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Practical Exploration of Artificial Intelligence Enabling Secondary Image Design Teaching-Taking Hair Design Course as an Example

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Abstract

The application of artificial intelligence in the field of education is extensive and in-depth, and its influence should not be underestimated. Taking the hairstyling course as an example, this paper explores the application practice of artificial intelligence in image design professional teaching and analyzes the current challenges faced by artificial intelligence in professional teaching. It aims to promote the deep integration of artificial intelligence technology and secondary image design professional teaching, and provide strong support for the digital transformation of image design education.

Keywords: artificial intelligence, image design, hair design, teaching mode, teaching evaluation, digital transformation

1. Introduction

With the rapid development of artificial intelligence technology, its application in the field of education is becoming more and more widespread, providing a new opportunity for the innovation and optimization of the teaching mode of various professions. Image design, as a discipline with both artistry and practicality, puts forward high requirements for the cultivation of practical operation, creative expression and aesthetic ability in its teaching process. However, the traditional image design teaching mode is often limited by insufficient practical resources, lack of personalized guidance and other issues, which is difficult to fully meet the learning needs of students. The introduction of artificial intelligence technology provides new ideas and methods to solve these difficulties. This paper takes the hair design course as an example, discusses the exploration and practice of artificial intelligence in the teaching of image design, analyzes its specific application in the innovation of teaching mode, reform of teaching evaluation, optimization of teaching resources, transformation of teachers' roles and integration of teaching and learning, etc., and at the same time, points out the challenges it is facing in the balance of technological tools and artistic essence, reconstruction of the ability of the teaching subject, and adaptation of technological ecosystems in order to provide reference and reference to the digital transformation of image design education. At the same time, it also points out the challenges it faces in terms of the balance between technical tools and artistic essence, the reconstruction of the teaching subject's ability and the adaptation of technical ecology, in order to provide reference and reference for the digital transformation of image design education.

2. The Application of Artificial Intelligence in Image Design Teaching

(A) Teaching Mode Innovation

With the rapid development of artificial intelligence, this technology is gradually penetrating into all aspects of the education field, especially in the process of image design talent training, the intervention of artificial intelligence provides a new path for the innovation of teaching methods. In traditional image design teaching, students mainly master skills through theoretical learning and teacher demonstration, but there are many limitations in this mode, such as limited practice opportunities and insufficient personalized guidance. However, the introduction of artificial intelligence technology provides an effective way to solve these problems. For example, a school's hairstyling course uses an intelligent mirror as the teaching carrier and adopts the "three-step, nine-step" virtual-reality fusion teaching method to realize the innovation of the teaching mode. In the first stage of "virtual cognitive construction", the teacher plays the international fashion week hair show, so that students intuitively perceive diverse hair styles and creativity, and initially understand the dynamics of the industry; then students scan the model's face with the intelligent mirror, and generate a 3D model of the appropriate hairstyle with the help of AI technology, which provides a reference for the subsequent design; finally, students discuss and

select the design direction in groups. Finally, students discuss and select the design direction in groups. In the second stage of "human-machine cooperative practical training", students repeatedly simulate the process of partitioning, hair braiding, accessories fixing, etc. on the mirror table, and carry out virtual operation practice for many times to continuously optimize the design scheme. In the third stage of "real-life feedback", students will optimize the AI program transplanted to real models to implement, and at the same time compare the difference between the predicted effect of the mirror table and the actual finished product, reflect on the iteration, and further improve the design. This teaching method combines virtual and real, which not only solves the problem of few practice opportunities and improves students' practical ability, but also cultivates students' innovative thinking and problem solving ability.

At the same time, AI technology also provides teachers with powerful teaching support tools, providing strong support for the realization of personalized teaching. In the teaching process, AI can accurately understand each student's learning progress, strengths and weaknesses through the collection and analysis of student learning data, including classroom performance, homework completion, and practical operation level. Based on this data, teachers can customize learning plans for students. For example, for students who have a good grasp of theoretical knowledge but are weak in practical operation, teachers can push more practical operation practice courses; for students who are rich in creativity but do not handle the details well, teachers can provide targeted counseling. This personalized teaching mode can meet the learning needs of different students, greatly improving the learning effect.

