Integration of Traditional Craft Courses and Artificial Intelligence: Exploration of New Educational Models

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ABSTRACT

"A tree has to strike a firm root before it can flourish. A river has to have a fully dredged source before it can flow unceasingly far." As the core of the Chinese national spirit, China's excellent traditional culture carries an important source of socialist core values. It is also a solid foundation for China to gain a firm foothold in global cultural exchanges. Under the guidance of General Secretary Xi Jinping's speech, the Ministry of Education has guided schools nationwide to actively carry out the "Intangible Cultural Heritage into Campus Classroom" activity, which has attracted widespread attention from colleges and universities. At present, the rise of artificial intelligence has had a profound impact on traditional craft courses. This article explores how to effectively integrate "artificial intelligence + traditional crafts" to promote the development of traditional craft courses and explore new educational models.

Keywords: Traditional craft courses, Artificial intelligence, Education reform.

1. INTRODUCTION

Traditional handicrafts contain rich historical, aesthetic, cultural, educational, scientific and economic values. China has always attached great importance to the protection of traditional handicrafts and has promulgated specialized policy documents such as the "Regulations on the Protection of Traditional Arts and Crafts" and the "Plan for the Revitalization of Chinese Traditional Crafts" [1]. With the continuous development and innovation of information technology and intelligent technology, and the rise of artificial intelligence, traditional craft courses have received a huge impact. In order to promote the inheritance and innovation of traditional handicrafts, it is necessary to explore new methods. The hybrid teaching mode of "artificial intelligence + traditional crafts" should be brought into the classroom to promote the inheritance and innovation of traditional crafts from the perspective of efficient design education [1].

2. DILEMMA OF TRADITIONAL CRAFT COURSES

Traditional craft courses bear the responsibility of cultural inheritance in development. In the ever-changing contemporary environment, they bring both opportunities and challenges. The techniques of traditional crafts, industrialized production, and changes in people's aesthetic tastes have caused bottlenecks in the development of traditional arts and crafts.

2.1 Teaching Model of Traditional Crafts

The core of traditional craft courses is to inherit and promote traditional Chinese culture. It aims to integrate this culture into the education system of major universities and become a part of aesthetic education courses to encourage college students to master traditional handicrafts and effectively promote traditional Chinese culture. This paper will conduct an in-depth analysis of the current teaching status of traditional craft courses from three aspects: teaching content, teaching methods and training models.

First, the teaching content of traditional craft courses is relatively fixed, lacking innovation and adaptability to the development of the times. For example, in traditional craft courses, design drawings often rely on classic templates and styles. It fails to make corresponding adjustments and updates according to modern design concepts and technological advances. This reliance on traditional drawings limits students' expansion of design thinking and prevents them from fully exerting their creativity and personalized expression. Regarding teaching techniques, the course still mainly teaches traditional manual skills, lacking exploration of simplified techniques or process optimization. Although this traditional teaching method maintains the purity of skills to a certain extent, it may lead to students' lack of flexibility and innovative thinking when facing modern design needs. In addition, in selecting teaching materials, the course has failed to introduce emerging materials and technologies and still relies on traditional raw materials. This phenomenon not only limits students' understanding and application of material properties but also prevents them from exploring the diversity and innovation of materials in the creative process. Therefore, traditional craft courses urgently need to carry out comprehensive reforms and innovations in content, techniques and materials to adapt to the diversified needs of modern society for arts and crafts and cultivate compound talents that combine tradition with modernity, innovation and practicality.

Second, the single teaching method leads to the weak practical ability of students. As an aesthetic education course, the traditional craft course aims to expand students' comprehensive literacy. It requires students to master and apply professional core technical skills related to their positions. However, due to the limitations of teacher allocation, class schedule and teaching facilities, the current course learning still mainly relies on teachers' lectures in the classroom. This teaching method that is divorced from actual operation fails to stimulate students' interest in professional learning and directly affects their hands-on ability and creativity, making it difficult to achieve the goal of applying what they have learned.

