Learning & Education
ISSN：2251-2802

Pisco Med Publishing

# Analysis of teaching mode reform and innovation path of photography course from AIGC perspective

**Shengfu Fan**

**Xi'an Technology and Business College, Xi'an 710299, China**

***Abstract:*** This study discusses the impact of AIGC technology on photography education, analyzes the problems existing in the current teaching model, and puts forward the path of reform and innovation. The research shows that AIGC technology has profoundly changed the connotation and extension of photography education through technology empowerment, teaching paradigm transformation and educational ecological reconstruction. However, the problems of lagging teaching content, single teaching method and imperfect evaluation system still restrict the improvement of education quality. This study proposes to build a photography teaching model that ADAPTS to the AIGC era by updating course content, innovating teaching methods and optimizing evaluation system. The research results provide theoretical support and practical guidance for the future development of photography education.

***Keywords:*** AIGC Technology; Photography Education; Teaching Mode Reform; Innovation Ability Training; Comprehensive Evaluation Mechanism

## Introduction

In the context of the rapid development of artificial intelligence-generated content (AIGC) technology, photography education is facing unprecedented opportunities and challenges. AIGC technology not only reshapes the way of content creation, but also puts forward new requirements on the traditional teaching mode. This study aims to explore the impact of AIGC technology on photography education, analyze the problems existing in the current teaching model, and propose the path of reform and innovation. Through literature research and case analysis, this study reveals the potential value of AIGC technology in teaching content, methods and evaluation system, and provides new ideas for the future development of photography education.

## 1. The impact of AIGC technology on photography education

### 1.1 Technical empowerment: the application and expansion of AIGC in photography creation

The impact of AIGC technology on photography education is first reflected in the level of technical empowerment, which opens up a new application scenario and practical dimension for photography creation through intelligent algorithm and deep learning[1]. AIGC technology can not only automate the generation of high-quality image and video content, but also significantly lower the technical threshold in traditional creation through the functions of scene synthesis, style transfer and intelligent post-processing. For example, image-generation techniques based on generative adversarial networks (Gans) enable students to quickly construct complex visual scenes without relying on expensive equipment or long manual operations. AIGC technology has also promoted the use of virtual reality (VR) and augmented reality (AR) in the teaching of videography, providing students with an immersive creative experience that enables experimental shooting and post-editing in a virtual environment

### 1.2 Change of teaching paradigm: from skill impartation to innovation ability cultivation

In traditional teaching mode, teachers often focus on teaching students how to use cameras, adjust light, composition and other basic skills, while the introduction of AIGC technology makes these technical operations partially replaced by automated tools, such as AI-driven image generation and intelligent post-processing technology, which can efficiently complete repetitive tasks[2]. This change has forced educators to rethink the core goal of teaching, which is no longer purely technical mastery, but how to cultivate students' innovative thinking and artistic expression. Under this new paradigm, students need to learn to collaborate with AI tools and use technology to expand the boundaries

of creativity, such as generating diverse visual elements through AI, and then combining their own artistic ideas for secondary creation[3].

### 1.3 Educational ecological reconstruction: the redistribution of teaching resources by AIGC technology

The popularization of AIGC technology is reconstructing the ecological system of photography education, especially in the allocation and utilization of teaching resources, showing unprecedented changes. In the traditional education model, high-quality teaching resources are often concentrated in a few universities or institutions, but AIGC technology breaks the geographical and resource restrictions through intelligent content generation and sharing platform. For example, AI-powered virtual LABS and online teaching tools enable students to access high-quality practical resources, such as virtual shooting scenes, intelligent editing software, and real-time feedback systems, anytime, anywhere[4]. AIGC technology can also automatically generate personalized teaching content and practice tasks according to students' learning progress and needs, so as to achieve accurate allocation and efficient use of resources.