(B) Teaching Evaluation Reform

Teaching evaluation reform is one of the important directions of the digital transformation of education empowered by artificial intelligence. The traditional image design teaching evaluation generally has two limitations: one is the transition to rely on teachers' subjective experience judgment, and the other is a single evaluation model that favors summative assessment. These two major problems lead to the one-sidedness of teachers' examination of students' learning effectiveness, making it difficult to comprehensively and objectively reflect students' learning. The application of innovation based on artificial intelligence technology provides a feasible path to break this dilemma.

The teaching evaluation platform built with the help of artificial intelligence technology can realize the diversification of evaluation subjects. In addition to the traditional teacher evaluation, a variety of ways such as student self-evaluation, mutual evaluation and evaluation of intelligent systems are introduced to form a multi-principal collaborative participation evaluation mode. For example, students can self-evaluate their hairstyle design works and reflect on the strengths and weaknesses of the design process through the intelligent mirror table; students can utilize the virtual display function of the intelligent mirror table to observe and evaluate each other and share each other's design ideas and skills. In addition, the intelligent system can also objectively analyze and evaluate students' hairstyling works according to the preset evaluation criteria, and give quantitative scores and improvement suggestions from multiple dimensions such as technology, creativity, aesthetics, etc., so as to provide more comprehensive references for teachers and students.

Artificial intelligence can collect and analyze multi-source data in the students' learning process to realize the comprehensive evaluation content. In the hairstyling course, through the intelligent mirror table, the system can record the data of students' steps, time, and the use of different hairstyling elements in each operation, and combined with the data of students' participation in classroom discussions and group projects, the system can comprehensively evaluate students from multiple dimensions such as knowledge and skills, process and methodology, and emotion and attitude. For example, by analyzing the time and number of revisions of different hairstyle designs that students repeatedly try on the intelligent mirror table, we can assess their mastery of hairstyling principles and problem-solving ability; based on students' performance in the virtual hairstyling demonstration, we can judge their understanding of hairstyling aesthetics and the level of innovative thinking.

The application of artificial intelligence technology is promoting the transformation of the teaching evaluation system from a single summative evaluation to a combination of process evaluation and summative evaluation. In the teaching practice of image design majors, this kind of continuous evaluation always runs through the whole teaching process. Artificial intelligence technology can track and record the entire learning process of students, thus strengthening the process evaluation. Take the hairstyling course as an example, the monitoring and video function of the intelligent mirror table can completely record the operation process of students, providing teachers with a traceable basis for evaluation. This diversified, comprehensive and dynamic teaching evaluation reform can better promote students' learning and growth in the image design profession, and thus improve the quality of teaching.

(C) Optimization of Teaching Resources

Under the background of digital education transformation, artificial intelligence technology through multi-dimensional reconstruction of teaching resources for the image design profession to build a set of "theoretical visualization - case dynamics - personalized training" three-dimensional teaching system, effectively solving the problems faced by traditional teaching.

Firstly, virtual simulation technology digitally transforms teaching resources, traditional classroom teaching relies on paper textbooks and teachers' on-site demonstrations, which generally have problems such as insufficient dynamic display and difficulty in observing details, etc. When teaching the "Hair Style Design" course, the intelligent mirror table can support free switching of multimedia courseware by docking with the cloud-based knowledge base and school-based resource base, realizing the continuous playback and decomposition playback of multimedia courseware, and the students can observe the demonstration of hairstyling techniques repeatedly by controlling the intelligent mirror table independently, so as to learn the steps and skills of hairstyling, which has solved the above problems effectively.

