Research on the Application of Information Technology in Higher Vocational Art and Design Majors

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Keywords: Information technology, Higher vocational education, Art design major

Abstract: The rapid progress of information technology has been widely used in various industries today. Information technology has also changed the way people live and work, and has also led to significant changes in the educational environment. Informatization has become the main trend in the progress of education. Art and design is a key subject in higher vocational education. Owing to the progress of information technology and its application in teaching, information technology has also become a driving force for the reform and innovation of art and design majors, making them glow with new vitality. This article mainly discusses the teaching of art and design majors in higher vocational colleges, and explores the effective application of information technology.

1. Introduction

The cultivation of art and design talents should be reformed and developed in accordance with social progress and professional needs, and foster skilled talents with excellent professional skills and innovative thinking. Owing to the constant progress of information technology, multimedia technology and network technology have gradually become vital auxiliary tools in education. These changes have also affected the teaching mode of art and design majors. For this reason, schools should actively explore innovation in teaching models under the information technology environment, establish more flexible information-based education resources and environments, achieve digital education teaching and resource sharing, professional curriculum integration, etc., establish teacher-student interaction platforms, provide support for students' autonomous learning and exploration, and enhance the quality of professional curriculum teaching.

2. Application Value of Information Technology in Higher Vocational Art Majors

2.1 Improve Students' Interest in Learning and Stimulate Their Subjective Initiative

In traditional art and design professional classrooms, teachers usually dominate, and students can only passively learn knowledge. However, the training of design thinking is often subject to various constraints, resulting in limited classroom teaching effects. From the perspective of students, many students prefer the online teaching method. Using the advantages of information technology, they can transform the traditional "teacher-centered class" into a teaching classroom in which students can actively participate, providing students with a dynamic and static teaching environment that is rich in situations, thereby enhancing students' enthusiasm for participation, creating a positive and harmonious classroom environment, explaining theoretical knowledge more comprehensively and systematically, and helping students check and correct errors. It can also enhance students' awareness of autonomous learning, open their horizons, and help them establish a more complete knowledge system and improve teaching quality.

2.2 Highlight Ability Progress and Improve Teaching Effect

The effective use of smart classrooms and digital teaching platforms can further achieve the integration of production and education between projects and specialties. In teaching practice, students can be regarded as the main body, highlighting the progress of students' various

professional abilities, learning by doing, and doing by learning. With this educational model of combining theory and practice, comprehensive interaction can be achieved between teachers and students, as well as between students. Through practical exercises, students can understand knowledge and skills more thoroughly and gain high recognition from customers. During this period, teachers need to do a good job of guidance and management, maximize the advantages of information technology in classroom teaching, stimulate students' enthusiasm with a combination of online and offline teaching mode, and expand students' learning time and space.

Online teaching content is more complete with the support of information technology. The rich teaching resources in the Internet can ensure the flexibility of online teaching, which is no longer the original "empirical" teaching. Teachers are the output of teaching content, and the advantages of information technology are used to ensure that the output of knowledge content is more high-quality. The application of information technology has also reduced the communication gap between teachers and students, providing a good platform for interaction between teachers and students [1].

3. Effective Application of Information Technology in Art and Design Majors in Higher Vocational Education

3.1 Use Online Teaching to Expand Learning Materials

Owing to the rapid progress of information technology, it has shown obvious advantages in practical applications in various industries. For art and design teaching in colleges, the ideal classroom teaching needs to ensure that students have a comprehensive understanding of the knowledge content taught by teachers. However, from a practical perspective, many students find it difficult to master professional knowledge and skills in classroom learning, and they still need after-school counseling to help them establish a complete knowledge system. Due to limited classroom teaching practice, it is hard for teachers to provide one-on-one answers to students' questions and doubts in the classroom, and it is also difficult to provide careful guidance in the face of some personalized problems of students during the teaching process. The network platform based on information technology can achieve ideal results in classroom teaching activities. Teachers can upload teaching resources to the school website or QQ and WeChat groups of the class for students to download. Students can review their knowledge at any time, and expand their knowledge in the materials shared by teachers. Students can also use the network platform to achieve online one-on-one communication with teachers. If there is anything that they do not understand in classroom learning, they can use the network platform to ask teachers for advice, or guide other students to participate in the discussion of issues together. If the teacher is not online, students can send questions they want to consult to the teacher by leaving a message. Teachers need to optimize the curriculum materials for the teaching of art and design majors to ensure that the curriculum resources can meet the current requirements of teaching concepts, teaching content, and teaching progress. When optimizing or selecting teaching materials, they need to focus on the following points. Firstly, the selection of teaching resources needs to ensure a combination of fragmentation and systematization. Secondly, teaching videos should be vivid and interesting. Thirdly, it is essential to effectively connect knowledge points and skill points to ensure that they have a certain degree of scalability [2].

