

# Exploration of Art Teaching Mode in Colleges and Universities Based on Artificial Intelligence

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## Abstract

In the context of modern art education, the current art teaching mode is explored based on artificial intelligence technology. By analyzing the current development of artificial intelligence, the current situation of art teaching in colleges and universities is pointed out. Based on the value of the application of artificial intelligence based on art teaching in colleges and universities, it can be seen that it can have exploratory significance in teaching, which in turn inspires students' enthusiasm for learning and cultivates students' innovative ability. On this basis, it elaborates on the integration path of Artificial Intelligence-based and college art teaching, including the transformation of teachers' own teaching philosophy, innovative teaching mode, and the integration mechanism of teachers, students, and Artificial Intelligence. This study aims to enhance learners' ability to effectively improve their learning efficiency and art creation skills through the use of artificial intelligence. The goal is to provide a reference for the development of artificial intelligence-enabled art teaching practices.

## Keywords

Artificial intelligence, colleges and universities, fine arts, teaching models

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The rapid development and wide application of artificial intelligence technology are changing the traditional art education teaching mode, and the connection between artificial intelligence and students' learning and life is getting closer and closer. Changes in the concept of art education and the educational environment will inevitably require changes in the teaching mode and course content, so as to adapt to the new changes in art education in colleges and universities and the new requirements of society for art talents [1]. In order to promote each student's aesthetic awareness and the development of their own art education In order to promote the development of each student's aesthetic sense and spiritual value, the relevant state departments have repeatedly issued relevant documents and taken corresponding teaching measures for all students to popularize art education, the significance of art education is to cultivate the students' acquisition of artistic thinking [2]. The significance of art education is to cultivate students' acquisition of artistic thinking. Through artificial intelligence technology, we integrate subject knowledge, learning resources, and learning strategies to build a learning model that helps learners form a personalized learning mindset, develop a personalized learning style, and form their own unique art forms [3].

## 1. Development of Artificial Intelligence

Artificial Intelligence (AI) is a new technical science that researches and develops theories, methods, technologies, and application systems for simulating, extending, and expanding human intelligence. Research in this field includes robotics, speech recognition, image recognition, natural language processing, and expert systems, among others, which use a large number of algorithms and individual programs to solve complex problems by computers, combining

data-driven techniques and mathematical models with a large amount of knowledge. ai technology not only greatly improves people's ability to understand science, technology, nature, and society, but also actively serves human society. Digital painting is a combination of AI and fine art. Digital painting is the application of AI to painting in fine art, a form of painting in the field of CG (Computer Graphics), i.e., a form of art and design created on a computer through the use of appropriate computer software and digital drawing tools. Digital painting is frequently done using computer mainframes, keyboards, mice, monitors, digital boards, pressure-sensitive pens, and compatible drawing software. Additionally, artists utilize smartphones and tablets for digital painting, making the process more convenient, faster, and practical [4]. The operation is more convenient, faster, and more practical.

The nurturing process in art teaching is very artistic, art teaching itself is a process of aesthetic education, art teaching methods and methods need to be artistic, and the content of the teaching is even more artistic and aesthetic. In art teaching, the completion of works in the form of AI is the beginning of the transformation of the art classroom, but also the innovation of art education teaching mode. This evolution in teaching methods has led to the growth and diversification of students' thinking. Consequently, students' work has transitioned from being figurative to imaginative or abstract. Concrete lines are now being fragmented, deconstructed, and reorganized. Moreover, the method of painting has shifted from traditional hand drawing to digital forms such as computer painting, AI painting, and other digital painting techniques. The students' works are constantly iterated and updated, and their scope also covers illustration design, packaging design, clothing design, product design, animation design, and other fields. Students use Photoshop, Painter, Procreate, Blender, Canva, and other drawing software to create their works, expanding the scope of their thinking from two-dimensional to three-dimensional space, and significantly broadening their horizons.

## 2. The current situation of art teaching in colleges and universities

Art education in China began in the early 20th century and plays an important role in the academic system of colleges and universities, aiming to cultivate students' aesthetic ability, creativity, emotional expression, and comprehensive quality. Through art education, students can cultivate comprehensive thinking and innovation ability, improve their understanding and recognition of art and culture, so that they can better adapt to the needs of the future society, and become comprehensive talents with thoughts, emotions, and creativity [5]. However, in terms of the content of art classroom teaching and the teaching of art culture, it is not easy to find out how to teach. However, from the perspectives of art classroom teaching content and teaching methods, there are a lot of problems that need to be improved in art teaching in many schools.

