Research on the Innovation and Practical Path of AIGC Empowering the Education Model of Jiangxi Red Music Culture in Universities

Weiwei Sun, Rong Zhang, Yan Liu, Hai Liu *

School of Humanities, Jiangxi University of Chinese Medicine, 1688 Meiling Avenue, Nanchang city, Jiangxi Province, 330004, China

* Corresponding Author: Hai Liu

Abstract. Jiangxi red music culture is an artistic condensation of the revolutionary struggle and construction process under the leadership of the Communist Party of China, and a valuable resource for colleges and universities to implement the fundamental task of "cultivating virtue and nurturing talent" and carry out ideological and political education and patriotic education. In the current process of using red music culture for education, colleges and universities are confronted with practical difficulties such as monotonous content and form, outdated dissemination methods, disconnection from the current students' cognitive habits, and insufficient internalization of educational effectiveness. The rise of generative artificial intelligence provides a revolutionary tool to solve these problems. This paper explores the current situation and predicaments of AIGC empowering Jiangxi Red music culture education in colleges and universities, and analyzes the technical characteristics of AIGC in content generation, interactive experience and personalized learning, as well as its convergence points with red music culture education. Based on generative learning theory, cultural memory theory and digital media art fusion theory, construct a new model of "four-dimensional drive" education centered on "AIGC+", providing theoretical references and practical solutions for activating red cultural genes and enhancing educational effectiveness in the context of the digital age by using cutting-edge technologies.

Keywords: AIGC; Jiangxi Red Music; Culture Nurtures People; Model Innovation.

1. Introduction

Red culture is a precious spiritual wealth of the Chinese nation and an important source for strengthening cultural confidence and consolidating the foundation of ideals and beliefs. Jiangxi, the "red cradle" of the Chinese revolution, has given birth to a large number of popular red music classics such as "Ten Bids to the Red Army", "Good Style of Cadres in the Soviet Area", and "The Sun is Red on Jinggang Mountain".[1] These works, with their distinct political orientation, profound emotional depth and unique artistic charm, played a huge role of "uniting the people, educating the people, striking the enemy and eliminating the enemy" during a specific historical period. In the new era, how to make these precious red music resources "come alive" and "trendy", effectively integrate into the education system of colleges and universities, and achieve precise irrigation of the ideals and beliefs, values and moral concepts of college students in the new era has become an urgent issue of The Times to respond to.

2. The Current Situation and Predicament of AIGC Empowering the Education of Jiangxi Red Music Culture in Colleges and Universities

2.1 Application Status: Insufficient Technical Adaptability in the Initial Exploration

At present, in the practice of educating people through red music culture in colleges and universities, there are mainly the following bottlenecks: First, the content is "flattened". Mostly confined to traditional forms such as song teaching, historical background explanations, and concert viewing, there is insufficient exploration of the grand revolutionary stories behind the music and the delicate and rich emotions of the characters, making it difficult to evoke deep empathy among

students. The second is the "one-way" way of dissemination. There is a "generational gap" with the digital native students who are accustomed to two-way interaction and immediate feedback. Thirdly, the educational process is "homogenized".[2]Failing to fully consider individual differences, knowledge backgrounds and interest preferences of students makes it difficult to achieve precise ideological guidance and value shaping.

Generative AI, as the cutting-edge wave in the field of artificial intelligence, is reshaping industries with unprecedented power. AIGC is capable of understanding and generating multimodal content such as text, images, audio, video, etc., and has powerful content creativity, context construction, and personalized service capabilities. The current application of AIGC in red music education is in its infancy, mainly focusing on three scenarios: First, in the resource generation scenario, some universities have attempted to use Suno to generate red music melody fragments and Midjourney to create pictures of revolutionary historical scenes for courseware supplementation or classroom presentation, but the generated content is mostly in a general style and has poor adaptation to the five-tone scale of Jiangxi Hakka folk songs and the "seven-character four-line" structure of Xingguo folk songs; Second, in the intelligent question-and-answer scenario, ChatGPT is used to answer knowledge-based questions about the historical background and creative process of red music, but there is a lack of depth in interpreting the spiritual connotations of specific works such as "The Long March Suite" and "The August 1st Uprising", and it is difficult to make personalized interpretations in the context of Jiangxi's revolutionary history. Third, simple interactive scenarios. A few universities have developed AI Q&A modules for red music, but there is a lack of interactive design between dynamic scenarios and creative practices, making it difficult to create immersive and participatory learning experiences. Overall, existing applications remain at the level of "technology overlay" and have not yet achieved deep integration with teaching objectives and regional characteristics.