3.2 Solve Professional Teaching Difficulties with the Help of Information Technology

Information technology has various forms of expression, and VR technology is becoming increasingly popular for art and design majors. VR is virtual reality technology that is currently applied in many industries, and China has also made phased progress in the research of VR technology. For instance, in the research and design of VR process nodes in commercial spaces, it is essential to ensure the rationality of the design scheme. Many company structures belong to concealed projects, although they are also one of the decoration projects, few physical objects can be seen. The traditional graphical teaching method has a certain degree of complexity, which is not conducive to students' understanding and application. With the help of VR technology, it is possible

to disassemble the structure of commercial space, making the representation of processes more intuitive, and making students' learning more orderly. Real lighting debugging can be simulated through commercial space VR. Lighting is a crucial content to set off the atmosphere, but it can only be reflected in drawings in traditional teaching, making it difficult for students to understand the real situation through these two-dimensional drawing resources. For this purpose, teachers can import VR devices into lighting design files to provide students with immersive sensory experiences, understand the atmosphere experience of lighting, and match the final design results with the lighting atmosphere required for business scenes.

3.3 Multidimensional Information to Stimulate Teaching Creativity

For the teaching of art and design majors in colleges, the advantage of multimedia technology lies in its intuitive and vivid nature. It can integrate three-dimensional media information into teaching, making classroom teaching livelier and more interesting, full playing the multidimensional advantages of information, and stimulating students' imagination and artistic creativity. Owing to multimedia technology, students' sensory experience and imagination can be promoted, and more creative teaching methods can be used to achieve the transformation of image thinking. Teachers can optimize students' learning experience through creative teaching processes. For instance, when teaching residential space design and other content, teachers can use CAD technology to conduct live modeling, and use modeling and rendering methods to create indoor scenes with different house types and theme styles, allowing students to master the key points of indoor space design during the multi-dimensional display process of multimedia technology. According to the functional space design requirements, the decorative materials and furniture models in the course resource library can be flexibly adjusted, and the layout scene, material texture, color configuration, etc. of the indoor space can be understood from multiple perspectives and dimensions, providing students with a diverse sensory experience. With the support of information technology, teachers need to give full play to the advantages of information technology, take students as the teaching theme, adopt a multi-dimensional teaching model, guide students to learn independently and stimulate students' innovation awareness and creativity. During this period, teachers need to prepare teaching courseware and provide corresponding resource platforms for students to guide them into specific learning situations. Through network resources, students can conduct online self-help exploration, analyze and query network information, and transform traditional learning models. It is also essential to guide students to think independently under the information-based teaching mode, try to use new ideas to solve problems, query relevant problem-solving methods on the internet, and guide students to carry out design innovation. In addition, it can also enable students to use the network to obtain information resources and try to innovate in design practice. This effective combination of online and offline can bring diverse learning experiences to students, stimulate their innovative thinking, and push the progress of students' autonomous learning ability and self-help exploration awareness [3].

3.4 Share Teaching Resources

In the teaching of art and design majors in colleges, teachers need to ensure the progressiveness of teaching concepts and methods, so as to guide students to innovate in learning and design outstanding works with the spirit of the times. For this, teachers need to actively know the trend information of the industry, master the progress trends of the design industry, and ensure the progressiveness of classroom teaching. Textbooks are the main tool for teachers to carry out educational work, while books, materials, and Internet resources are also teaching resources. If teaching resources are delayed and cannot be updated, there will also be a significant lag in the teaching of art and design majors, which affects the innovation of teaching quality and methods, and is not conducive to the progress of art and design professionals. To this end, teachers need to make rational use of the advantages of information technology. The emergence of informational and networked teaching platforms has also brought many chances for the teaching of art and design majors in colleges. With the help of informational teaching platforms, art and design teachers can more timely grasp industry dynamic information and trend information, and learn advanced art and

design methods and design concepts. While enriching teaching resources, this way can improve teachers' teaching level and promote their professional progress. An information-based teaching platform can also achieve the sharing of teaching resources. Schools can exchange teaching experiences and share teaching resources with each other, promoting the effective progress of teaching research work [4].

4. Conclusion

The rapid progress of information technology has brought good opportunities and challenges to the teaching of art and design majors in colleges. Therefore, colleges should seize the opportunity of information technology, promote the organic integration of information technology and art design specialty teaching, use the advantages of information technology to promote innovation and reform in art design specialty teaching, push the progress of art design specialty, and foster high-quality skilled talents.

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