In terms of teaching content, the main deficiencies are: (1) Over-emphasis on skill training: some schools and teachers overemphasize students' drawing skills to the detriment of the cultivation of aesthetic qualities and the development of creative abilities. (2) Lack of diversity: the contents of teaching materials and curricula are biased towards tradition or confined to specific art styles and works, and lack the introduction and exploration of different cultures, historical backgrounds, and modern art. (3) Lack of integration with other disciplines: art teaching is usually isolated from teaching other disciplines and lacks effective integration. (4) Lack of opportunities to cultivate aesthetic ability: The evaluation system in schools often favors subject knowledge and examination results, ignoring the importance of cultivating students' aesthetic ability. (5) Lack of contemporary art education: School education tends to dwell on traditional art forms and techniques, with little understanding of emerging forms such as contemporary art and digital art.

From the point of view of teaching methods, the main deficiencies are (1) Lack of inspirational teaching: some teachers overemphasize the transmission of skills and knowledge, neglecting to inspire students' ability to observe, think, and create. (2) Lack of Practical Teaching: Some schools pay too much attention to the inculcation of theoretical knowledge and lack the opportunity for practical operation. (3) Dependence on traditional teaching tools: Some schools still rely too much on traditional teaching tools, such as pen and paper, drawing boards, etc., and lack the use of new media and new technologies. (4) Lack of personalized teaching: Every student has different characteristics and interests, but some schools and teachers tend to adopt a one-size-fits-all teaching method, ignoring the individual differences of students.

AI is now an essential driver of the fourth industrial revolution and could spark a fourth revolution in education.<sup>[6]</sup> AI has also started to become an important aid to education. In an academic study aimed at investigating the potential of AI to improve the teaching effect of art courses, the experimental results showed that the perfect rate of modern teaching using AI was 87.66%, which means that the use of AI to assist classroom teaching has become a possibility.

### **3. The value of AI-based art teaching in colleges and universities**

#### **3.1 Exploratory in teaching and learning**

The application of AI technology to the teaching of art education is of exploratory significance. Intelligent technologies such as ChatGPT and AI painting can empower art teachers, assist students in learning, and open up a new pattern for art teaching. The construction of digital learning environments to enrich digital teaching resources, meet students' personalized learning needs, improve teachers' teaching quality, and give rise to a new type of learner-centered intelligent learning support environment [7]. For example, Assistive Sketching System (ASS, Assisted Sketching System), an application based on AI technology, can help students better master drawing techniques, the fluidity of lines and the modeling of structures, and can modify drawn lines in real time so that students can complete their drawing work more accurately. For students who want to complete high-quality artworks, this can help them to complete the operation that could not be completed before, and in terms of efficiency can play a multiplier effect, reflecting the efficiency of AI. Therefore, the application of AI technology in art teaching is forward-looking and exploratory, which can provide more possibilities for the development of teaching form and content, and at the same time provide an effective platform for students to popularize the knowledge and technology of AI, and to cultivate students' mastery of AI technology for the pre-drawing and creation.

#### **3.2 Motivate students to learn**

The use of AI technology in art teaching can stimulate students' strong enthusiasm for learning. First of all, the use of AI technology can enable students to carry out customized learning, combining basic learning and professional learning, so that students can learn faster and more efficiently in the art course. AI can improve the students' creative ability, which can help students conceptualize and form better artworks. Students who are skillful in painting and have creativity, pay more attention to and pursue personal creativity and expression, and AI painting can provide them with different materials and styles; for students who have a certain foundation in painting but lack creative thinking, they can present their own ideas with the help of AI painting; for students who do not have a foundation in painting, AI becomes a learning aid, which can inspire more students to devote themselves to art learning. For students without a basic knowledge of painting, AI becomes a learning aid, which can inspire more students to devote themselves to art learning. The rich and colorful digital paintings are fascinating. Students seek different variations in composition, color, line, space, texture, and texture, and draw nutrients from traditional paintings to create more diversified and creative digital paintings.

#### **3.3 Developing students' creative skills**

AI empowers the growth of teachers' education and teaching, can further cultivate students' imagination and creativity, and effectively explore students' potential abilities. Introducing AI technology in art classroom teaching can realize the efficient, intelligent, and diversified features of digital teaching. In the process of AI painting creation, students can experience different styles and genres, such as Chinese style, cartoon style, cyberpunk, surrealism, etc. With rich imagination and creativity, combined with the AI painting software, a sheet of AI paintings filled with technological, intelligent, and futuristic elements is automatically generated, which reflects the students' attitude towards AI, as well as their exploration of and attempts at AI painting technology [8]. The development of AI technology has been involved in various fields, and many functions have appeared, such as generating PPT with one click, dubbing with one click, and quickly generating short videos, charts, etc. Students who are capable of exploring and experimenting with AI drawing software have been able to create their own drawings. Students who are capable of exploring and experimenting use the powerful technology of AI to enhance and expand their creative intentions and approaches while retaining their individual uniqueness and creativity and injecting more vitality into better learning and mastering of art and drawing skills. The art classroom provides a space for students to show themselves in their learning and a way for them to diversify their creative expression, which helps to enhance students' creative ability and innovative consciousness, improve their artistic expression and creativity, and drive change and innovation in art teaching.

