Innovation of Film & TV Creation Teaching Mode Based on AI Technology

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Abstract: With the wide penetration of artificial intelligence (AI) technology in various fields, the teaching of film & TV creation is facing new opportunities and challenges. This paper focuses on exploring the innovative teaching mode of film & TV creation based on AI technology. Based on educational technology and constructivist learning theory, this paper puts forward innovative ideas from three aspects: teaching concept, content and method, and further expounds the implementation strategies such as improving teachers' ability, building teaching resources and innovating teaching evaluation system. It is found that the integration of AI technology into film & TV creation teaching can effectively solve the limitations of traditional teaching mode. The innovative teaching mode, which strengthens the concept of student-centered and interdisciplinary integration, enriches the teaching content and improves the teaching methods, injects new vitality into the teaching of film & TV creation, and is of great significance to cultivating film & TV creation talents who adapt to the development of the times. This provides a practical reference path for the teaching reform of film & TV creation.

1. Introduction

Under the wave of the digital age, AI technology is infiltrating into all fields of society at an unprecedented speed, and the film & TV industry is also deeply influenced by it, facing profound changes and transformations [1]. As the core link of film & TV industry, the traditional teaching mode of film & TV creation is in urgent need of innovation and breakthrough under the impact of new technology to meet the new needs of industry development [2]. Therefore, it is of great theoretical and practical significance to study the innovation of teaching mode of film & TV creation based on AI technology [3]. Exploring the integration of AI technology and film & TV creation teaching will help to enrich and expand the theoretical system of film & TV education and open up a new direction for film & TV teaching research [4]. By tapping the application potential of AI in film & TV creation teaching, we can examine the teaching objectives, contents and methods from a new perspective, and further improve the theoretical framework of film & TV creation teaching [5].

The film & TV industry has a growing demand for creative talents with the ability to apply AI technology. Students trained by the traditional teaching mode are often unable to cope with the creative changes brought about by new technologies [6]. Innovating the teaching mode of film & TV

creation based on AI technology can enable students to better master cutting-edge creative tools and methods, enhance their competitiveness in the industry, and deliver more high-quality talents for the film & TV industry to adapt to the development of the times.

This paper will focus on five key aspects: AI technology, film & TV creation, teaching mode, innovation and personnel training, and deeply discuss how to organically integrate AI technology into the teaching process of film & TV creation. By innovating teaching ideas, contents and methods, this paper constructs a new mode of film & TV creation teaching that adapts to the development of the times and provides reference for promoting the reform of film & TV creation teaching.

2. The theoretical basis of AI technology and film & TV creation teaching

AI aims at simulating, extending and expanding human intelligence. After several generations of development, it has become an influential technical field [7]. As its core branch, machine learning enables computers to automatically learn patterns and laws from data. For example, deep learning has made outstanding achievements in image recognition and natural language processing with the help of multi-layer neural networks. Natural language processing focuses on making computers understand and generate human language, helping intelligent screenwriters in film & TV creation, and can generate story outlines and lines based on massive text data [8]. Computer vision gives the machine the ability to "see", which can realize the realistic rendering of virtual scenes and characters in the production of film & TV special effects.

The teaching of film & TV creation aims at cultivating students' comprehensive creative ability. In terms of creative conception, students are guided to explore unique perspectives and create plump characters and wonderful plots. On the technical application level, professional skills such as photography, editing and sound effects are taught to make the works have high-quality audio-visual effects. It is indispensable to cultivate artistic aesthetics, so that students can improve their sensitivity to picture composition, color matching and rhythm control [9]. There are various teaching methods. Theoretical lectures explain the principles and laws of film & TV creation, case analysis draws lessons from the analysis of classic works, and practical operation allows students to exercise their abilities in actual creation.

From the theory of educational technology, technological innovation often promotes the evolution of teaching mode. AI technology brings new tools and means to film & TV creation teaching, changes traditional teaching methods and improves teaching efficiency and quality. Constructivist learning theory emphasizes that learners actively construct knowledge [10]. AI technology can create a personalized learning environment for students. Students can explore the application of AI in film & TV creation at their own pace, build a knowledge system by solving practical problems, cultivate independent learning and innovation ability, and realize knowledge internalization and ability improvement.

