



AI-enabled college “non-heritage” dance teaching “three axes” strategy

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SUMMARY: *In the digital era, AI technology has been widely used in all areas of life and production, and the “AI+” model has gradually taken shape in various industries, and the field of education is no exception. As the main position for cultivating dance professionals, the teaching of “non-heritage” dance can be carried out with the help of AI large model technology, so as to promote a new round of education reform and provide new ideas for the teaching of “non-heritage” dance in colleges and universities. Therefore, “non-heritage” dance education in colleges and universities should give full play to the potential of the AI model, combine the teaching needs and students' interests, change the teaching environment and teaching content, and comprehensively improve students' dance skills.*

KEYWORDS: *AI technology; college dance; teaching mode; strategy*

1 Introduction

The Chinese nation has a very long historical and cultural lineage, and the vast intangible cultural heritage, as the crystallization of the wisdom of the Chinese nation, carries the memory of the survival of our ancient nation. The teaching of “non-heritage” dance is not only a continuation of the spiritual value of the Chinese nation, but also an important and indispensable part of the dance work in contemporary colleges and universities. The rapid development of science and technology has promoted the transformation of the industry structure, and also brought the opportunity to change the education and teaching. Colleges and universities “non-heritage” dance teaching there are many problems, with the help of AI (Artificial Intelligence) multi-functional technology, can break through the limitations of the traditional teaching mode, improve the effectiveness of dance teaching. Therefore, college dance teachers should actively learn AI technology, explore teaching practice, innovate teaching strategies, utilize AI technology to empower college “non-heritage” dance teaching, and ensure that college “non-heritage” dance teaching opens a new chapter under the support of AI technology.

2 Problems and current situation of “non-heritage” dance teaching in colleges and universities

1) Limitations of teaching resources

The “non-heritage” dance program in colleges and universities has a shortage of teachers and is unevenly distributed. Especially in remote areas, it is difficult for “non-heritage” dance teachers to be stationed on a permanent basis, and it is difficult to carry out comprehensive

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"non-heritage" dance education.

2) Single teaching method

Colleges and universities "non-heritage" dance course teaching method is single, often followed the traditional dance teaching method of oral teaching. This teaching method, focusing on the teacher's "teaching", ignoring the student's "learning", highlighting the leading role of the teacher, while the student body to play a small space, the lack of independent thinking and independent investigation of the learning experience.

3). Insufficient motivation to learn

There are limitations in the teaching mode of "non-heritage" dance courses in colleges and universities. Students often learn the knowledge of "non-heritage" dance in relatively closed dance classrooms through teachers' lectures, textbook reading and multimedia appreciation, etc., and their cognition of the beauty stays at the level of indirect experience and lacks vividness and liveliness. Indirect experience level, lack of vividness and liveliness. To a certain extent, this situation leads to a lack of motivation for students to learn, as it is difficult for them to truly feel the charm and connotation of dance originating from life. In fact, as an aesthetic art derived from life, "non-heritage" dance can only stimulate students' enthusiasm and desire for "non-heritage" dance learning by allowing students to truly return to the scene of life, especially to go deep into the intangible cultural heritage cultural area, and experience and feel the unique and real "beauty" there.

4) Artistic horizons are not broadened

Due to the fact that the "non-heritage" dance teachers in colleges and universities are in the ivory tower all the year round, and they do not have enough information on the integration of science and technology and art, resulting in a single teaching method, students have been learning in a one-way passive situation for a long time, and are not good at dance innovation, and it is difficult to use the "non-heritage" dance elements to create dance choreography.

Behind the phenomenon is reflected that most of the college "non-heritage" dance teachers do not pay enough attention to the changes in cutting-edge science and technology, the focus of the classroom still stays in the teaching of dance performance, they have not really seen the value of high-tech to the application of dance. Of course, they do not develop the curriculum from the perspective of reform and innovation, and reshape the students' artistic literacy.

3 The current situation of teaching "non-heritage" dance in colleges and universities

The teaching of "non-heritage" dance in colleges and universities is a course of innovative interpretation with "non-heritage" dance as the teaching content, and the teaching covers three parts: the first part is the learning of "non-heritage" dance movements, the second part is the creation of "non-heritage" dance works, and the third part is the production of "non-heritage" dance videos. There are three difficulties in the teaching of "non-heritage" dance: it is difficult to concentrate, it is difficult to create and choreograph, and it is difficult to produce.

