

# Research on Teaching Reform of Virtual Fashion Design

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**Abstract:** In the context of digital intelligence era, virtual technology is widely used in various fields, and technological innovation is driving market changes. The development of clothing design teaching, combined with virtual technology, can optimize talent training and promote the construction of education information. Virtual clothing design can combine non-contact scanning and measurement methods to accurately obtain the body proportion, combine virtual technology to build a virtual model, and more reasonably design for colors, styles, fabrics, etc. Virtual clothing design is an important way to promote teaching reform.

**Keywords:** Virtual clothing design; Digital intelligence era; Information construction

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With the continuous development of computer technology, virtual technology has become more and more mature. During the application of technology, it is necessary to establish a visual model for the target object, focus on the restoration of object entity features, reduce design costs, ensure design efficiency, and achieve a cross space effect. At the same time, the realization of virtual clothing design can better adapt to the trend of network teaching. When teaching costume design, we should pay attention to the implementation of virtual costume design, so as to promote the implementation of teaching reform and ensure the overall effect of teaching <sup>[1]</sup>.

## 1. Overview of Virtual Costume Design

Virtual clothing design refers to that when the design work is carried out, the virtual environment can be provided based on the computer to build a virtual model. Individuals can select styles by combining the clothing effect pictures presented in the computer, and display clothing through virtual models to show the three-dimensional effect of clothing. In this case, it is not only convenient for viewing the results directly, but also convenient for direct modification.

## 2. Shortcomings in Fashion Design Teaching

First, content is not closely linked to the market. Fashion design is an educational form combining artistry and practicality. However, as far as the current teaching situation of fashion design is concerned, it is difficult to adapt to the rapid changes of the times in terms of the scope of disciplines, teaching scale, or training programs, which leads to the disconnection between the specialty of fashion design and the market. At present, garment designers need not only the ability to draw design drafts and templates, but also the ability to transform design drafts and templates into actual designs and serve the market. However, when the teaching of fashion design was carried out, it was obvious that insufficient attention was paid to the formation of students' market service ability <sup>[2]</sup>. Secondly, students failed to form a high creative enthusiasm. Due to the complexity of garment design and development process, it takes more time. Therefore, when students are in school, they often do not complete many ready-made clothes. At the same time, in terms of curriculum setting, technology and design are often set as independent courses, which lack cohesion. There is often a big gap between the students' design drawings and the actual needs of making ready to wear. In this case, the initiative and enthusiasm of students to create will be adversely affected to a large extent. Finally, there are some restrictions on the training site. Students need not only theoretical knowledge, but also good practical operation ability in the process of learning fashion design. However, in the process of practical teaching of fashion design, there are some limitations in the training site, the hardware conditions are difficult to adapt to the actual needs of students, and the lack of scientific and reasonable talent training methods, which makes it difficult to achieve

complementarity between theory and practice teaching. In order to achieve better results in the teaching of fashion design, it is necessary to improve the teaching conditions.

### **3. Teaching significance of virtual fashion design**

First, construct a vivid teaching situation. The teaching of virtual clothing design can combine virtual technology to make the same virtual clothing as the real clothing, promote the acceleration of clothing design, intuitively display the design effect, effectively solve the problems of low visibility, complex production process and other problems in clothing design, and combine virtual trial wear, virtual catwalk and other links to build a lively teaching situation, which can reduce the constraints of hardware conditions and training mode. Secondly, use the image teaching method. Based on the professional knowledge of clothing, virtual clothing design focuses on product design, extends product operation and expands product production, which can strengthen the training of students' ability. While reducing teaching demonstration, it can also strengthen communication and exchange between teachers and students, and promote the improvement of teaching level<sup>[3]</sup>. Finally, it shows the practicality of teaching. For the clothing design specialty, the talent training process attaches great importance to the embodiment of practicality. The implementation of virtual clothing design can make the teaching system more perfect and teaching more practical content. Moreover, it puts forward higher technical requirements for the student union to promote the realization of teaching reform.