2.2 Core Dilemma: Triple Constraints of Technology, Teaching and Ethics

2.2.1 Technical Aspect: Insufficient Accuracy and Geographical Fit

The scarcity of red music data leads to bias in AI-generated content. The existing digital resources such as audio, sheet music, and oral historical materials of Jiangxi red music are limited, and the insufficient training data makes it difficult for AI to accurately reproduce the dialect features of Soviet area ballads and the modal rules of Hakka music, and the generated melodies are prone to deviate from the traditional style.[3]

Most AIGC tools are developed based on Western music models and have poor adaptability to the "folk", "revolutionary" and "regional" trinity characteristics of Jiangxi red music, such as the improvisational singing feature of Xingguo folk songs and the collective creation mode of Soviet area songs. Insufficient technical integration, existing applications are mostly the independent use of a single tool, lacking the full-process technical integration of "audio generation, scene construction, interaction design, evaluation feedback", making it difficult to form a systematic educational support system.

2.2.2 At the Teaching Level: Insufficient Integration Depth and Teachers' Capabilities

The application of technology remains superficial. Most teaching only uses AIGC as a "resource display tool", such as playing AI-generated red music videos and showing virtual scene pictures, without designing in-depth participation links such as creative practice and speculative discussion, and fails to achieve the organic integration of technology and curriculum objectives.[4] Teachers' comprehensive capabilities are insufficient. The survey shows that 75% of college music teachers lack the compound ability of "AIGC tool operation, red music interpretation, and teaching design". They are not familiar with the application scenarios of mainstream AIGC tools, nor can they effectively combine technology with the educational elements and regional characteristics of red music. At the same time, there is insufficient adaptability to the curriculum. The current practice is mostly focused on music majors and ideological and political courses, with very few cases of

integration in other majors such as literature, design, and engineering, and a lack of differentiated integration strategies tailored to the characteristics of different disciplines.

2.2.3 Ethical Level: Cultural Misinterpretation and Privacy Security Risks

The risk of cultural misinterpretation: AIGC's interpretation of serious themes such as "revolutionary sacrifice" and "the mass line" may have emotional biases or historical misalignment, eroding the seriousness and weightiness of red culture. There is a risk that information such as student creation data, interactive feedback, and emotional expression collected during the teaching process may be misused or leaked. At the same time, the copyright definition is ambiguous, and there are disputes over the ownership of AI-generated red music derivatives, virtual scene materials, etc., which may lead to legal risks.

3. Analysis of the Intrinsic Mechanism and Potential of AIGC Empowering Red Music Culture for Education

The enabling role of AIGC is not a simple accumulation of tools, but a deep reshaping of the entire educational chain.

3.1 From "Static Resources" to "Dynamic Generation": Content Activation Mechanisms

Traditional red music resources are static and closed. AIGG can "revitalize" it in the following way: Contemporary translation of lyrics and context creation: Guide students to input to AI, "Please create a new chorus of lyrics for 'The Light of the Octagonal Tower' in the language style of contemporary college students, reflecting the persistence of ideals and beliefs," to make the historical text resonate in the present.[5]

The intergenerational fusion of melodic styles: Instruct AI to "blend the main melody of 'Ten Fareads to the Red Army' with the gentle electronic music rhythm to create a 30-second arrangement segment that retains the tragic undertone while also having a sense of hope", breaking down the era barriers of music. Intelligent derivation of visual symbols: Based on the lyric imagery of red music, use text-to-image models (such as Midjourney, Stable Diffusion) to generate a series of high-quality, infectious digital paintings or dynamic posters for audio-visual synchronization.

3.2 From "One-way Listening" to "Two-way dialogue" : Interactive Immersion Mechanism

AIGC has transformed students' relationship with red culture from "listeners" to "interlocutors". Through intelligent question answering and in-depth questioning, students can ask the AI assistant trained on the red knowledge base: "What exactly was the scene of 'bringing your own rations to work' sung in 'Good Conduct of Soviet Area Cadres'?" [6]And they can dig deeper into the answers to build a personalized knowledge graph.

Create virtual historical figures, use "eyewitness" narratives, generate virtual digital personas of "Red Army soldiers" or "Soviet area people" using AIGC technology, and be able to answer students' questions about the stories behind the songs in dialects or specific tones, providing first-person immersive narrative experiences.

3.3 From "Emotional Resonance" to "Behavioral Transformation" : Value Internalization Mechanism

The ultimate goal of nurturing is to guide behavior, and AIGC can build a bridge from cognition to practice. Through creative-oriented value expression, students, after understanding the red spirit, use AI-assisted creation of a song dedicated to "strivers of the new era" to express and consolidate internalized values through externalized artistic behavior. Design value choices in gamified learning that fit young people today: By designing narrative games based on red music, AI can dynamically generate plot branches, allowing students to make value choices such as "whether to help the masses"

in a virtual context and see the consequences of their choices in the subsequent plot, thereby deeply understanding the essence of the red spirit.

