

Path Exploration of Digital Media Top Talent Training System in Higher Vocational Colleges Based on Virtual Simulation Experiment Teaching

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Abstract: The Fifth Plenary Session of the 19th CPC Central Committee emphasized in the vision goal of 2035 that it is necessary to build a country with strong education and talent. Building a top-notch talent training system and training a batch of top-notch innovative talents is an important foundation for building a country with strong education and talent ^[1]. At the same time, the Ministry of Education proposed that virtual simulation experiment teaching is an important content of higher education information construction, and is the product of the deep integration of disciplines and information technology. The purpose of virtual simulation experiment teaching is to improve the innovative spirit and practical skills of college students in an all-round way and to share high-quality experimental teaching resources as the core. Through the new teaching form and novel way of virtual simulation, we can cultivate top-notch talents with high-quality and compound skills. Through the integration of production and education, we can achieve the natural match between the training of higher vocational talents and the needs of talents in the industry and enterprises.

Keywords: Virtual simulation; Top talent; Digital media; Vocational colleges

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1. Training opportunities for digital media top talents in higher vocational colleges

In 2019, The State Council issued the Implementation Plan for National Vocational Education Reform, which proposed that the goal of higher vocational education is to cultivate artisans and skilled craftsmen in major countries ^[2]. The talent training of higher vocational colleges should keep pace with the times around the constant changes of the industry and the enterprise, which always follow the transformation and upgrading of related industries.

1.1. New changes brought by the digital creative industry to the training of digital media talents

With the advent of the 5G network and the popularity of mobile terminals, in recent years, the state has included the development of the digital creative industry in the key areas of national promotion of high-tech industrialization, and it is also one of the five new pillar industries with an output value of 10 trillion yuan. The output value of 10 trillion yuan can cover the training needs of most art and design majors. The first thing that should be covered is the talent training of digital media. For example, at present, the decentralization of blockchain and the connection of everything in the Internet of Things are new attributes of design in the digital age, so the design structure of the whole new era has a new composition framework^[3]. The education of digital media should actively meet the challenges of the digital science and technology revolution, integrate the new generation of information technology into the existing digital media disciplines, and achieve knowledge expansion and the cultivation of innovative thinking and innovative talent training systems.

1.2. Kinetic energy provided by the integration of production and education for the cultivation of top-notch talents in art design

To a certain extent, the purpose of education is to provide matching talents for relevant industries and enterprises and promote their reform. Therefore, industry and education are mutually complementary. The digital creative industry is a new economic form produced by the gradual integration of modern information technology and the cultural creative industry. The employees trained by digital media should not only have excellent knowledge and skills but also keep a high sense of industry and enterprise changes. Therefore, based on the integration of production and education, the implementation of a modern apprenticeship system, industrial college, and other means greatly narrows the distance between industrial dynamics and talent training^[4], to create a professional knowledge system based on new industrial technologies and skills, and improve the quality of digital media talent training.

2. Teaching status and problems of digital media talent training based on virtual simulation

2.1. Research status and problems of talent training based on virtual simulation

The Notice of the General Office of the Ministry of Education on the Construction of Demonstrative Virtual Simulation Experiment Teaching Projects from 2017 to 2020 proposes the construction of 1000 demonstrative virtual simulation experiment teaching projects and requires all colleges and universities to actively cultivate and build such projects^[5]. At present, virtual simulation teaching has also become a key way of teaching reform and talent training in major higher vocational colleges. Therefore, integrating virtual simulation with course content and talent training is very important to comprehensively improve students' knowledge, skills, and professional quality, which also brings new challenges.

It mainly includes: (1) The open teaching course system brings difficulty in the design of course content form. As a new technology, the difficulty and cycle of developing virtual simulation limit the flexibility and practicability of using virtual simulation in classroom teaching to a certain extent. How to improve the pertinence and practicability of virtual simulation teaching will bring new challenges in the content setting, material selection, and form of curriculum development^[6]. (2) The application of virtual simulation in teaching can greatly improve the efficiency of practical experiments in the course. However, in the experimental teaching within the course, due to the different experimental purposes, contents, and methods, the actual combat ability and experimental level of professional teachers will affect the reform of virtual simulation experiment teaching^[7].