3. Innovative ideas of teaching mode of film & TV creation based on AI technology

(1) Innovation of teaching concept

Traditional film & TV creation teaching mostly adopts "indoctrination", which is difficult to meet the individual needs of students. AI technology can change this situation. By analyzing students' learning data, we can understand their advantages and disadvantages and make a unique learning path for each student. To strengthen the student-centered concept is to make full use of AI technology, encourage students to explore and innovate independently, and cultivate their ability to think and solve problems independently.

Film & TV creation involves art, technology and other fields of knowledge. With the development of AI technology, film & TV creation is more and more closely related to computer science,

mathematics and other disciplines. Establishing the concept of interdisciplinary integration requires breaking down the disciplinary barriers in teaching. For example, in the course setting, courses such as AI algorithm foundation and data mining are added, so that students can understand the principle of AI technology and make better use of it for film & TV creation.

(2) Teaching content innovation

It is very important to integrate AI technology knowledge system into the teaching curriculum system of film & TV creation. In the basic course stage, "Introduction to AI and Film & TV Creation" is offered to introduce the application status and development trend of AI in the film & TV industry. In the professional course stage, the teaching content is refined according to different creative directions, such as the course of "Intelligent Screenplay Technology" explaining the application of natural language processing in script creation, and the course of "Intelligent Film & TV Special Effects" discussing the application of computer vision technology in special effects production. The following Figure 1 is an example of the content of a specific course:
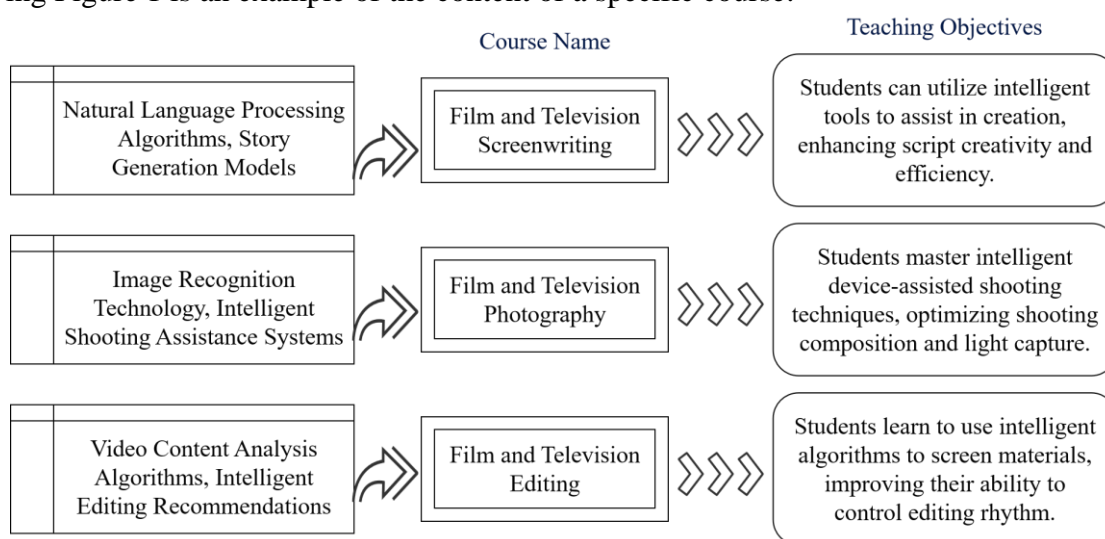

Figure 1 AI technology knowledge is integrated into the curriculum system of film & TV creation

AI has given birth to emerging film & TV creation directions such as intelligent scriptwriting, virtual character generation and intelligent editing. These new fields should be expanded in time in teaching. For example, in the teaching of intelligent scriptwriting, let students know how to generate plot outline and role dialogue through training model; Intelligent editing teaching guides students to use AI to analyze the emotion and rhythm of video and realize automatic and efficient editing.