4. AIGC Empowering Jiangxi Red Music Culture Education Model Innovation and Practical Path in Colleges and Universities

Based on the technical characteristics of AIGC, we propose a new "four-dimensional drive" education model centered on students and driven by AIGC.

4.1 Model Innovation of AIGC Empowering Education of Jiangxi Red Music Culture in Colleges and Universities

4.1.1 AIGC+ Content Creation - Building an "Activated" Resource System

The core of AIGC+ content creation is to address the question of "what to teach" and make a leap from "static historical materials" to "dynamic resources". Through the construction of the red music database, systematically collect and digitally organize the sheet music, audio, video, documents, etc. of Jiangxi red music to form a structured database as the "nourishment" for AIGC learning.

Content creation assisted by AIGC: First, visualize historical materials: Utilize text-to-video technology to automatically generate short video documentaries of the historical events behind the songs. By reinventing classics and using AI music generation tools, create original symphonies, chamber music, or pop songs with red themes to achieve creative transformation of tradition. Teachers and students create IP images to generate virtual spokespersons of red music culture with Jiangxi regional characteristics (such as "Little Red Star") to host programs, explain knowledge and enhance affinity through their images.[7]

4.1.2 AIGC+ Scene Immersion - Creating an "on-site" Experience Environment

The core of AIGC+ scene immersion is to address the question of "how to experience" and upgrade from "watching and listening" to "physical and mental immersion". Create a virtual reality music classroom, use AIGC to generate 360-degree panoramic VR content, and students can "be in" beside the "red well" at Ruijin Shazhouba to listen to "Drinking Water without Forgetting the Well Digger"; They can "walk" along the Long March route of the Red Army and feel the grandeur of the Long March Suite. Through mixed reality interactive plays, in physical classrooms or exhibition halls, virtual revolutionary figures interact with students through AR technology to complete a task (such as delivering intelligence, choreographing a dance) and experience the revolutionary spirit in the game. Build an AI-driven smart concert hall where the AIGC can adjust the lighting, sound effects and even part of the music arrangement in real time based on the emotional feedback from the audience (through technologies such as facial recognition) to create the best empathy atmosphere.

4.1.3 AIGC+ Teaching Process - Achieving 'Precise' Personalized Education

The core of the AIGC+ teaching process is to address the question of "how to teach", to shift from "teaching in batches" to "teaching according to students' aptitude" intelligent lesson preparation assistants provide teachers with AIGC tools to quickly generate lesson plans, PPTS, exercise banks, and offer differentiated teaching content suggestions for students of different majors, liberating teachers' productivity. [8]Building personalized learning paths, based on student profiles, the AIGC system plans unique learning paths for each student. For example, music appreciation classes are prioritized for students with a weak foundation in music, and in-depth discussion classes are recommended for students with a solid foundation in history. By using the 7x24-hour smart companion, students can ask questions to the "Red Music Companion" anytime and anywhere and get immediate and accurate answers, forming a seamless loop of education both inside and outside the classroom.

4.1.4 AIGC+ Evaluation Feedback - Establishing a Value-Added Evaluation of the Process

The core of AIGC+ evaluation feedback is to address the question of "how it works" and to revolutionize from "outcome evaluation" to "process value-added". Through process data collection, the system automatically records behavioral data such as the time students spend in VR scenarios, the depth of conversations with AI, and the engagement in creating works. At the same time, teachers and students evaluate AI-enabled works. Red-themed music, copywriting, videos, etc. created by students using AIGC can be preliminarily evaluated and feedback provided by the system from dimensions such as ideology, artistry, and innovation. In terms of emotional and cognitive assessment, by analyzing students' textual emotional tendencies during the interaction process and their emotional states when speaking in class, it assists teachers in evaluating the emotional impact and value recognition effect of educational content, thereby achieving dynamic monitoring and optimization of educational effects.

4.2 AIGC Empowerment of Jiangxi Red Music Culture Education Practice Pathways

4.2.1 Build a "Jiangxi Red Music Culture AIGC Resource Platform" and Establish a School-Enterprise Joint Laboratory

Universities, in collaboration with AI technology companies, cultural and tourism departments, and Party history research offices, will jointly carry out digital collection and AIGC content annotation of red music culture. By developing a dedicated large model and fine-tuning it with high-quality Jiangxi red music culture corpus on the basis of a general large model, a "red music culture large model" with domain knowledge was trained. By building an integrated cloud platform that integrates functions such as content generation, scene experience, teaching management, and data analysis, it provides a "one-stop" service for teachers and students.

4.2.2 Create "AIGC+ Red Music" AI Courses

Build a number of characteristic elective courses, offer new courses such as "AIGC and Red Music Composition" and "Red Art Journey in Virtual Reality", attract students from different majors to take the courses, and cultivate compound talents. At the same time, innovative classroom teaching methods: promote "AIGC-assisted project-based learning", such as working in groups, using AIGC tools to collaborate on the creation of a red music microfilm, and reporting and evaluating each other during the process.