Third, the training model is limited, and the integration between schools and enterprises needs to be deeper. At this stage, although major universities are actively promoting the modern apprenticeship talent training model and deepening the integration of production and education and school-enterprise cooperation, it is difficult to achieve deep integration between schools and enterprises due to the low enthusiasm of enterprises and the low degree of industry connection. In school-enterprise cooperation and co-education, enterprises are not willing to send professional and technical personnel to universities for long-term teaching due to considerations such as labor costs and project duration[2]. This leads to a lack of actual participation of enterprises in students' training process, and enterprises' technology and real projects cannot be effectively and quickly integrated into classroom teaching. Teaching practice is still mainly carried out on campus, with more simulation projects and fewer real projects, and students' standardized design and production capabilities cannot be effectively exercised.

2.2 Analysis on the Current Situation of Traditional Craft Courses

Many things could be improved in the teaching model of traditional craft courses. The analysis of the teaching model also reflects the current situation of traditional craft courses, which specifically manifests the following problems.

First, there are problems with the learning subject. Students need more practical ability and opportunities. "Focusing on teaching and neglecting practice" is common in teaching. The limitations of traditional teaching methods restrict students' independent learning, resulting in students' learning process being more written and conceptual. This also challenges teachers, who must pay attention to the choice of teaching methods and simultaneously focus on stimulating students' learning motivation.

Second, traditional teaching spaces are highly restrictive in terms of teaching venues. Currently, teaching activities are mainly concentrated in designated classrooms, and teaching resources are also limited to designated textbooks and courseware. The limited teaching space makes it difficult to promote effective interaction and in-depth communication, and it is impossible for students to truly understand traditional crafts. Their understanding of handicraft knowledge is also relatively superficial, which could be more conducive to the output of innovative works.

Third, in terms of teaching content, the inheritance and innovation of traditional craft culture face complex situations. The teaching process of traditional crafts requires the adaptation of multiple teaching modes. Referring to the requirements of engineering education professional

certification, a single teaching mode cannot meet the needs of cross-integration of core knowledge units in "Folk Craft Inheritance and Innovative Design," refinement and design of complex engineering problems, updating of professional knowledge, and matching between "knowledge-practice-innovation."

Fourth, in terms of learning outcomes, there needs to be more practical outputs and evaluation of the learning process. Creating design value requires close integration with technology and business, but traditional design courses need more practical activities and projects, resulting in a lack of practical outputs in learning outcomes. In addition, a scientific evaluation system needs to include formative and summative evaluation. In contrast, the teaching evaluation of traditional design courses mainly lacks formative evaluation and pays little attention to students' learning experiences.

3. ARTIFICIAL INTELLIGENCE

Artificial intelligence technology is developing rapidly and has been widely used in all walks of life, which has greatly impacted all aspects of the social economy. In the education industry, the application of artificial intelligence is changing the way of learning and teaching. Through technologies such as personalized learning, intelligent tutoring systems, learning behavior analysis, teaching content recommendation and intelligent evaluation feedback, artificial intelligence provides students with personalized learning paths and teaching content, helping teachers better understand students' learning status and needs. These innovative applications improve learning efficiency and effectiveness and bring new opportunities to the education industry[4].

3.1 Concept of Artificial Intelligence

Artificial intelligence, also known as machine intelligence, refers to the intelligent capabilities exhibited by machines created by humans. Generally, artificial intelligence refers to the technology of simulating human intelligence using general computer programs. The field also explores the possibility of realizing such intelligent systems and how to achieve them. At the same time, through progress in fields such as medicine, neuroscience, robotics, and statistics, it is generally predicted that artificial intelligence will gradually replace many human occupations. As a branch of

computer science, artificial intelligence is dedicated to perceiving the environment and taking actions to maximize the chances of success. In addition, artificial intelligence can learn from past experiences, make reasonable decisions, and respond quickly. Therefore, the scientific goal of artificial intelligence researchers is to understand intelligence by building computer programs with symbolic reasoning or reasoning capabilities. At present, the application areas of artificial intelligence mainly include problem-solving, logical reasoning and theorem proving, natural language processing, intelligent information retrieval technology, and expert systems [3].