### **4. Based on the integration path of AI and college art teaching**

#### **4.1 Transforming teachers' own teaching philosophy**

Combined with the current situation of AI technology and art teaching, the problem still comes from the teachers'

failure to change their own teaching concepts, unable to integrate the new modern technology with the actual teaching, and still affected by the traditional teaching concepts, resulting in the AI technology can not be organically integrated with the art teaching. Therefore, it is especially important to change teachers' own teaching concepts and improve their comprehensive quality. First of all, at the school level, schools can provide art teachers with as many communication and cooperation opportunities as possible, so that some teachers with weak concepts of emerging technologies can accumulate relevant experience from those who have obtained good teaching results by using AI technology, which will improve teachers' confidence. At the same time, schools can also invite famous professors of AI majors in famous schools or experts in the education industry to give lectures to convey the concept of the importance of the combination of AI technology and art teaching to teachers and provide professional answers and professional guidance to teachers who have doubts and questions. In addition, the school can also regularly organize seminars on related topics, so that teachers of art disciplines can discuss together, exchange experiences, understand the cultivation objectives of the whole university, and constantly improve the teachers' awareness of self-professional quality growth, so that they can implement AI technology into art teaching in colleges and universities.

## **4.2 Innovative Teaching Models**

### **4.2.1 Build an intelligent learning platform**

Teachers should not only focus on the use of AI technology in the high school art classroom but also connect AI technology before and after school. Strengthen the connection between emerging technologies and students and art courses. To meet the aesthetic needs of students, teachers should also let students actively perceive and experience beauty in real life, and apply the intelligent learning platform to teaching practice. For example, teachers can upload good artwork to the learning platform allow students to evaluate the works, and use intelligent technology to modify the works to improve students' aesthetic ability [9]. In addition, teachers can also upload students' grades, homework completion, etc. to the platform, so that it automatically generates the students' own data, and teachers can make targeted comments to students based on the data, and recommend to the students suitable for their own copying of masterpieces for training. At the same time, this platform can also analyze the students' painting strokes, layout structure, etc., which is convenient for students to correct and modify. In conclusion, the intelligent learning platform has a wide range of applications, and teachers need to continue to explore and expand to further enhance students' interest in learning.

### **4.2.2 Building a VR simulation room**

Art belongs to visual art, so the art subject emphasizes more on letting students really listen, really see, and really feel, only when students get the most real feelings and understanding, they can get inspiration and create better paintings, so teachers must let students observe the artwork carefully, and get a different experience and a sense of beauty in the observation. For this reason, teachers can make students feel the real beauty by means of building a simulated classroom, using VR technology, holographic projection, etc. to provide students with a new visual feast [10]. For example, in the appreciation of the world's most famous painting - "Sunflower", the classroom can be built with the help of a simulated classroom for students to appreciate and learn. Rendering and synthesizing on the basis of "Sunflowers", students can learn the artistic details of this painting by observing the picture of "Sunflowers", feel Van Gogh's understanding of life, and inspire students' gratitude and honesty.

### **4.2.3 Multidisciplinary integration for teaching and learning**

Art appreciation class is a class often involved in art teaching, which requires the connoisseur to have a certain degree of art knowledge and appreciation ability, in the appreciation, students should be able to extract the knowledge from the mind to enrich their own appreciation experience. Therefore, art appreciation class can not be separated from other courses, only the connoisseur's all-round understanding of the work, in order to give the most pertinent evaluation, to maximize the enhancement of the appreciation ability, for example, the teacher can use the AI integration technology, a piece of work of the author's profile, the history of the dynasty, the creation of the genre, derivative works, pigment texture, and other information to integrate, to deepen the student's understanding of the work, to understand the ins and outs of the creation of the work.

To summarize, the rapid development of AI drives the progress and improvement of human society, and the innovation of art teaching is also transformed in the real situation practice. By applying AI technology to art teaching, students can realize in-depth learning, gradually improve art expression and creativity, enhance the internal drive to learn art, explore potential abilities, and drive change and innovation in art teaching. Whether it's ChatGPT or the

new technological revolution, information revolution, and education revolution brought about by AI, it's quietly underway. In the future, AI will be more widely and closely linked to people's lives, with the application of smart terminals such as cell phones and tablets leading the way. With the promotion of AI technology, art education teaching will usher in new opportunities and challenges.

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