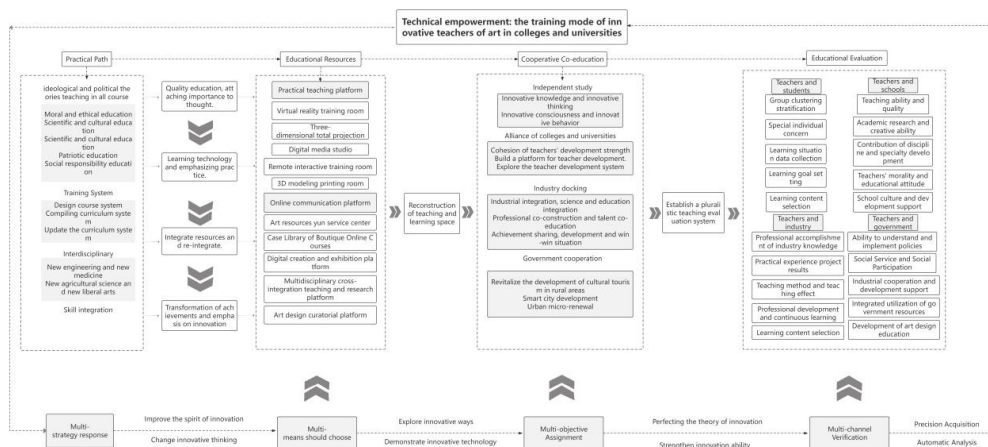
## **4 The Training Mode Framework of Innovative Teachers of Art Design in Colleges and Universities**

At present, the training of innovative teachers of art design in colleges and universities in China lacks a mature model, and the theory and practice of teachers are not mature, which affects the quality of education. In order to solve this dilemma, we should use technology empowerment to promote from multiple strategies, means, goals and channels, trigger

systematic changes in educational practice, resources, environment and evaluation, and promote the digital transformation of man-machine collaboration. Construct an innovative teacher training model in line with national conditions and promote the high-quality development of education[6].

#### 4.1 Teaching Practice-Multi-strategy Response

In the digital age, art design teachers are required to cultivate innovative talents, and the traditional teaching methods have not adapted to the needs of society. In educational practice, it is necessary to construct a curriculum system integrating art with ideology and politics, improve the training of teachers' technical ability, and explore an innovative system integrating art with information technology. Integrating quality education, skill learning, resource integration and achievement transformation into practice teaching to form a diversified education system model (Figure 1) is the standard of innovative teachers' professional development and the key to show their professional knowledge and skills in response to the changes of the times[7].