2.2. Dilemma of talent training in digital media

(1) Complicated curriculum system and insufficient knowledge integration

The improvement of talent training quality is based on the enhancement of curriculum quality. From a macro point of view, curriculum quality depends on a scientific and reasonable curriculum system^[8]. The curriculum system for the cultivation of digital media professionals is often characterized by cross-disciplinary integration and high difficulty of knowledge and technology. The industrial transformation led by the market economy is taking the industrial cluster formed by the cross-integration of multiple industries as the direction. Enterprises hope that students not only have a deep interdisciplinary cognitive foundation, independent thinking, and logical reasoning, but also require them to have the ability of business integration and innovation, lasting curiosity, innovative thinking, and specialized practice of integrated problem solving^[9]. The construction of a college curriculum system must first inherit the characteristics of industrial development, so the cross-integration of multi-disciplines is also a reasonable means for the cultivation of digital media talents. However, the opening of multi-disciplinary and interdisciplinary courses easily leads to the incompatibility and complexity of the curriculum system and the lack of knowledge integration, which cannot promote the training of digital media talents, broaden the breadth of talents' knowledge, and cultivate difficult logical thinking and scientific practical skills to solve complex problems^[10]. In addition, the curriculum content is rigid and narrow, and the cultivation of humanistic and professional qualities cannot be deeply instilled.

(2) Single structure of teaching staff and weak “double teacher” teaching team

The development of vocational education is based on the introduction of teacher talents and the construction of a reasonable teaching team. Under the current system of our country, a large number of fresh graduates of young teachers have invested in higher vocational education reform in recent years. It cannot be denied that, in terms of the age structure of teachers, teacher youthization has become the main trend. The status of these teachers directly converts from students to teachers, they lack enterprise practice and higher vocational education teaching, research, and other important work experience. Under this trend, many colleges and universities have a single structure of professional teachers. Although teacher colleges and universities adopt multiple channels and means, such as deepening school-enterprise cooperation to introduce enterprise teachers and high-level talents, under this inevitable trend, the construction of “double teachers” that is strongly advocated by the state cannot be achieved.

3. Construction of digital media top-notch talent training system in higher vocational colleges based on virtual simulation

3.1. Taking a hybrid cross-grade learning team as an innovative means to form the top-notch training concept of “three forces”

It is undeniable that the source of students in higher vocational colleges has always been at the end of the talent chain, and many students do not have the habit of independent learning. It is difficult to form a top-notch talent training mode that meets the flexible demands of enterprises. This also leads to the lagging or even absence of the top-notch talent training mode and teaching concept in higher vocational colleges^[11].

(1) Building a hybrid cross-grade learning team

The barriers between grades have been broken through the mutual assistance and learning mode of “cross-grade mixed team building.” According to the enterprise operation mode and the grade and level, the students serve as the project director, project leader, designer, designer assistant, and other positions in the project team. Students play the roles of enterprise employees, bound together by project

tasks. The project team emphasizes “mutual assistance and support” and “responsibility.” This hybrid mode awakens students’ potential, allows outstanding students to take the lead, and makes all students excellent—this is also the fundamental pursuit of top-notch talent training.

(2) Formation of three forces of “power + push + pull” to promote the top-notch teaching concept

First of all, the hybrid cross-grade learning team is an innovative means to enable students to seek the best role in the project, emphasize responsibility and mutual assistance, stimulate students’ enthusiasm for learning, and form “endogenous motivation.” Secondly, the assessment and reward mechanism is set up in the learning team. On the one hand, according to students’ contribution to the completion of the project, they will be awarded the project performance. On the other hand, the workshop selects students to participate in the skills competition and gives priority to the evaluation of various scholarships, thus forming a “pulling force.” Lastly, penalty systems are formulated such as deduction and withdrawal to form a “push” that spurs students. If students do not pass the attendance and performance assessment, they cannot enter the next stage of learning.