(3) Innovation of teaching methods

With the aid of AI-assisted teaching tools, the teaching effect can be significantly improved. Intelligent writing assistants can provide creative inspiration, grammar correction and plot coherence suggestions for screenwriters in real time; The intelligent evaluation system can quickly analyze students' works in multiple dimensions according to the set standards. Teachers can guide students according to these feedbacks, and use AI technology to build online and offline collaborative learning platforms. Online platforms use big data to analyze students' creative expertise and group them reasonably. Students can share resources and exchange ideas on the platform and complete projects through cloud collaboration. Teachers regularly organize group discussions and practical activities offline, and combine online feedback and suggestions to improve students' creation. This innovative cooperation mode can give full play to students' advantages and cultivate teamwork ability.

4. Implementation strategy of teaching mode of film & TV creation based on AI technology

(1) Strategies for improving teachers' ability

As the guide of teaching, teachers' mastery of AI technology is the key to the implementation of innovative teaching mode. AI technical training for film & TV creation teachers should cover basic theory and practical application. Basic theoretical training includes the concept of AI, its development process, main technical branches such as machine learning and the basic principles of deep learning. Practical application training focuses on the operation of AI tools related to film & TV creation, such as intelligent scriptwriting software and virtual character generation platform. Training can be conducted online and offline. Rich video tutorials and electronic materials are provided online for teachers to learn independently, and expert lectures and workshops are organized offline regularly, so that teachers can deepen their understanding through practical operation.

In order to meet the teaching needs of interdisciplinary integration, teachers need to improve their interdisciplinary teaching ability. On the one hand, teachers are encouraged to participate in short-term courses or academic seminars in computer science, mathematics and other related disciplines to broaden their knowledge horizons. On the other hand, schools can organize interdisciplinary teaching teams to promote exchanges and cooperation between teachers of different disciplines.

(2) Teaching resources construction strategy

Developing digital teaching resources of film & TV creation based on AI is the basis of innovative teaching mode. This includes building a teaching material library, collecting and sorting out cases, video clips and image materials related to the application of AI technology in film & TV creation. Futhermore, make online courses, invite industry experts and teachers to record together, and systematically explain the application of AI technology in all aspects of film & TV creation. Figure 2 is the specific content and mode of digital teaching resources development:
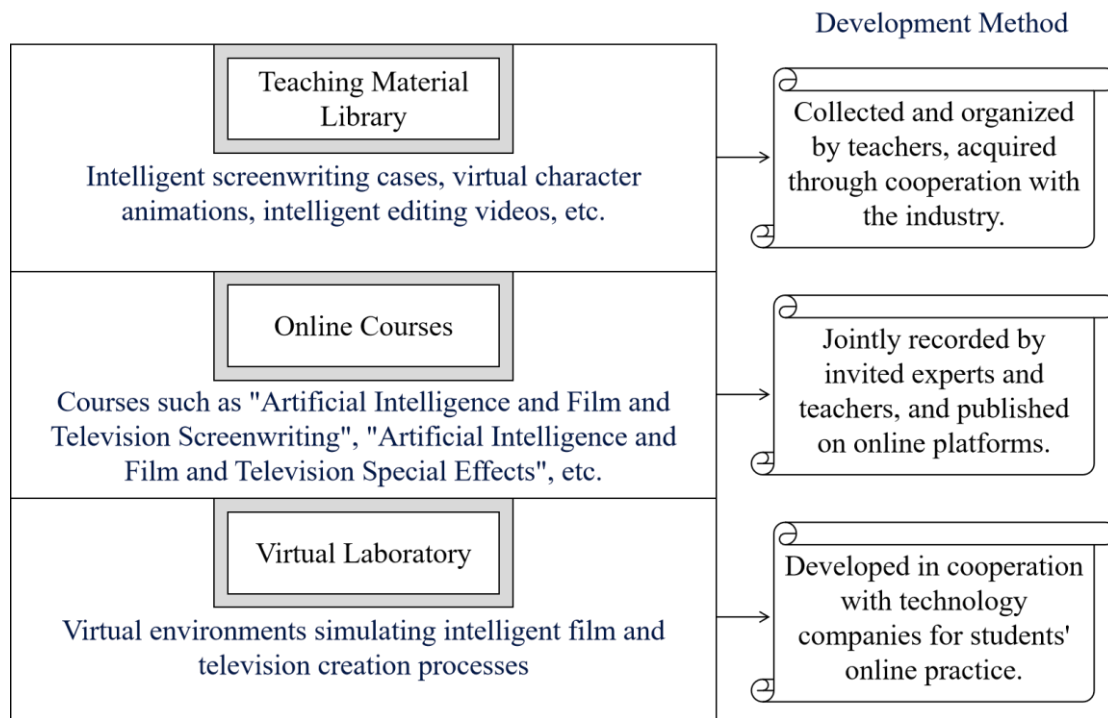