The so-called difficulty in concentration means that it is difficult to invite all the inheritors of "non-heritage" dance to come and teach. The inheritors of "non-heritage" dances are professionals who have undergone strict assessment, are recognized by the Intangible Cultural Heritage Center, and are entrusted with the responsibility of disseminating a certain "non-heritage" dance. There are a large number of such practitioners in various places, and it is difficult for local colleges and universities to invite thousands of "non-heritage" dance inheritors from all over the country to schools for centralized teaching.

It is difficult to create choreography because the creation of "non-heritage" dance is

different from that of modern dance. It requires a deep grasp of the "variability" of the "immutability" of traditional dance elements and the "variability" of modern aesthetics, which requires certain artistic aesthetic experience and choreographic expertise as support.

The difficulty in production is due to the fact that the production of "non-heritage" dance videos requires the comprehensive production of video recording, editing and dubbing along the development of traditional "non-heritage" dance and original "non-heritage" dance works, which has certain requirements for the level of image production.

The above three parts of the teaching content cover the knowledge of the three professional directions of "non-heritage" dance movements, dance creation and choreography, and video production, which have high requirements for the comprehensive teaching ability of teachers. Teachers must be able to teach, create and edit in order to be competent in all the contents of "non-heritage" dance teaching. Affected by interdisciplinary and backward technology, the teaching of "non-heritage" dance in most colleges and universities has only carried out the first step - learning the dance movements of "non-heritage", but the creation of "non-heritage" dance and the production of "non-heritage" dance videos are not involved at all, which has resulted in the current situation that "non-heritage" dance inheritance is good but the development is weak.

Second, the connotation of AI big model technology and the advantages of "non-heritage" dance teaching in colleges and universities.

Nowadays, AI technology has become a strategic technology to lead the future, and the current college students are at the turning point of the intelligent society. On the one hand, AI has widely penetrated into many social fields such as transportation, education, home, etc. In the future, people will be constantly exposed to AI applications and products in their daily life, work and study, travel, entertainment and communication, and other social activities; On the other hand, the state advocates that colleges and universities expand the content of AI+ subject education on the existing basis and promote the integration of AI and subject education. Facing the major challenge of intelligent education reform, the "non-heritage" dance courses must be fully prepared for the transformation into AI+ teaching.

(i) Connotation of AI big model technology

AI technology has brought brand-new changes and development opportunities for "non-heritage" dance education through its intelligent, personalized, efficient and convenient and diversified features. Specific features include, first, intelligent error correction. Intelligent AI model, the eagle eye system that can digitally label the key points of the body, analyzes the data of students' movement essentials and requirements, and gives hints of wrong movements, assisting students in quickly recognizing their movement errors and self-correction. Second, personalized customization. According to the needs of the course content, input the relevant information of the non-heritage dance inheritor, and automatically generate an artificial intelligence inheritor with personalized characteristics. Third, diverse video styles. Supporting a variety of regional scene production, such as famous scenic spots, ancient architecture, ethnic regions, etc., to meet the needs of different students.

(ii) Empowering the Teaching Advantages of "Non-heritage" Dance in Colleges and Universities

AI Large Models Cutting-edge machine learning models with numerous parameters that are capable of processing and parsing large-scale datasets. These models are mostly built based on deep learning techniques, especially those containing deep neural networks, and the recently popular Transformer architecture, which enables AI Big Models to perform a number of complex tasks, including natural language processing (NLP), image recognition, speech recognition, and generative tasks, by learning complex patterns and associations from massive datasets.

The AI large model has demonstrated five main advantages in empowering “non-legacy” dance teaching: automatic assessment and feedback, personalized teaching, intelligent tutoring, assisting in the production of educational materials, and learning analysis and prediction.

4 Automatic assessment and feedback

The automated scoring system is supported by AI large model data processing technology, which is supported by written language processing and machine learning technology to review the students' “non-heritage” choreography, and then give scores and feedback. Compared with the teacher's manual scoring, it is fast and accurate, and after scoring, it can provide students with assessment directly according to the results, and even point out the problems in the creativity, conception and design elements of the student's “non-heritage” dance design and give better ideas for improvement, which alleviates the pressure on the number of teachers who are instructing many people, and efficiently helps the students to It relieves the pressure of teachers to give guidance to more than one person, and efficiently helps students to have a deeper understanding of their own design and optimize their design efficiency.

