

Original Paper

Exploration and Practice of the Construction of Art Design Training Base under the Background of Digital Technology

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Abstract

With the continuous development of digital technologies such as artificial intelligence, big data, cloud computing, interaction design, and 5G, digital technology has brought infinite creative possibilities to art and design. The article focuses on the construction of the art and design training base at Zhejiang Vocational and Technical College of Commerce, which is supported by the central government. Starting from the construction concept, content, teaching mode, curriculum reform, teaching team, and management of the training base, the article conducts in-depth research and proposes innovative ideas, which play a demonstrative role in the construction of art and design training bases and the cultivation of art and design professionals under the background of digital technology.

Keywords

Digital technology, Art and design training base, Practice and exploration

1. Introduction

In recent years, with the continuous development and application of new technologies such as artificial intelligence, big data, cloud computing, and interactive design, digital technology has brought more diversified forms of expression and dissemination to art and design. The rapid development of science and technology has led to an increasing trend of interdisciplinary and interdisciplinary integration, as well as comprehensive and composite approaches. This poses new challenges to traditional art and design work. At present, traditional art and design suffer from problems such as single expression methods and low design efficiency, which are no longer suitable for the art and design industry in the context of the digital age. As an employer in the field of art and design, the rapid changes in digital technology have also put forward new requirements for professional teaching work. How to cope with the changes in digital technology, improve the quality of talent cultivation in art and design majors, cultivate students' innovative thinking, and enhance their practical abilities has become a new topic for the development of art and design majors. The practical training base is an important platform for art and design majors to improve their hands-on practical abilities, transform design creative ideas into work presentations, consolidate professional theoretical knowledge, and strengthen practical exercises.

It plays a crucial role in improving the quality of talent cultivation. Therefore, how to build a training base that is balanced with the development of the art and design industry in the context of digital technology is an important guarantee for innovating the talent training mode of art and design majors and enhancing practical teaching in art and design majors. It is also an important issue that urgently needs to be addressed in the reform and development of art

2. Current Situation of Traditional Art and Design Training Base Construction

This article takes more than 20 art and design training bases in universities such as Zhejiang Vocational and Technical College of Commerce as cases, and conducts investigations and research from the aspects of training base construction planning, training base construction content, practical teaching mode, faculty team construction, practical project setting, management system, etc. In recent years, art and design majors in universities often have certain training venues and have purchased many digital art and design software and hardware facilities and equipment, which can basically meet the needs of practical teaching courses and play an important role in practical teaching reform and talent cultivation. However, the problem of scattered allocation and construction of professional group resources, low sharing and utilization rate is still prominent, and there is a common phenomenon of emphasizing hardware construction over connotation construction, emphasizing project application over tracking and monitoring, and emphasizing funding investment over operation management. There are many problems, especially in how to combine technology with art and culture in the context of digitalization.

2.1 The Construction of Training Bases Has not Focused on the Development of Art and Design Majors (Groups)

In the daily construction of practical training bases, many colleges lack a long-term planning awareness for the construction of practical training bases, and their construction concepts are lagging behind, which is disconnected from the construction of art and design majors (groups). Often, emphasis is placed on the cultivation of traditional hand drawing skills and computer software skills, and training rooms such as basic painting training rooms, hand drawing training rooms, model making training rooms, pottery training rooms, computer software operation rooms, etc. are established. However, the purpose of building training bases to serve professional (group) construction is often overlooked.

2.2 The Software and Hardware Equipment in the Training Base Failed to Keep up with the Development Needs of Digital Technology

With the continuous development of digital technologies such as artificial intelligence, big data, VR virtual reality, cloud computing, the Internet of Things, interactive design, and experiential art in art and design, digital technology has brought rich forms of expression and communication media to art and design. Due to the traditional teaching of art and design not being able to apply advanced digital technology to practical teaching, the software and hardware facilities and equipment of art and design training bases are often outdated and have a significant gap with the development of industry enterprises, failing to keep up with the rapid development of digital technology.

2.3 Practical Teaching Fails to Meet the Employment Needs of Industry Enterprises

Although China has formulated incentive policies for the integration of industry and education at the government level, encouraging schools to cooperate more with enterprises and establish training bases for the integration of industry and education, many art and design majors in universities have established a "studio" practical teaching model. However, there are still problems such as an imperfect practical teaching system, outdated teaching content, and a lack of teaching staff. Especially those practical training projects that can reflect the latest development of art and design majors and cutting-edge research content are lagging behind, resulting in low quality of talent cultivation and a single knowledge base for students. Moreover, there are relatively few teachers engaged in teaching digital art technology, often lacking practical experience in the industry. Practical teaching has not been in line with the employment needs of industry enterprises, nor has it received sufficient attention from management, resulting in a serious disconnect between the talents cultivated by schools and the needs of employers.