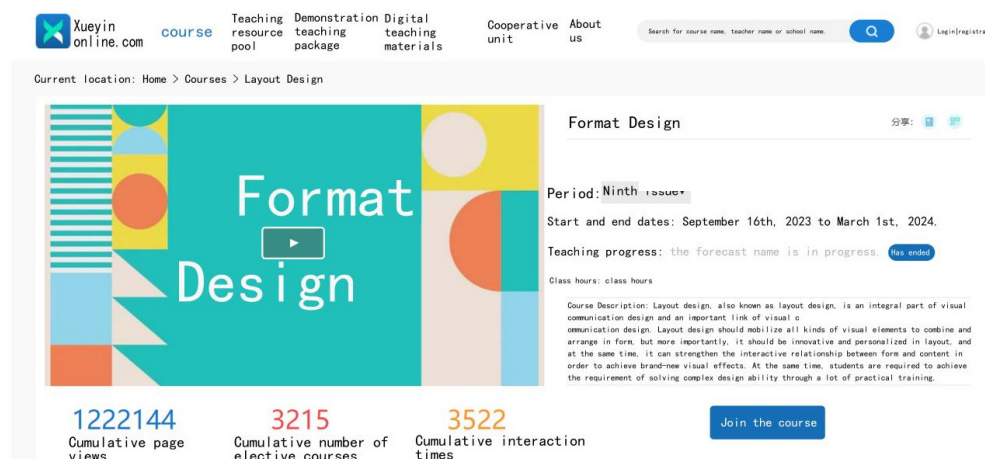


**Fig. 1** The framework of training mode for innovative teachers of art design in colleges and universities

First, strengthen ideological guidance, deepen the connotation of "art+ideological politics" course, tap the aesthetic and moral education efficiency of art design, and build a curriculum system with deep integration of art and ideological politics. Through the integration of ideological and political contents in art courses, we will strengthen the education of moral ethics, science and culture, ideology and politics, patriotism and social responsibility, guide students to create works with aesthetic value, cultural heritage, ideological connotation and new scientific and technological ideas, shape a complete personality, build the "great beauty" spirit of the Chinese nation, and realize the educational goal of internalizing the heart and externalizing it.

Second, improve the teacher's ability training system, improve teachers' professional skills, technical literacy and humanistic literacy, and guide students to learn. By strengthening the construction of teacher training system, such as using the platform of national wisdom education platform, the construction and application of high-quality online open courses, the

construction of course ideological and political demonstration projects, case base and digital resources (Figure 2), teachers are guided to understand the importance of modern information technology in the field of education, improve their innovative spirit, change their innovative thinking, explore diversified teaching methods, build and improve the design curriculum system, compile course textbooks, and update the teaching plans of higher art education, which provides necessary support for the development of innovative teachers.



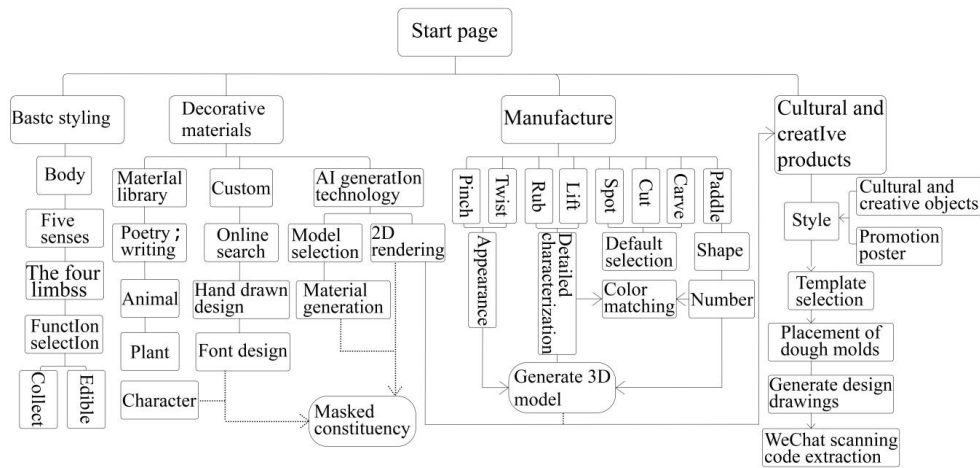
**Figure 2** Online digital resource platform display of innovative teachers of art design in colleges and universities

Third, optimize the layout of disciplines and specialties, strengthen the cross-integration of multiple disciplines, and promote the innovation and development of art design specialty by using new engineering, new medicine, new agricultural science and new liberal arts[8]. Combining the four innovations, art design can enhance product value and user experience and help scientific and technological innovation; Serve the strategy of healthy China, help rural revitalization, and cooperate with Baishui County and Yongshou County for a long time to build a training base for students and popularize the knowledge of aesthetic education and rural revitalization. Strengthen multidisciplinary integration, explore new teaching schemes and practical paths, and promote the construction of innovative teachers.

Fourth, strengthen the integration of art education and information technology education, provide students with rich ways of information acquisition and media art innovation by using modern information technology, cultivate teachers' characteristic teaching and subject transformation ability by combining new media technology, and enhance students' innovative spirit and problem-solving ability. Attach importance to the innovative teachers' ability to master new media technology, recruit teachers with strong digital media resources, cultivate students' ability to apply digital means to artistic practice, improve digital literacy, correctly master new tools, and promote the all-round development of students' comprehensive quality by relying on technical empowerment.