4.2.3 Expand the Second Classroom That Integrates Online and Offline

Hold the AIGC Red Music Creation Competition, encourage students to use AI tools for creation, select outstanding works and perform them, and stimulate students' creative enthusiasm. Operate a virtual red music pavilion, build a never-ending digital pavilion of Jiangxi red music on an online platform, with AI virtual human as the guide, and open to the world to expand influence. At the same time, carry out the social practice of "Digital Tracing of Red Music", guiding students to return to the birthplace of red music with preliminary materials generated by AIGC for field research and oral history collection, achieving the organic combination of digital technology and field practice, and carry out a series of practical activities.

4.2.4 Establish and Improve the Implementation and Evaluation Mechanism for Teacher Training

Provide training on the application of AIGC tools for teachers of ideological and political courses, art teachers and counselors in colleges and universities to enhance their digital literacy and teaching innovation ability. In terms of ethical norms, the application boundaries of AIGC in red culture education should be clearly defined, and a content review mechanism should be established to ensure the ideological security and historical authenticity of the generated content. [9]At the same time, dynamic evaluation and iteration should be carried out. An evaluation team composed of education experts, technical experts, and student representatives should be established to conduct a

comprehensive evaluation of the effectiveness of the education model on a regular basis and continuously optimize the platform and courses based on feedback.

5. Conclusion

This study demonstrates that AIGC empowering the education of red music culture in colleges and universities is by no means a simple technological superposition, but a profound paradigm revolution. Based on generative learning theory, cultural memory theory and digital media art fusion theory, construct a new "four-dimensional drive" education paradigm centered on "AIGC+", covering four dimensions: "content activation and creation", "scene immersion and experience", "teaching precision and personalization", and "evaluation process and value addition". It provides specific and feasible solutions for colleges and universities to innovate the teaching of Jiangxi red music culture in the era of digital intelligence. Despite challenges such as ethics, data and teaching staff, as long as we adhere to the principle of "technology for people, education for people", AIGC will surely become a powerful boost for inheriting the red genes and nurturing new people of The Times, allowing Jiangxi red music and other precious cultural heritages to shine even more brightly in the new era.

Acknowledgments

The above paper is from the "Chinese Music History and Appreciation of Masterpieces" course alliance of Jiangxi Province.

Project Support: Special Project of Humanities and Social Sciences Research in Higher Education Institutions of Jiangxi Province (Research on Red Culture Education) Project Approval Number (HSWH24073).

References

[1] Shao Yue, Du Shuyuan. Practice and Reflection on the Curriculum Reform of Engineering General Education [J]. Higher Engineering Education Research, 2023 (5) : 35-40.

[2] Lin Guanhong, Yao Qi. Exploration and Practice on the Construction of "Artificial Intelligence" General Education Courses in Higher Vocational Civil Engineering Professional Groups: A Case Study of Guangxi Construction Vocational and Technical College [J]. Science Consultation, 2024 (21) : 159-162.

[3] Huang Ping, Ma Xiao, Yang Danzi. Teaching Reform and Exploration of General Artificial Intelligence Courses in Vocational Undergraduate Education [J]. Information Technology Education in China, 2024 (21) : 105-108.

[4] Yang Yingxi. Exhibition of Works from Artificial Intelligence Art General Education Courses at Tianjin Academy of Fine Arts [J]. Art Education Research, 2024 (24) : 7.

[5] Wang Li. Research on Teaching Artificial Intelligence General Education Courses Based on Compound Talents in Higher Vocational Colleges [J]. Heihe Academic Journal, 2023 (06) : 47-54.

[6] Geng Yu, Guo Minqiang, Zhang Yunsheng, et al. Exploration and Practice of Artificial Intelligence General Education in Higher Vocational Colleges [J]. Journal of Shenzhen Information Technology College, 2023,21 (05) : 42-45, 76.

[7] Fan Guanglu, Fu Yining. Analysis on the Construction of Artificial Intelligence General Education Courses from an Interdisciplinary Perspective [J]. Coal Higher Education, 2022,40 (06): 116-125.

[8] Zou Cuilan, Sun Fengshen, Liu Xiaoning. Practical Exploration of General Artificial Intelligence Courses in Higher Vocational Colleges [J]. Modern Vocational Education, 2021 (17): 34-35.

[9] Li Liangli, Xiao Zhengxing, Wang Maoli. The Construction logic and Practical Exploration of General Education Courses on Artificial Intelligence: A Case Study of the "Artificial Intelligence Application" course at Shenzhen Polytechnic [J]. Higher Engineering Education Research, 2024 (06): 62-67.