4.1 Individualized teaching

Among the many ways AI Big Model is used, personalized instruction is like the powerhouse of a factory, providing energy for students' learning activities. Large class teaching is generally for most students with the same learning situation and the same type of teaching guidance, but different students have different learning styles. The AI model analyzes the learning data to identify each person's preferred dance styles, technical skills and performance weaknesses, and then compiles suitable personalized programs and materials for the “non-heritage” dances. The students enjoy VIP-level customized learning services as if they were VIPs, and receive tailor-made “non-heritage” dance learning contents to meet their individual needs.

4.2 Intelligent Tutoring

Intelligent counseling is the most powerful existence of the AI model, which is also the closest to the human teaching work, and the AI model has no emotional drawbacks, which not only can always answer students' questions gently, but also inspire students to dig deeper into the theme of works in the connotations of the “non-heritage” dance culture, just like a teacher, by citing examples, rhetorical questions, and guiding hints. In addition, the AI model is also capable of providing professional support in dance creation, music arrangement, costume design, video shooting, etc. Each student is like having a creative team with a collection of choreographers, composers, videographers, and costume designers to realize his or her own “non-heritages” dance creation project. Therefore, the emotionally stable and skill-enhanced AI model can solve the practical problems in dance creation for students by counseling them on “non-heritage” dance creation.

4.3 Production of supplementary teaching materials

AI large model can also assist the production of teaching materials, preparation for class preparation of teaching materials is often the most time-consuming work of each “non-heritage” dance teachers, this work is not only time-consuming and labor-intensive, but also due to the preparation of a long time, which affects the overall efficiency of the teaching work. The AI model can automatically output high-quality teaching materials, and even organize the “non-heritage” dance text materials directly into teaching courseware, and even output them as

microcourse teaching resources, which greatly reduces the preparation time, improves the quality of teaching materials and enriches the teaching resources.

4.4 Learning analytics and forecasting

The learning analysis and prediction function of AI big model can assist “non-heritage” dance teachers to grasp the learning situation of students more accurately. With the analysis of students' learning habits, creation preferences and other relevant data, AI Big Model can predict the effectiveness of students' creation, identify students with difficulties in creation, and even analyze the specific reasons for students' difficulties in creating and choreographing. It is convenient for teachers to adjust teaching strategies in time, intervene at the right time, provide students with personalized education, and ensure that every student can successfully create “non-heritage” dance works.

Artificial Intelligence as a huge driving force to promote the process of education reform, for the “non-heritage” dance, which carries a deep cultural heritage of traditional treasures, ushered in a new opportunity for development. With the educational advantages of AI big model and the deep integration with “non-heritage” dance teaching, we will build a set of effective and unique “AI+” non-heritage dance teaching mode.

Third, “AI +” to build non-heritage dance teaching “three axes” strategy

The three axes of the AI big model to build the teaching mode of non-heritage dance refers to the new path of gradually promoting the reform of college dance teaching by adopting the new path of enabling the AI intelligent eagle's eye movement assistance system, customizing the AI non-heritage intelligent body inheritor, and innovating the AI non-heritage dance. Specifically as follows:

One Axe: Enabling the AI Intelligent Hawk-Eye System

AI intelligent eagle eye system is to ensure the accuracy of non-heritage dance learning. In the dance training, through the installation of the eagle eye intelligent visual application software on the mobile device, the same frequency import screen projection function to realize the interconnection of mobile devices and multimedia equipment conversion. The main mode of operation is to capture and analyze two steps.

The first step is to capture the movement, capture the dancer's movement with Hawkeye Intelligent Vision application, which requires the operation of cell phone or camera, the dancer stands in front of the camera, Hawkeye Intelligent Vision application will be able to record the dance movement, and set up the marking point in the key training area of the body, for the movement trajectory of the dance movement, the dynamic angle and the height of the body posture, to collect the data, and to accumulate the data of the movement.

In the second step, to analyze the movements, Eagle Eye Intelligent Vision application can visualize the height of movement formation, angle of joint bending and amplitude of movement trajectory according to the recorded dance movements, and make visual display and error prompts. This error correction method is superior to teacher error correction, lies in the teacher error correction students have to rely on feeling and imagination, relying on human abstract perception to understand, while the eagle eye error correction allows students to visualize their own mistakes, clearer and clearer, reduces the value of the error, and facilitates the students to make self-adjustment in a timely manner.

The second axe: customizing AI inheritors

It is not complicated to build an AI inheritor, teachers can use relevant tools to find the interface to build an AI inheritor, and when setting up the AI inheritor prompt words, they need to be targeted, the more specific the better. For example, if the teaching content of the day is about the teaching of Hubei intangible cultural heritage pendulum hand dance, then you can create a national intangible cultural heritage pendulum hand dance of the modern inheritor Peng

Chengjin, Peng Chengjin in the learning of intangible cultural heritage pendulum hand dance experience, inheritance of the movement content and cultural content, are included in the prompt words.