## 2. Problems in the teaching mode of photography course

### 2.1 Lagging teaching content: out of touch with the development of industry technology

At present, the teaching content of photography courses generally has a lag problem, which fails to keep up with the rapid development of industry technology, especially in the application of cutting-edge technology fields such as AIGC, virtual reality (VR) and augmented reality (AR). Some colleges and universities lack the support at the school level, and many colleges and universities lack practical training bases, which makes it difficult for students to practice in a real working environment. Due to the lack of financial support and the single equipment of the school, it is unable to meet the diversified practical needs of students. Practical projects often can only stay at the level of simple skill learning, and it is difficult to involve deeper technical application and innovative practice. In such a practical environment, it is difficult for students to access cutting-edge technologies such as AIGC, VR and AR, let alone apply these technologies to the creation of photography. This situation makes students feel powerless in the face of the new requirements of industry development.

### 2.2 Single teaching method: lack of interaction and practicality

At present, the teaching methods of photography courses generally have the problem of uniformity, over-reliance on traditional lecturing teaching, resulting in a serious shortage of classroom interaction and practice. The single problem of teaching method of the teacher's photography course is also affected by the change of profession and technology. Due to the limitation of professional background, many teachers may lack the in-depth understanding and application ability of emerging photographic technology. With the rapid changes in the industry, teachers who fail to update their knowledge and skills can lead to a gap between what is taught and what the industry actually needs. In addition, teachers generally lack professional training opportunities, which makes them often feel inadequate when trying to adopt more interactive and hands-on teaching methods. The lack of effective training and support makes it difficult for teachers to integrate the latest teaching concepts and technological means into the classroom, thus limiting the diversity and innovation of teaching methods. The single teaching method not only limits students' creativity and sense of participation, but also weakens the overall teaching effect of the course, which needs to be improved by introducing more interactive and practical elements.

### 2.3 The evaluation system is not perfect: ignoring innovation ability and comprehensive quality

There are obvious defects in the current evaluation system of photography courses, which lays too much emphasis on the quantitative assessment of technical skills and neglects the cultivation of students' innovative ability and comprehensive quality. Traditional evaluation methods usually take technical completion, composition accuracy or post-processing effect as the main criteria. Although this single-dimension assessment mode can reflect students' basic skill level, it cannot comprehensively measure their creative expression, artistic perception and ability to solve complex problems. For example, students may demonstrate unique design thinking or interdisciplinary integration skills when working with AIGC tools, but these innovative results are often not fully recognized due to limited evaluation criteria. The evaluation system's lack of focus on students' integrated qualities such as teamwork, critical thinking and professionalism has led to a disconnect be-

tween educational goals and industry needs. This imperfect evaluation mechanism not only limits students' all-round development, but also may inhibit their enthusiasm to explore unknown areas.

## 3. Reform and innovation path of photography course teaching mode under AIGC vision

### 3.1 Course content update: Integrate the cutting-edge knowledge of AIGC technology

Driven by AIGC technology, the photography course has built a new knowledge system of "technology-enabled creation". Take the course "Generative Image Design" as an example, the course module innovatively integrates the teaching of the whole process of AI image generation: In the basic layer, students learn to control the composition of the picture through the line draft through the Stable Diffusion ControlNet plug-in; At the application level, Midjourney's Vary(Region) function is used to realize local redrawing and complete the style transfer experiment of photography works. In a classroom practice, students input the field photos of Mogao Grottoes in Dunhuang into the LoRA model, and by adjusting the potential spatial parameters, they generate a series of works that combine the texture of mural paintings with the characteristics of modern digital art. More groundbreaking is that the course has set up a practical training project of "AI studio ", requiring students to combine DALL·E 3 prompt word engineering and physical projection technology, first through natural language description to construct a virtual scene, and then use Cinema 4D to simulate light and shadow, and finally output a composite image with movie-quality texture. This three-stage teaching method of "input-production-optimization" not only cultivates students' cross-media narrative ability, but also enables them to deeply understand technical principles such as latent space mapping and attention mechanism, forming a complete cognitive framework for AIGC creation.