3.2. Focusing on content and form innovation and enhancing the motivation of top-notch talent training through virtual simulation

Educational forms should keep pace with the times and make good use of new technologies. The virtual simulation experiment teaching project can design multiple experiment paths and carry out experiments in the form of multiple modules. It can optimize students’ hands-on experience, better form comprehensive practical skills, and has important social significance^[12]. Students can choose relevant experiments for learning and testing according to their own interests, combined with online and offline teaching. On the other hand, to develop new forms, students’ learning interests should be organically integrated into professional virtual simulation practice teaching links, so that diversified experimental teaching paths can allow students to get subtle guidance and scenario-based thinking in rich practical experience, and build professional education to work with students’ autonomy.

3.3. Enhancing top-notch talent training through virtual simulation experiment teaching with practical courses as the starting point

The teaching of digital media majors is highly practical, but the practical development of design projects is often uncertain. Virtual simulation technology uses computer virtual means to simulate and construct real scenes in the real world. This teaching method of “virtual-real combination and virtual-real supplement” breaks the barriers of the high cost of freeze-frame experimental equipment, fast update, and difficult maintenance. It is not limited by time and space, and students can repeatedly operate on the experimental platform until they are familiar with the entire technical process^[13]. The creation of a virtual simulation space shows the objective reality of the design project, so that students can obtain knowledge and information in the combination of virtual and real experiment space through intuitive feelings, so as to enhance professional cognition and promote the training of top talents through the use of virtual simulation technology^[7].

In the course implementation of the training of digital media talents, such as project planning and research in the early stage of design, due to the distance or epidemic and other factors, the actual situation of the project cannot be personally experienced, and the effect experience of actual application scenarios cannot be carried out after the completion of the design. In practical teaching combined with virtual simulation technology, students choose to set the media release scene in the experiment, release their works in the virtual reality environment, observe the effect of the work release, and then improve their design scheme according to the effect evaluation, so as to improve the execution of the work design.

3.4. Building a high-level “double teacher” team and promoting the training of top-notch talents with the integration of production and education as the carrier

The integration of production and education means that the school will combine industry and teaching, with the two supporting and promoting each other, and build the school into an industry-oriented entity integrating talent training, scientific research, and production capacity output. Under the educational concept of the integration of industry and education, the purpose of education is to provide enterprises more aligned with the needs of industry development ^[14]. Virtual simulation technology is a new technology, profession, and norm appearing in recent years. In personnel training, teachers occupy a dominant position, and the flexible application and development of virtual simulation requires the carrier of the integration of production and education, relying on the integration of school and enterprise industry college or modern apprenticeship system.

The construction of the “double teacher” team can be carried out by implementing the school-enterprise double-tutor system, clarifying the duties of double tutors, centering on the virtual reality industry, building a “workshop” tutor special recruitment plan, introducing social industry skill masters and skilled craftsmen to teach through hands-on on-site production and operation, and requiring students to understand and consolidate in the process of practical operation ^[15,16]. The school and enterprise jointly establish and improve the selection, training, use, assessment, and incentive system of double tutors, form a management mechanism of “professional combination of mutual employment and use,” promote the two-way flow of enterprise technical personnel, highly skilled talents, and college professional group teachers, so that teachers can go deep into the enterprise, learn new technologies and standards, and form a high-level “double teacher” team.

4. Conclusion

All in all, under the new situation, the social demand for talent changes rapidly in art and digital media, virtual simulation experiments on the one hand greatly broaden the path of professional human training in the process of education and continuous innovation of talent training models. On the other hand, virtual simulation itself is also a professional talent that the digital media major itself needs to cultivate, which can also enable the major to continuously integrate new technologies and processes, match the new profession, and promote the improvement of the quality of talent training in the college and the development of the industry.

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The authors declare no conflict of interest.

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