A well-built AI inheritor is different from commonly used AI tools in that it provides more specific and targeted answers that can be tailored to the content of the teacher's current lesson, rather than generalizing as commonly used AI tools do.

Three Axes:

Realizing the integration of AI and traditional culture of intangible cultural heritage (NCH) dance images is mainly implemented in two aspects: choreography design and AI video conversion technology.

On the one hand, in the creation of dance images, choreography design is a crucial link. It not only needs to accurately present the essence of non-heritage dance, but also adapt to the characteristics of the screen medium. Choreographers need to consider factors such as screen size, image clarity, application of special effects, scene switching, camera movement and camera angle to ensure the best presentation of dance images. For example, screen size requires simple and clear movement design, while image clarity requires clear lines and outlines. Special effects can be used to add artistic expression to the dance, such as simulating natural phenomena or creating surreal scenes to enhance the emotional expression of the dance. Scene switching and camera movement need to be coordinated with the rhythm of the dance to create an atmosphere that triggers the audience's emotional resonance. The choice of camera angle is also crucial, as different angles can bring different visual effects and emotional experiences, such as low angle to emphasize the sense of power, high angle to show the overall layout. Choreographers need to flexibly utilize these elements to make the dance image vivid and three-dimensional, effectively conveying the cultural connotation and artistic charm of non-heritage dance.

On the other hand, AI video conversion technology provides powerful technical support for the transformation of the narrative style of non-heritage dance images. Take “Tencent Smart Shadow” as an example, its video format conversion function can realize the transformation from realistic style to animation style, as well as the replacement of realistic scenes. Users can upload video files or select online resource templates for style conversion, which is easy to operate. When generating the video, input the keywords for description, and the system will automatically complete the style conversion and scene replacement according to these keywords and its own algorithm. For example, by inputting keywords such as “non-heritage dance”, “animation style”, “Eiffel Tower”, etc., the system can convert the non-heritage dance video into animation style and replace the background with the Eiffel Tower. Eiffel Tower, generating an image that combines the East and the West. Operators can also try combinations of different keywords to easily achieve the desired results. The application of "AI" traditional cultural heritage dance image technology enables the creation of intangible cultural heritage dance images to no longer be limited to traditional styles, but can present diversified and creative narrative styles, providing students with a broad creative space, stimulating their imagination and creativity, and injecting new vitality into the inheritance and dissemination of “non-heritage” dance.

5 Conclusion

The “three-pronged” strategy of “AI+” non-heritage dance teaching breaks the limitations of traditional dance teaching and solves the problems of limited non-heritage dance teaching resources, single teaching method, insufficient motivation of students, and lack of broadening of artistic horizons, etc. The introduction of AI big model technology provides a powerful boost

to break through the constraints of traditional teaching mode and improve the effectiveness of teaching. The introduction of AI big model technology provides a powerful help to break through the boundaries of traditional teaching mode and improve the effectiveness of teaching. With its automated, customized and intelligent application functions, it can realize accurate assessment of students' movements, customized learning programs and rich teaching scenarios, thus empowering the teaching of “non-heritage” dance in an all-round way. Through the “three-pronged” strategy of enabling the AI intelligent eagle-eye movement assistance system, customizing the AI non-heritage intelligent body inheritor, and innovating the AI non-heritage dance image, we have gradually pushed forward the teaching reform and built up a unique “AI+” non-heritage dance teaching mode. This not only makes the teaching more efficient, precise and personalized, but also provides a broad creative space for students, and injects a strong impetus for the inheritance, dissemination and innovative development of “non-heritage” dance.

At present, the national higher education system is in a period of change, and each discipline has accumulated many cases and relevant experiences in the practice of combining with AI models. This requires frontline educators to jump out of the comfort zone, take the initiative to learn AI technology, realize “AI+” education reform in their own majors as early as possible, and open up new paths for the future of higher education.

About the Author

Nannan Liu (born 1982) is a Chinese dance scholar from Wuhan, Hubei Province. She earned her master's degree from Minzu University of China and currently serves as a faculty member in the Department of Dance Performance, Faculty of Basic Sciences at Wenhua College. Her research focuses on intangible cultural heritage (ICH)-integrated folk dance pedagogy in higher education and choreographic innovation.

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