Secondly, the big data driven case teaching dynamic upgrade, the system of intelligent mirror table integrates all kinds of large-scale hairdressing tournament award-winning works in the past five years, trend analysis report and industry classic cases, forming a dynamically updated teaching case library, teachers can flexibly screen the appropriate cases according to the teaching objectives, and the system generates the exclusive lesson plan which contains the analysis of the techniques and the operation demonstration at the same time, which effectively improves the problems of lagging update of the cases in the traditional teaching and the blurring of the demonstration standard, etc. Thirdly, personalized recommendation, to reach the practical training.

Third, personalized recommendation, to achieve accurate matching of practical training resources, for example, through the intelligent mirror virtual hair change, hair diagnosis and other functions, the system can be based on the model's facial analysis, hair detection data and personal aesthetic preferences, to generate an exclusive hair design program, this intelligent matching mechanism not only to alleviate the pressure of the number of real models is insufficient, but also through accurate data tracking to achieve personalized guidance.

(D) Teacher Role Transformation

With the continuous integration of artificial intelligence and image design teaching, the optimization of the teacher's role is especially critical, which is directly related to the quality of teaching and students' learning effectiveness. in the traditional teaching mode, teachers mostly play the role of knowledge transmitters, but in the context of artificial intelligence-assisted teaching, the teacher's role needs to be transformed into a learning guide, a technology integrator and an innovation facilitator.

First, the teacher needs to change from a mere knowledge transmitter to a learning guide. The traditional hair design classroom mostly adopts the mode of teacher's live demonstration with theoretical explanation to teach techniques, while the introduction of artificial intelligence technology makes the learning process more intuitive and targeted. The teacher's role should be more shifted to guiding students how to use these intelligent tools for independent learning. For example, students try out different hair styles with the help of the virtual hairstyling function of the smart mirror table, and adjust and optimize their work based on intelligent feedback. In this process, the teacher is no longer the sole exporter of knowledge, but is transformed into a guide who guides students to realize innovative breakthroughs by using smart tools.

Second, teachers should become facilitators of the learning process. Although AI tools provide rich learning resources and convenient operation experience, students will still encounter various problems in the learning process. Teachers need to pay close attention to students' learning progress and status and give timely guidance. For example, in the course of "Hair Style Design", when students use the smart mirror to design hair styles, teachers focus on observing whether students correctly apply the design principles and functions of the mirror, and can provide targeted advice and solutions when students encounter technical difficulties or design bottlenecks. At the same time, teachers organize group discussions and exchanges to promote students' mutual learning and common progress.

Third, teachers should become practitioners of teaching innovation. Artificial intelligence provides new ideas and methods for the teaching reform of image design majors, and teachers need to constantly explore how to organically integrate artificial intelligence with traditional teaching, and innovate the teaching mode and teaching methods. For example, relying on the real-time feedback function of the intelligent mirror table, personalized teaching programs can be designed according to the characteristics and abilities of students, and the teaching content and progress can be adjusted. You can also introduce real enterprise projects, use artificial intelligence

technology to carry out project-based teaching, combine the hair design course with real fashion modeling projects, and improve students' practical ability and professionalism.

In short, the integration of artificial intelligence into the image design professional teaching is an inevitable trend, teachers need to actively adapt to the role of transformation, play the role of guide, facilitator and innovator, and artificial intelligence technology to cooperate with each other, and jointly promote the all-round development of students, in order to cultivate a new era of high-quality image design talents to lay the foundation.

(E) Promote the Integration of Race and Education

In the process of image design professional curriculum reform, the introduction of artificial intelligence technology is an effective way to realize "learning by competition". For example, teachers can combine the technological advantages of the intelligent mirror, the World Skills Competition hairdressing program, the National Vocational College Skills Competition and other authoritative tournament evaluation standards into an operable teaching module. With the "competition highlights" function of the intelligent mirror, students can independently choose different difficulties of the classic competition for targeted training, so that the daily classroom and competition preparation seamlessly linked to the formation of the ability to cultivate a closed loop. At the same time, relying on the intelligent mirror to build a "teaching-training-evaluation" integration platform, set up different themes of hairstyling tasks, students with the help of the mirror to quickly get design inspiration, simulate the effect of hairstyling, and repeated practice, practice. Teachers carry out dynamic evaluation of students' performance with reference to the scoring rules of the competition, accurately locate the weak links through the data visualization report, and instruct students to make improvements in a targeted manner, so as to organically combine the elements of the competition with the daily teaching, and to enhance the students' professional ability and competition level.