3. Practice and Exploration of the Construction of Training Bases for Art and Design Majors

The training room is the cradle for cultivating innovative talents and the heart of modern universities. With the popularization of digital art design and the continuous innovative application of technologies such as artificial intelligence in art design, traditional art design is facing new challenges in order to adapt to the requirements of the digital technology era. It has gradually achieved a transformation from two-dimensional expression to multidimensional presentation, from physical reality to virtual reality, from closed-loop thinking to open innovation, and is moving towards an increasingly broad perspective. Alibaba Luban System, JD Linglong Design, Google AutoDraw, ARKIE Intelligent Drawing and other art and design platforms are used in graphic design, painting design, UI interface design and other applications. These AI based design platforms can generate a large number of creative and design works in a short period of time based on the learned design materials. Especially with the intervention of digital media, it has promoted the transformation of traditional media and attracted widespread attention from society and the field of art and design. This revolutionary change has become a topic of the times in the current global context. In the context of unprecedented activity in new thinking, new technologies, new tools, new media, and new environments, how to build art and design training bases in the new era? This article takes the construction of the central financial support training base and the provincial financial training base established by Zhejiang Vocational and Technical College of Commerce as a model to explore and practice the construction of art and design training bases under the background of digital technology.

3.1 Taking the Construction of Art and Design Majors (Groups) as the Main Line, Innovate the Concept of Training Base Construction

Our school currently offers majors such as Visual Communication Design and Production, Environmental Art Design, Exhibition Art Design, Digital Media Art Design, Animation Design, and

Art Design (Product Design). The construction of the training base adheres to the educational philosophy of "giving equal importance to creativity and skills, cultivating high-quality and high skilled talents", with the construction of professional groups as the main line and the cooperation between China and foreign countries (Australia) as the opportunity, highlighting the cultivation of innovation ability, introducing advanced foreign concepts for the construction of art and design professional training bases, integrating resources, expanding and improving existing training rooms, and constructing an overall construction plan for the art and design training base. Build a training and teaching center, research and development center, and service center with advanced facilities, high technological content, market-oriented, industry-specific, and regionally oriented facilities, and a real working environment that integrates teaching and training, training appraisal, social services, daily office work, project development, project research, and achievement display. To cultivate high-quality and skilled professionals in art and design for society, and to serve the local economy. Being in a leading position among similar universities nationwide, it has become a demonstration training base with strong radiation capabilities.



3.2 Innovative Art and Design Training Base Construction with Introduction of Digital Technology Equipment as the Main Body

The training base is an important platform for cultivating students' modeling ability and mastering expression techniques in art and design majors. It is also a place to train students' aesthetic and creative thinking abilities. It can provide effective guarantees for students to collect professional information, broaden their design horizons, and enhance their design concept level. The construction of art and design training bases is closely focused on the digital economy industry in Zhejiang Province, relying on the regional economic advantages of Hangzhou Cultural and Creative Industry Park, Hangzhou Animation Industry Base, Digital Creative Industry Park, Software Park, etc., and planning the overall professional talent training mode. Deepen cooperation with well-known enterprises such as China Digital Alliance, increase investment and construction efforts in training bases, and introduce high-tech and advanced digital facilities and equipment. The emergence of technologies and media such as virtual reality (VR), mobile apps, WeChat, etc. emphasizes user experience design, and many courses require the use of digital technology devices, such as graphic workstations, digital drawing boards, MIDI

keyboards, audio post production synthesis devices, cluster rendering devices, graphic design software, and audio and video editing software.

In the construction of the training base, emphasis is placed on creating a workplace atmosphere, combined with the requirements of professional qualification certification, and taking into account factors such as foresight, digitalization, rationality, scientificity, artistry, and human nature, 28 professional studios, "three innovation" research and development centers, and a digital teaching resource management library have been established. There are mainly indoor design training rooms, landscape design training rooms, architectural design training rooms, indoor structure display rooms, indoor soft decoration training rooms, public art training rooms, architectural model training rooms, living room model rooms, rendering design training rooms, window design and production training rooms, display design training rooms, furniture design training rooms, carving craft training rooms, decorative material display rooms, display and construction training rooms, sculpture craft training rooms, woodworking production training rooms, product modeling training rooms, modern handicraft training rooms, folk art display rooms, basic painting training rooms, graphic design training rooms, photography and videography training rooms, screen printing training rooms, work display training rooms, digital video broadcasting training rooms, 2D animation production training rooms, 3D and special effects production training rooms. Room, etc.



3.3 Developed a "Dual Teacher" Team for Practical and Innovative Art and Design Teaching

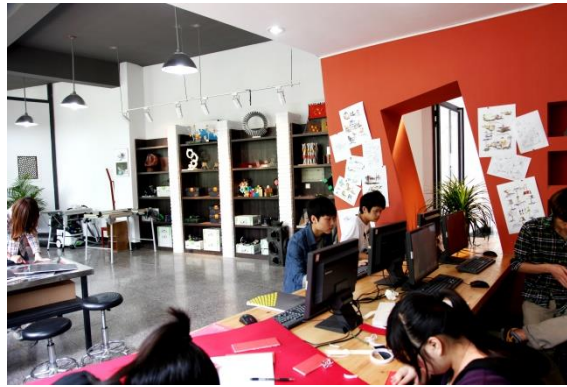
The cultivation of a "dual teacher" team with high-level practical teaching experience and innovative art and design teaching is an important guarantee for the construction of the training base. By selecting teachers to study at domestic and international training bases and organizing them to participate in production practices in enterprises in a planned manner, teachers can continuously improve their professional skills in practice. Emphasize the cultivation of "dual teacher" qualifications for professional teachers, select teachers to participate in "dual teacher" quality teacher training, and obtain