3.2 Challenges of Artificial Intelligence to Traditional Processes

The drawing design process in traditional craft courses requires teachers or students to draw manually, which is time-consuming and easily affected by human factors, thus affecting the design quality. However, artificial intelligence technology can accelerate and optimize the design process. By inputting the design intentions of teachers or students into the computer and combining the computing power of artificial intelligence, design drawings that meet the requirements can be quickly generated. In addition, artificial intelligence can also quickly adjust the design parameters and regenerate drawings based on user feedback. This flexibility and efficiency are unmatched by traditional manual drawing. Therefore, applying artificial intelligence in drawing design improves design efficiency, quality and flexibility.

In the context of the application of artificial intelligence technology, the role of teachers in drawing design courses has changed significantly. Traditionally, teachers must guide students to draw manually, which is time-consuming and easily affected by human factors. However, with the help of artificial intelligence, the design process can be accelerated and optimized, and teachers' focus is no longer on manual drawing skills but on teaching students design thinking and traditional craft production skills. By cultivating students' design thinking, teachers can guide them to understand and apply knowledge such as design principles, spatial perception and proportional relationships, thereby improving their creative thinking and problem-solving abilities.

4. REFORM STRATEGIES FOR ARTIFICIAL INTELLIGENCE AND TRADITIONAL CRAFT COURSES

In today's digital and intelligent era, the rapid development of artificial intelligence technology has brought new opportunities and challenges to traditional craft education. In order to adapt to the needs of the times, traditional craft courses need to be reformed accordingly, combining artificial intelligence with traditional crafts to cultivate students' comprehensive abilities and innovative thinking.

4.1 Design Strategy of Hybrid Teaching Mode of "Artificial Intelligence + Traditional Craft"

The hybrid teaching model design strategy of "artificial intelligence + traditional crafts" proposed in this study is based on an interactive and collaborative model, aiming to promote effective communication and cooperation between students and teachers, master craftsmen while supporting teachers to choose appropriate teaching methods and paths for course design based on practical effects. Specifically, first, a comprehensive online classroom platform is constructed, based on traditional craft culture, to provide rich network-sharing resources to help students deeply understand relevant knowledge. Secondly, an online and offline interactive platform is established to guide students into the workplace and conduct face-to-face communication and learning with master artisans. Through the personal guidance and actual operation of the master artisans, students can gain first-hand practical experience and realize the effective complementarity of online and offline resources. In addition, through specific project practice, a learning bridge is built to promote students' creative transformation and innovative design development so that they can apply what they have learned to actual projects. Finally, the assessment plan is redesigned to enhance students' learning enthusiasm and autonomy and encourage them to actively explore and practice in the learning process to better integrate into the learning environment of "artificial intelligence + traditional crafts".

4.2 Ideas for Building a Hybrid Teaching Model of "Artificial Intelligence + Traditional Craftsmanship"

This model mainly involves three participants: teachers as the main driving force of the course, master artisans, inheritors and partners such as enterprises as mentors, and students as the main learning body. In this model, students and teachers are the core of the traditional classroom, while master artisans and others are third-party collaborators. The three parties jointly build a knowledge bridge and form an interactive platform. Based on this, we can build a hybrid teaching model of "artificial intelligence + traditional craftsmanship"[5].

4.3 Reform of Hybrid Teaching Content of "Artificial Intelligence + Traditional Craftsmanship"

Based on the advantages brought by "artificial intelligence," the content reform of traditional craft courses should focus on cultivating students' design thinking rather than simply emphasizing the drawing of drawings. Teachers should encourage students to explore innovative concepts in this emerging model to generate higher-quality design drawings. In traditional craft courses, teachers should pay attention to students' meticulousness and proficiency in techniques and emphasize the deep mastery of traditional techniques. This reform not only breaks the limitations of previous course content but also conforms to the trend of scientific and technological development, promoting the continuous evolution of teaching content and methods to meet the educational needs of the new era [6].

5. CONCLUSION

The reform strategy of the AI and Traditional Crafts course aims to improve students' comprehensive quality and practical ability through a hybrid teaching model of "AI + Traditional Crafts." This model emphasizes the guiding role of teachers and the practical guidance of master artisans but also stimulates students' innovative thinking and design capabilities by introducing advanced AI technology. Ultimately, this reform will contribute to the inheritance and innovation of traditional crafts, enable them to better adapt to the needs of modern society, provide a solid foundation for students' career development, and promote the

application and development of traditional crafts in the contemporary era.

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