### 3.2 Innovation of teaching methods: Building a student-centered interactive teaching model

The age of college students tends to be after 00, they have active ideas, strong ability to accept new things, and outstanding self-innovation ability. The cultivation of media talents should fully grasp these characteristics. In the construction of student-centered interactive teaching model, the course design should pay attention to individuality and differentiation, encourage students to play their personal strengths, and integrate new thinking and technology into the creation of photography. Taking advantage of post-00s students' natural affinity for digital technology, we will introduce more cutting-edge technology tools such as AIGC, VR and AR, so that students can learn through exploration and innovate in practice. Teaching activities should pay more attention to interdisciplinary integration, through team projects, cross-border cooperation and other ways to cultivate students' comprehensive literacy and innovation ability. Teachers should change their role to become facilitators and partners of students' learning, providing necessary guidance and support, rather than mere knowledge imparts.

### 3.3 Optimization of evaluation system: establishment of multi-dimensional comprehensive evaluation mechanism

Under the background of AIGC technology deeply reshaping the creative process, the photography course has gradually constructed a four-dimensional evaluation framework of "technology-creativity-cooperation-ethics". Taking the course of dynamic image creation as an example, the evaluation system introduces a collaborative mechanism between AI tools and manual review. In the technical dimension, the video analysis model is used to automate the detection of parameters such as lens motion rule and light and shadow matching degree. For example, the algorithm analyzes whether the movement of objects in the picture made by students using generative tools conforms to physical logic. In the creative dimension, a multimodal model is compared with a massive art database to generate an "innovation index graph" of visual style and evaluate the originality of a work from the perspectives of color composition and narrative tension. The collaboration dimension tracks the version iteration path of the team project through the collaborative creation platform, analyzes the communication record with semantic analysis technology, and quantifies the contribution degree of members in technical research and creative proposals. The ethical dimension adds an AI copyright traceability module, requiring students to add digital watermarks to synthetic works and write a creative statement explaining the proportional relationship between human creativity and AI generation. This mechanism not only focuses on the final result, but also tracks and records the evolution path of students' thinking through the whole process, forming a visual ability growth curve.

## 4. Conclusions

The rapid development of AIGC technology has brought a profound impact on photography education, and promoted the comprehensive innovation of teaching content, methods and evaluation system. By integrating the cutting-edge knowledge of AIGC technology, building a student-centered interactive teaching model, and establishing a multi-dimensional comprehensive evaluation mechanism, the photography course can better adapt to the needs of the industry and cultivate talents with innovative ability and comprehensive quality. In the future, educators should actively explore the deep integration of AIGC technology and teaching to inject new vitality into the sustainable development of photography education.

## References

[1]ZHENG Jiqin. Research on the reform of Blended teaching Mode of college photography course -- Taking Basic Photography Course as an example [J]. Art Education Research,2024(1):142-144.

[2]Xu Chunxia. Application analysis of “infiltrating” teaching Mode in Photojournalism course in the all-media era [J]. Western Radio and Television, 2002,43(21):84-86.

[3]WANG Xue, Zhao Minning. Research on Ideological and political teaching scheme of “Digital Photogrammetry” course [J]. Standardization of Surveying and Mapping, 2019,39(3):91-94.

[4]Liu Jingxin. Practice Research on digital teaching Reform of AIGC Enabling Visual Communication Design [J]. Art and Design (Theory Edition),2024(8):143-145.

[5]Duan X. Research on the Application of digitalization in the teaching of photography and videography [J]. Internet Week,2023(11):82-84.

## Author Introduction:

Shengfu Fan (1994-), male, Han ethnicity, Wuwei, Gansu, lecturer, master’s student, research direction includes film and television photography production, film and television criticism, and film history research.

## Fund Project:

This article is the research result of the university-level teaching reform research project of Xi’an Science and Technology University in 2024, The Research on Teaching Path Innovation in Digital Photography and Photography Basic Course under the Vision of AIGC Multimodal Large Model (Project No.: 24 YJ 39).