national vocational qualification certification; Actively organize teachers to participate in various trainings related to new technologies, processes, and materials, actively organize teachers to visit and inspect domestic and foreign universities or design companies, so that teachers' professional knowledge can be supplemented and updated in a timely manner. By June 2020, the proportion of "dual teacher" teachers among practical training instructors reached 95%, and more than 20% of practical training instructors were directly introduced or hired from enterprises as technical experts. All practical training (internship) instructors hold intermediate or higher professional technical positions or national vocational qualification certificates for technicians, forming a sufficient, high-level, and relatively stable team of practical training (internship) instructors. There are currently 3 doctors, 3 professors, 12 associate professors, 12 national vocational skill assessors, 21 technicians, and 1 senior technician.

Hire designers with rich artistic practice experience from industry enterprises as part-time teachers, and form a team of practical teachers through the approach of "inviting in and going out". In recent years, by leveraging the government, industry associations, and well-known enterprises, a team of part-time teachers from enterprises has been established to timely introduce advanced digital art and design practice technologies from industry enterprises into practical teaching.

3.4 Building an Art and Design Training Base Platform to Enhance Regional Social Service Capability

The construction of art and design training bases follows the principles of guidance, sharing, efficiency, sustainability, and dynamic development. Fully leverage its guiding role in the cultural and creative industries of Zhejiang Province, as well as its high-quality educational resources and demonstration radiation, to promote the reform and development of similar universities. To fully leverage the resource advantages of the training base, we will carry out vocational education teacher training, enterprise employee vocational skills training, national assessor training, and national vocational skills appraisal for industries, enterprise employees, and in-service teachers; Organize and host the Zhejiang Provincial Department of Human Resources and Social Security and the Provincial Department of Education Art and Design Vocational Skills Competition effectively; The base is the vocational teacher training base of the Zhejiang Provincial Department of Education and the art teacher training base for primary and secondary schools of the Zhejiang Provincial Department of Education, which has trained more than 600 primary and secondary school teachers in our province; We provide services such as national vocational qualification certification, technical consulting, and qualification certification for art and design professions for Zhejiang provincial enterprises and cultural and creative industry enterprises in Hangzhou. The training base also utilizes equipment, development capabilities, and enterprise advantages to undertake various technical services and horizontal courses, directly serving enterprises. The annual training capacity exceeds 2200 people/times.



3.5 Innovative Training Base Open Management System, Promoting Open Sharing of Equipment Resources

In order to improve the utilization rate of training rooms, strengthen the construction of training platforms, promote the open sharing of equipment resources, and enhance the efficiency of resource utilization, practical explorations have been carried out to effectively provide training base services for students in skill competitions, graduation projects, and training project production stages. A management method for the opening of training bases has been formulated, and a digital sharing platform for training bases has been built. Based on the stock of art and design training equipment, sharing management needs, and sharing service demands in our school, we actively implement the opening of training rooms, learn from advanced sharing management models in domestic and foreign universities, establish an open sharing management model that suits our own situation, improve the open sharing management system, improve the management mechanism, and implement round the clock opening of training bases for students. Students can make appointments through the APP platform, which will be reviewed by the person in charge of the training room, Report to the training center for approval and consent to use. We promote the open sharing of equipment resources and improve the utilization rate of training rooms through extracurricular activities, public art elective courses, and organizing diverse extracurricular activities.

3.6 Clarify the Operation and Management Mechanism of Art and Design Training Bases to Ensure the Normal Operation of Practical Teaching

To comprehensively improve the teaching quality of art and design majors, it is necessary to build a training management team that understands art and design majors, has digital facilities and equipment, and has a sense of responsibility. Only by improving the comprehensive quality of technical majors and enhancing the ability of training technology services can the art and design training base operate efficiently. The base has established a construction leadership group responsible for the construction and operation of the training base. Mainly including facility and equipment management, safety operation management, fund utilization management, fixed asset management, etc. Carry out planning, project application, demonstration, project approval, construction, acceptance and performance evaluation, overall coordination and management of the training base; Carry out the application and

construction of national, provincial, and municipal training base construction projects; We have established management systems for the job responsibilities of training base management personnel and the appointment of technicians to ensure the normal progress of practical teaching.

4. Conclusion

In summary, in order to build practical training bases for art and design majors in universities, it is necessary to combine the characteristics of high-tech facilities and equipment that are rapidly developing under the digital background, set up scientific and reasonable practical teaching projects with digital art characteristics, and cultivate a large number of high-quality talents with innovative spirit who are "broad caliber, solid foundation, applicability, composite, and versatile". Helps to improve the quality of talent cultivation in the field of art and design, enabling continuous innovation and high-quality development in the era of artificial intelligence and digitalization.

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