Figure 2 Contents and methods of digital teaching resources development

Schools should build a practical teaching platform for film & TV creation integrating AI technology to provide students with a real creative environment. The platform should have intelligent

creative tools, such as intelligent script generator and virtual scene building tools, to support students' creative ideas and practical operations. Futhermore, a work exhibition and exchange section is set up, where students can upload their works and evaluate each other's learning, and teachers can also give guidance and comments.

(3) Innovation strategy of teaching evaluation system

Traditional teaching evaluation is mainly based on the achievements of works, so it is difficult to comprehensively evaluate students' ability. Based on the rapid development of AI technology, it is urgent to build a more diversified index system for the teaching evaluation of film & TV creation. In addition to paying attention to the quality of students' final works, we should also focus on students' practical application ability of AI technology in the whole creative process. The performance of innovative thinking is also a key evaluation dimension. It is necessary to observe whether students can break the shackles of traditional creative thinking with the help of AI technology and achieve creative breakthroughs in storylines and expression techniques. In addition, the ability of teamwork can not be ignored, film & TV creation often requires teamwork, and students' ability of communication and collaboration and task assignment when using AI technology for team projects should also be included in the evaluation category.

With the help of AI technology, the efficient operation of intelligent evaluation can be realized. By setting a special evaluation model scientifically, students' works can be analyzed comprehensively and carefully. Taking video works as an example, it is possible to quantitatively evaluate the color matching and clarity in terms of image quality, the sound quality and volume balance in terms of audio effects, and the smoothness and relaxation of editing rhythm. Futhermore, the combination of natural language processing, a branch of AI technology, can deeply analyze the text content of students' creative exposition and project report summarizing the project process, and give professional and objective evaluation opinions from the aspects of logical structure and viewpoint innovation. In this way, it not only greatly improves the evaluation efficiency and saves teachers' time and energy, but also effectively avoids subjective deviation caused by human factors and ensures the objectivity and accuracy of the evaluation results. This can provide students with more just and comprehensive learning feedback and help them grow up in the study of film & TV creation.

5. Conclusions

This paper focuses on the innovation of teaching mode of film & TV creation based on AI technology, and has achieved a series of results with practical guiding value. In the innovative thinking of teaching mode, it emphasizes the strengthening of student-centered concept and the establishment of interdisciplinary integration concept, which promotes the transformation of teaching from traditional single mode to individualization and diversification. By integrating the AI technology knowledge system into the curriculum system, we can expand the new field of film & TV creation and enrich the depth and breadth of teaching content. Futhermore, the application of intelligent teaching methods and the innovation of collaborative learning mode have created a more dynamic and creative learning environment for students.

In terms of implementation strategy, the improvement of teachers' ability is the key. Through AI technology training and interdisciplinary teaching ability training, it provides a strong teacher guarantee for innovative teaching mode. The construction of teaching resources provides rich materials and practical platforms for teaching activities. The development of digital teaching resources and the construction of practical teaching platforms meet the diverse learning needs of students. Innovating the teaching evaluation system, constructing diversified evaluation indexes and applying intelligent evaluation methods to ensure comprehensive and objective evaluation of students.

However, some shortcomings are also realized in the research process. For example, in teaching

practice, the degree of integration between AI technology and traditional teaching methods still needs to be further explored to find the most suitable balance point. In the future, with the continuous development of AI technology, the innovation of film & TV creation teaching mode will have a broader space. It is expected that more educators will pay attention to and participate in it, jointly promote the teaching of film & TV creation to meet the needs of the development of the times, and cultivate more outstanding film & TV creation talents.

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