3. The Challenges of Artificial Intelligence in Image Design Teaching

The emergence of any technology has a duality, which may produce positive effects and may also trigger negative consequences. Artificial intelligence technology for image design education injects innovative momentum at the same time, but also brings multi-dimensional challenges.

(A) The Balance Between Technological Tools and Artistic Essence

Image design is a discipline that highly relies on creativity and aesthetics, and its core value lies in the unique aesthetic creation and cultural perception of human beings, while AI, as a data-driven technical tool, often lacks the emotional temperature and cultural depth of the generated program. Although AI can generate a large number of design solutions and provide style suggestions, its output often lacks the emotional expression and cultural understanding that human designers possess. In the teaching process, if we rely too much on AI, students may neglect to explore the essence of art. The key challenge is to build a teaching paradigm that is "technology-enabled rather than replacement", which requires teachers and students to establish a dynamic balance between digital tools and artistic thinking.

(B) Challenges of Reconfiguring the Ability of Teaching Subjects

With the increasing use of AI in teaching and learning, it poses new challenges to the capabilities of teachers and students. Teachers not only need to have an in-depth understanding of AI technology and master how to integrate AI into teaching, but also need to transform their roles from traditional knowledge transmitters to innovation guides. However, in reality, most teachers are not skilled enough in mastering AI technology, and the role transition faces certain difficulties, and the related training resources also seem to be somewhat insufficient. At the same time, students may be overly dependent on AI tools, thus neglecting the improvement of their own skills. In addition, students have different acceptance and learning abilities, which can lead to inconsistencies in teaching and learning. Therefore, both teachers and students need to cultivate critical thinking and innovation ability, and keep their independent innovation ability in play while utilizing AI to assist learning.

(C) Technology Ecological Adaptation Dilemma

Although artificial intelligence technology in the field of education is promising, it is still facing multiple challenges such as funding and maintenance difficulties brought about by technological change, application operation dilemmas, and short boards of teaching resources. At the level of technology application, AI technology is rapidly changing, which not only puts forward high requirements for the school's capital investment, but also poses a challenge to the technical maintenance capacity. At the same time, the application of AI technology is more complex, and some teachers and students are not skilled enough to operate it, which affects the fluency of teaching to a certain extent. In addition, the quality of teaching resources varies, the cost of updating and maintenance is high, and the precise recommendation is also insufficient, which undoubtedly increases the burden of teachers' teaching preparation. In addition, it is difficult to adopt uniform evaluation standards for AI-generated

works and student-created works, and it is necessary to balance subjective and objective evaluation. These problems urgently need to find effective solutions in order to allow artificial intelligence to give full play to its advantages in teaching and help the cause of education to new heights.

4. Conclusion

To sum up, artificial intelligence in the teaching of image design profession has non-negligible practical value and broad prospects for development. Artificial intelligence has brought many positive impacts to the teaching of image design profession through innovative teaching mode, reforming teaching evaluation, optimizing teaching resources, promoting teachers' role transformation and race-teaching fusion, and significantly improving teaching quality and students' learning effect. However, we must also realize that the application of artificial intelligence technology is still facing the problem of coordination between the nature of art and technical means, the demand for the reconstruction of teachers' and students' abilities, as well as the reality of the matching degree between the technical system and the actual demand and other problems. Future educators need to find a dynamic balance between technology and art, enhance the adaptability of teachers and students to artificial intelligence, and continuously improve the technology ecology, so as to realize the deep integration of artificial intelligence and image design education, and lay a solid foundation for cultivating high-quality image design talents in the new era.

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