### **4. Reform Measures of Virtual Costume Design Teaching**

#### **4.1 Set special design content in combination with virtual clothing design**

In the teaching process, we should pay attention to the students' connection between theory and practice, and give play to their dominant position. Teachers mainly guide students to fully tap their inherent potential. In the process of teaching reform of virtual clothing design, teachers can set up special design for students. Students of special design should, according to the knowledge they have learned and in combination with the trend of fashion, complete the design and pattern making, fabric selection and process making through virtual clothing design<sup>[4]</sup>. In specific implementation, students can be divided into groups to promote students to form a more intuitive understanding when solving problems, and deepen the overall understanding and absorption of knowledge. At the same time, it can carry out exploration and innovation and independent thinking, reflecting the practicality of teaching. When students have problems, teachers should give timely advice, give students affirmation, and promote the full play of students' imagination.

#### **4.2 Product design guidance based on virtual clothing design**

In the process of virtual clothing design, you can use the system online Procreate to inject inspiration sources into the system by adding folders on the system painting platform. In the inspiration picture, students can paint freely and make modifications according to the size, proportion, tone, etc.<sup>[5]</sup>. Combined with the actual teaching needs, the system can directly select the 160/80A mannequin, and combine theoretical knowledge and inspiration to achieve the design of clothing styles, including fabrics, colors, patterns, patterns, etc. The designed renderings can be previewed in real time, and trial and error modifications can be carried out, so that the designed works can obtain higher satisfaction.

#### **4.3 Virtual sewing of products based on virtual clothing design**

The online mode can not only design simple styles, but also enable complex styles to be made with garment CAD software after design. The insertion software such as Style3D and CLO3D in the virtual system can be used to load complex garment patterns and styles to realize virtual sewing of garments. Combined with this type of software, smart sewing tools can be obtained. Based on fixed needles, patterns, patterns, fabrics, etc., the specific range and direction of sewing can be directly set, which is convenient to reflect the wrinkles and folds of fabrics, enrich the performance of clothing details, reflect the high level of virtual clothing, and effectively solve the time-consuming problem of clothing production<sup>[6]</sup>. At the same time, the use of virtual sewing can carry out a detailed analysis of the pattern problems involved in clothing, promote the continuous optimization of the sample, and make reasonable modifications for the sample clothing. As for virtual clothing design, it is very suitable for students to carry out thematic design, which can effectively save the time of making patterns and make the overall design more creative.

#### **4.4 Realizing Dynamic Product Display by Combining Virtual Fashion Design**

During the teaching, teachers can combine the production of virtual fashion shows to provide students with various catwalks and show backgrounds, so that students can get a variety of visual experiences. In this process, clothing color and cloth-

ing rendering can be combined to enhance the liveliness of clothing and make the texture in clothing clear and visible. At the same time, combined with the walk show experiment, it can simulate the stress state, wearing effect, fabric performance and other aspects of the clothing in motion, so as to obtain effective basis for the realization of style finalization<sup>[7]</sup>. And when students watch, they can have a sense of immersive, enhance students' sense of achievement, and not only enhance students' interest in design.

#### **4.5 Virtual operation of products based on virtual clothing design**

In the process of clothing design teaching, the operation of clothing products belongs to the short board of teaching practice. When carrying out clothing design, the product lacks the linkage with the market. The clothing products designed by students are just words on paper and cannot reflect the specific market value. In the process of promoting the teaching reform of virtual clothing design, we should pay attention to the realization of virtual product operation, build a virtual scene of operation, simulate the store operation, present the design products on the store terminal through model trial wear, and realize the virtual store operation based on social, content and other aspects of operation<sup>[8]</sup>. In addition, students can simulate the real sales process.