#### 4.2 Educational resources-multi-means selection

With the help of digital technologies such as 5G, AI and big data, we will build a shared practice teaching base and a digital online communication platform, enrich teaching forms, and create an immersive and interactive teaching environment, such as virtual reality training room, 3D holographic projection, digital media studio, remote interactive training room, 3D folk modeling printing room and other bases (Figure 3); Or use modern technology software such as Touchdesigenr and blender to realize the integration and sharing of information resources, and push the art and design specialty into the digital information era. The construction of digital infrastructure reshapes the teaching and learning space, and the virtual and reality are gradually integrated, and educational innovation is promoted with the characteristics of technical iteration and both soft and hard[9].



**Figure 3** Innovative 3D Folk Modeling and Printing Architecture Model for Art Design in Colleges and Universities

#### 4.3 Co-education-multi-objective distribution

In the new era, it is necessary to improve teachers' digital technology literacy and innovation ability, break the traditional teaching paradigm, improve innovation theory, strengthen ability and improve training mode. First of all, independent research is the key, and technological innovation provides support for it, encouraging teachers to develop independently and realizing the digitalization of education. At the same time, university alliance can promote inter-school communication, talent training and scientific research, improve teachers' teaching level and talent training ability, and build a collaborative development system of university alliance in the new era. Secondly, strengthen the cooperation between schools and enterprises, establish the docking mechanism of practice, research and study between schools and leading enterprises, deepen the integration of production and education with science and education, give full play to the advantages of enterprise resources, conduct cutting-edge technical exchanges with business backbones and technical talents, introduce practical cases, clarify the training objectives of talents, strengthen the training of technical and innovative talents, and realize a new mechanism of joint education between schools and enterprises with professional

construction, two-way flow of talents, technology research and development and project cooperation. Finally, strengthen government cooperation, make use of local cultural resources and industrial development potential, tap characteristic regional cultural resources and non-legacy cultural resources, lead students to conduct field visits, carry out design teaching activities, truly feel the rural customs and features, and design design products that meet the requirements of rural revitalization, such as building regional image and cultural brands, packaging design of characteristic agricultural products, etc., and transform practical achievements into productivity, serve local economic and social development, and help rural revitalization.

#### **4.4 Educational Evaluation-Multi-channel Verification**

In order to ensure the teaching quality of art specialty, it is necessary to scientifically construct the evaluation index system of teaching quality. First of all, make use of technological advantages, improve evaluation methods, strengthen the scientificity, professionalism and objectivity of educational evaluation, solve practical problems, and promote the reform of basic education evaluation in the new era. Secondly, the educational evaluation in the new era should follow the ideas of achievement-oriented, student-centered and continuous quality improvement, and build an intelligent evaluation system around the four main bodies of students, schools, industry and government. Specifically, it includes: student evaluation, which realizes accurate teaching through multi-dimensional evaluation; School evaluation, comprehensively evaluate teachers' teaching and academic ability, and improve the quality of training; Industry evaluation, promote teachers to understand market demand, master technology and improve teaching quality; Government evaluation guides the transformation of colleges and universities through policy understanding and employment rate, and points out a more scientific direction for cultivating innovative teachers of art design.

## **5 Conclusion**

Education is a national plan, and the new era needs innovative talents. As the core force of cultivating talents, schools and teachers should establish innovative teacher training mode to promote the high-quality development of art design education. Technical empowerment provides more development space for art design majors in colleges and universities. Colleges and universities need to keep pace with the times, unite various forces, improve the system norms, and ensure the implementation, innovation and sustainability of the training mode in order to cope with the trend of digitalization, networking and intelligence. At present, we are still exploring the construction of innovative teacher training mode, and we need to strengthen the combination of theory and practice, innovate and study constantly, and improve teachers' teaching level.

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