Theory and Practice of Science and Technology
2025, VOL. 6, NO. 12, 23-26
DOI: 10.47297/taposatWSP2633-456905.20250612

Integration and Practical Application of AI Technology in Classroom Teaching for Film and Television Post-production in Higher Education Institutions

Qingzhong Feng, Lingzi Li, Baoxiang Xu

School of Broadcasting and Television, Communication University of China Nanjing, Nanjing, Jiangsu, 211172, China

ABSTRACT
Under the background of digital transformation in education, the integration of AI technology with film and television post-production classes in higher education institutions has become an inevitable direction for industry development and teaching reform. Judging from the current situation of integration, there are many practical problems, such as teachers' insufficient AI application skills and weak teaching guidance, students' excessive reliance on technology and gradual weakening of creative thinking, as well as the lagging update of the teaching system that is seriously incompatible with AI technology. Based on an in-depth analysis of these difficulties, this paper proposes improvement strategies from three dimensions, namely enhancing teachers' practical application ability of AI and constructing a collaborative teaching model, strengthening the cultivation of students' creative thinking and building a teaching framework that integrates technology and art, as well as optimizing the teaching system and creating a multi-dimensional support platform, aiming to effectively promote the deep integration of AI technology into the entire teaching process of film and television post-production, effectively improve the teaching quality, and cultivate compound film and television creative talents who are more in line with industry needs.

KEYWORDS
Film and television post-production in higher education institutions; AI technology; Classroom teaching; Educational digitalization

1 Introduction

The "Opinions on Accelerating the Advancement of Education Digitalization" jointly issued by the Ministry of Education and other eight departments clearly states that it is necessary to "integrate AI technology into all elements and the entire process of education and teaching, and promote the fusion of technological education and humanistic education" [1]. Film and television post-production is an important course for film and television media-related majors in higher education institutions, which emphasizes technical practice, contains artistic creation attributes, and serves as a key carrier for cultivating students' core capabilities in film and television creation. Introducing AI technology into the film and television post-production classroom can not only directly improve teaching efficiency, but also accurately align with the development needs of the industrial digital transformation. However, in the current practice of promoting the integration of the two in higher education institutions, there are still many adaptation problems, which directly affect the full realization of teaching effectiveness. Based on this real situation, this paper attempts to conduct in-depth discussions on the application dilemmas and improvement strategies of AI technology in the film and television post-production classroom in higher education institutions, in order to provide reference for the teaching reform of film and television majors under the wave of education digitalization.

2 Dilemmas of Applying AI Technology to Film and Television Post-production Classroom Teaching in Higher Education Institutions

2.1 Insufficient AI Literacy of Teachers

Teachers are the core leader of teaching activities, and their AI literacy directly affects the integration effect of AI technology and classroom teaching. Currently, constrained by traditional teaching concepts and lacking timely updates to their knowledge structures, many teachers in the film and television post-production major at colleges and universities generally exhibit insufficient AI literacy. On the one hand, although most teachers recognize the value of AI technology in teaching, they have an inadequate grasp of specialized AI tools in the field of film and television post-production, such as AI-assisted editing software, AI color grading systems, and AI special effect generation tools. Meanwhile, many teachers have limited practical skills and thus cannot proficiently use these tools to design teaching procedures and guide students in practical operations. On the other hand, some teachers are weak in integrating AI technology and film and television post-production teaching content deeply, and fail to accurately integrate AI technology into the teaching process based on the characteristics of different teaching modules. As a result, AI technology is only superficially applied in the classroom, and cannot truly fulfill their role in enhancing teaching efficiency and cultivating students' core competencies. In addition, higher education institutions offer relatively few specialized AI technology training programs

for teachers in film and television majors, so that teachers find it difficult to keep abreast of the latest development of AI technology within the industry and master advanced application methods. This situation further exacerbates the lag in teachers' instructional guidance capabilities.

2.2 Technology Dependence of Students

As AI technology is gradually integrated into the film and television post-production classroom, a prominent problem has emerged: many students have developed a strong dependence on AI tools, which in turn undermines the cultivation of students' creative thinking. The convenience of AI tools leads many students to unconsciously "take shortcuts" in post-production. They delegate core tasks such as editing, color grading, and special effects generation directly to AI, yet rarely take the time to delve into the logic of the entire production process and lack the awareness to actively explore artistic expression. For example, in the editing stage, many students directly apply the automatic editing function of AI, but completely ignore the application skills of shot language, the precise control of shot rhythm, and how to highlight the theme of the work through editing [2]. Over time, it is difficult for them to form their own editing style. The same applies to color grading: many students directly use AI preset parameters without hesitation, yet neither understand nor flexibly apply the emotional connotations of the colors or the inherent logic of color combinations. This excessive dependence gradually erodes students' abilities for independent think and innovative creation. In students' view, film and television post-production seems to be reduced to the mechanical labor of "operating AI tools", and they overlook the inherent artistic and humanistic value of this work. More notably, some students have cognitive biases towards AI technology. They believe that mastering the operation of AI tools alone qualifies them for film and television post-production-related work, and lack the awareness of proactively improving their own artistic literacy and creative abilities. This situation is clearly contrary to the goal of the film and television post-production major in higher education institutions to "cultivate compound talents with innovative thinking".