### **5. The guarantee of virtual fashion design teaching reform**

#### **5.1 Realizing unity of knowledge and practice in teaching**

When virtual fashion design teaching is carried out, we should actively break through the boundary between teaching and learning under the traditional mode, actively carry out interaction, and combine interaction to strengthen students' understanding of professional knowledge, so as to achieve the cultivation of students' comprehensive ability. In specific implementation, we should use sophisticated curriculum design and digital means to strengthen the interaction of design and show the interest of learning. After the design is completed, the method of analyzing the design process and reviewing the design can be used to promote the integration of students' exploratory and personalized thinking.

#### **5.2 Actively break through industrial barriers**

Fashion design is actually a fashion product. When teaching virtual fashion design, we should actively break the limitations of teaching environment and teaching conditions, promote the deep integration between teaching and learning, and adapt to the needs of the times. The combination of virtual fashion design can significantly shorten the design time of students, improve their professional quality of design, strengthen the accumulation of experience involved, and ensure the effectiveness of design.

#### **5.3 Strengthen the cooperation between schools and enterprises**

The realization of school enterprise cooperation can set up training bases outside the school, strengthen the use of training resources outside the school, and actively invite well-known designers and entrepreneurs in the industry to give lectures or give part-time lectures in the school. For designers and entrepreneurs, they have rich experience and can impart their design experience to students. In this case, it can provide some reference for students to translate theory into practice, promote the development of new products, and the use of new technologies and equipment, and promote students to achieve continuous self-improvement.

#### **5.4 Pay attention to changing the teaching mode**

In the process of the reform of virtual costume design teaching, we should strengthen the guidance to students, so that students can smoothly transform from plane structure to three-dimensional modeling in the learning process, and effectively resolve the difficult concepts. And combined with the scene simulation means, promote the teaching content to become more vivid, vivid and accurate, constantly improve the teaching efficiency and quality, ensure the overall effect of teaching, avoid teaching being limited by time and space, and promote the realization of intelligent teaching.

### **6. Conclusion**

In short, with the continuous development of science and technology, clothing products have become more and more intensive, and the production cycle is significantly shorter than before. It is from this that virtual costume design comes into being. The realization of virtual costume design in teaching can build a vivid teaching situation for students, reflect the image and practicality of teaching content, and promote the realization of teaching reform. When teaching virtual clothing design, teachers should focus on cultivating students' innovation ability and design ability to ensure the quality of talent training and enhance the adaptability between talents and social actual needs.

## References

- [1] Liu Yushan Discussion on the Application of 3D Virtual Simulation Technology in the Teaching of Fashion Design [J] Wen Yuan (Middle School Edition), 2020 (2): 288-289
- [2] Xiao Xueliang, Li Wenbing, Liu Jihong Exploration on Virtual Simulation Teaching of "Fabric Structure Design" Course [J] Textile and garment education, 2020, 35 (1): 81-83, 94
- [3] Li Ji Research on the teaching of 3D virtual simulation technology in garment three-dimensional modeling course [J] Science and Wealth, 2020, 12 (34): 344-345
- [4] Du Jinsong, Chen Qingting Reform and Practice of Virtual Simulation Experiment Teaching of "Clothing Factory Design and Site Management" [J] Textile and Clothing Education, 2021, 36 (2): 175-177186
- [5] Xu Jie, Liu Jing Research on the Application of Virtual Simulation Technology in the Teaching of "Fashion Structure Design" [J] Science and Education Guide - Electronic Edition (mid day), 2021 (3): 190-191
- [6] Xia Xin, Ding Xiaojun, Wu Jiayao, etc Application of 3D virtual fitting in practical teaching of courses such as Fashion Structure Design [J] Education Modernization, 2021, 8 (70): 21-24
- [7] Zhu Qingyan, Liu Penglin The application of 3D virtual fitting technology in the teaching of the course "Women's Wear Structure Design" [J] Textile and Clothing Education, 2021, 36 (5): 463-465
- [8] Zhang Yuanmei, Zhang Qizeng Application of virtual simulation technology in the teaching of garment structure technology [J] America and the Times (First Ten Days), 2021 (5): 126-129