2.3 Inadequate Adaptability of the Teaching System

At present, the teaching system of the film and television post-production major in universities has a high low of adaptability with AI technology, and lacks a complete support and guarantee mechanism, which is a major obstacle for AI technology to enter the classroom and achieve implementation. In terms of course design, the existing curriculum system still focuses on traditional film and television post-production technologies, and the systematic course content targeting the application of AI technology in the field of film and television post-production is seriously insufficient. Most relevant AI knowledge only appears in the form of scattered lectures or elective modules, and fails to be truly integrated into the entire process of course teaching. These issues result students finding it difficult to build a complete knowledge framework for AI technology application, lead to fragmented learning content, and make it difficult to develop practical application abilities [3]. The problems related to teaching resources are equally prominent. Some colleges and universities lack teaching materials, practical training platforms and professional software resources that match AI technology. As a result, students have difficulty obtaining sufficient practical opportunities closely aligned with industry practices in the classroom, the most application exercises of AI technology remain at the theoretical level, and the effectiveness of practical teaching is naturally greatly reduced.

3 Strategies for Improving AI Technology Application in Film and Television Post-production Classroom Teaching in Higher Education Institutions

In response to the aforementioned dilemmas, higher education institutions can promote coordinated progress in three aspects: enhancing teachers' AI literacy, strengthening the cultivation of students' creative thinking, and optimizing the teaching system.

3.1 Improve Teachers' AI Literacy

Firstly, it is necessary to build a hierarchical and classified AI technology training mechanism for teachers. Higher education institutions can collaborate with the film and television industry associations and AI technology enterprises to tailor specialized training programs for teachers in the film and television post-production majors. The training content should focus on the core needs of teachers, including both practical operation skills of AI tools specific to film and television post-production, and methods for integrating AI technology with teaching content. Meanwhile, the training should also keep up with the latest AI technology trends in the industry. The training format should balance theoretical depth with practical effectiveness, and adopt a blended online-offline model. The online training leverages educational

digital platforms to establish regular learning access and provide accessible learning resources that can be consulted at any time. The offline training organizes immersive activities such as practical workshops and case study seminars to help teachers quickly master the practical application skills of AI technology. At the same time, a corresponding learning assessment mechanism should be established, which link the training assessment results directly to teachers' [professional title evaluation and performance appraisal, so as to fully motivate teachers' enthusiasm for actively exploring AI technology [4].

Secondly, it is necessary to integrate high-quality resources and build a communication and sharing platform for teachers. Higher education institutions can take the lead in establishing inter-institutional and cross-regional teaching exchange communities for film and television post-production, and integrating excellent teaching cases, AI teaching resources, and practical experiences from different institutions, to provide a convenient communication and learning bridge for teachers. They can encourage teachers to apply for teaching research projects related to AI teaching, and organize regular teaching observation meetings and experience sharing sessions to enable teachers to deeply discuss the pain points and practical insights of integrating AI technology with film and television post-production teaching, thus achieving mutual improvement through mutual learning.

In addition, deepening the collaboration between universities and enterprises is also an important means to enhance teachers' capabilities. Higher education institutions should establish a long-term and stable cooperative relationship with film and television production companies and AI technology enterprises, and regularly select teachers for secondment to enterprises to engage in in-depth participation in real film and television post-production projects. This means can enable teachers to gain a direct understanding of the latest AI technology application scenarios and job requirements in the industry through practical experience, and then transform these valuable industry experiences into vivid teaching materials, making classroom teaching more closely aligned with industry reality.

3.2 Strengthen the Cultivation of Students' Creative Thinking

First, it should clarify the teaching objectives and restructure the teaching content system. Higher education institutions need to re-establish the educational orientation if the film and television post-production major, and list the application ability of AI technology and the ability of innovative creation as parallel training objectives. In terms of content design, it is necessary to systematically explain the operation logic of AI tools, and solidify the artistic theoretical foundation such as cinematic language, color aesthetics, and narrative logic, to enable the technical learning to be always implemented around artistic creation. Specifically for each teaching module, the precise alignment of AI application and artistic requirements should be achieved. For example, in the editing teaching, students should first be guided to thoroughly understand the cinematic language, clarify the editing logic, and determine the theme and style direction of the work. Then, they are instructed to use AI editing tools to assist in creation. In this process, students must be required to make secondary optimization on the initial edited draft generated by AI and integrate their own creative ideas into it [5]. In color grading teaching, it is necessary to firstly explain the connection between color theory and emotional expression, and then guide students to use AI color grading tools to customize color grading schemes based on the theme of the work, avoiding the homogenization of creation caused by blindly applying AI preset parameters.

Second, it should innovate teaching methods and promote immersive practical teaching. Project-driven, case discussion and other teaching methods can be adopted, with authentic film and television post-production projects as the carrier, enabling students to simultaneously improve their technical application abilities and creative thinking in solving practical problems. For instance, comprehensive projects such as micro-film post-production and documentary packaging can be set up to require students to complete the full workflow from material organization to final output in groups. During the project implementation, teachers should not only guide students to reasonably use AI tools to improve efficiency, but also focus on the artistic expression and innovative highlights of the work to encourage students to boldly try diverse creative styles.

3.3 Optimize the Teaching System

On the one hand, it should reconstruct the curriculum system and build systematic AI teaching content based on the practical needs. Higher education institutions should closely follow the industry development trends and the goals of students' ability cultivation to restructure the curriculum framework of the film and television post-production major, and integrate AI technology-related content into the entire teaching process. In the basic course stage, courses such as "Fundamentals of AI Technology" and "Introduction of AI Applications in Film and Television" should be added to help students establish a complete cognitive framework for AI technology. When entering the professional core courses, it should precisely integrate corresponding AI tool operation and technical fusion contents for different modules such as editing, color grading, special effects compositing, and packaging design, so that AI technology and professional knowledge can achieve organic integration and seamless connection. In the practical course stage, specifically special

training projects for AI film and television post-production should be set up, making students immerse themselves in real project scenarios to enhance their AI technology application capabilities [6]. Meanwhile, the curriculum content should be dynamically updated, and promptly incorporate the latest AI technology achievements and practical cases from the industry into teaching, so as to ensure that the teaching content is both cutting-edge and practical.

On the other hand, it should integrate high-quality resources and build diversified teaching platforms. For one thing, higher education institutions need to increase funding investment to purchase AI software and training equipment dedicated to film and television post-production, and build an on-campus AI film and television post-production training platform to provide a stable and efficient practical teaching environment for students. For another thing, institutions should actively integrate high-quality online teaching resources, introduce AI teaching courses from renowned universities at home and abroad and technical training materials from industry enterprises, and build an online-offline collaboration teaching resource library to meet students' differentiated learning needs. In addition, it is necessary to deepen inter-university and university-enterprise cooperation, jointly build and share teaching resources and training platforms with peer institutions, and jointly develop off-campus practical bases with industry enterprises to create students with more opportunities to participate in real project practices.

4 Conclusion

Integrating AI technology into the film and television post-production classrooms in higher education institutions is not only an inevitable trend in the digital transformation of education, but also an important means to promote the innovation of film and television professional teaching and improve the quality of talent cultivation. However, in the current integration practice, there are still some practical problems such as the need to enhance teachers' AI application literacy, students' excessive dependence on technical tools, and insufficient adaptability between the teaching system and AI technology. Therefore, higher education institutions are require to take targeted measures, such as building a collaborative teaching guidance system to improve teachers' comprehensive capabilities, establishing a teaching model that integrates technology and art to cultivate students' original thinking, and optimizing the teaching system and improving the supporting guarantee mechanism, to solve these problems sequentially. In the future, institutions still need to continuously deepen the exploration of integrating AI technology with film and television post-production teaching, constantly refine teaching models that are compatible with the development needs of the industry and the goals of talent cultivation, and promote the deep integration of science and technology education and humanities education, so as to inject a steady stream of talent vitality into the high-quality development of the film and television industry.

Funding

Communication University of China, Nanjing 2025 Teaching Reform Project: Innovative Research on the "AI-Human Collaboration" Dual-Track Teaching Model for Audio-Visual Content Production Courses in Film and Television Directing During the Digital-Intelligence Era (NO: JG20250608)

About the Author

Qingzhong Feng, Male, Han, Nanjing Jiangsu Province, Master's Degree, Communication University of China Nanjing, Lecturer, Film and Television Studies.

References

[1] Ministry of Education of the People's Republic of China. Opinions of the Ministry of Education and Other Eight Departments on Accelerating the Advancement of Education Digitalization [EB/OL]. (2025-04-11) [2026-01-03]. http://www. moe. gov. cn/srcsite/A01/s7048/202504/t20250416_1187476.html.

[2] LIU Jin. Application of AI-assisted Teaching in Film and Television Post-production Courses [J]. Home Theater Tech, 2025, (16): 77-79.

[3] PAN Yixuan. Discussion on Teaching Methods of Film and Television Post-production Courses in Higher Vocational Colleges [J]. China Journal of Multimedia and Network Teaching, 2024, (05): 61-65.

[4] DENG Qingzhi. Discussion on AI-oriented Teaching of "Film and Television Post-production" Courses [J]. Home Theater Tech, 2025, (14): 95-98.

[5] YI Qiaoling. Research on the Innovation and Practice of Film and Television Post-production Teaching Based on the Cultivation of High-quality Technical and Skill Talents [J]. West China Broadcasting TV, 2024, 45(21): 85-88.

[6] XIE Siqin. The Effect Evaluation of Blended Teaching Based on Kirkpatrick Model —— A Case Study of "Video Post-production" Course in Higher Vocational Colleges [J]. Vocational Technology, 2023, 22(05): 1-7.