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Application Research of AIGC Enabling Intangible Cultural Heritage (ICH) Music Creation in Wisdom Teaching

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Abstract: With the rapid development of society, people's understanding of traditional culture and music and art is becoming more and more diversified, the depth of the growing demand for cultural experience, the current development of science and technology, the integration of culture and tourism industry, the status quo of intangible cultural heritage (ICH) and the policy background and other factors interacting with each other, not only for the integration of culture and tourism to provide new opportunities, but also for the inheritance of tourism and ICH and the development of a new challenge, more AIGC technology in the application of AIGC technology in the field of music creation and culture and tourism provides a broad market space. Based on the current situation of music creation and ICH culture, this paper will deeply analyses the significance and effect of AIGC technology empowering ICH music creation in wisdom teaching, and provide a new application path for the creative transformation and innovative development of ICH culture.

Keywords: Wisdom Teaching; AIGC; Intangible Cultural Heritage (ICH) Music Creation.

1. Introduction

The national Cultural Industry Development Plan for the 14th Five-Year Plan Period clearly puts forward the need to promote the in-depth integration of cultural and tourism industries, and to cultivate new cultural business forms and consumption patterns. Therefore, targeted intangible cultural heritage (ICH) music creation is undoubtedly a huge potential force for music creation and cultural industry. At the same time, China is very rich in ICH cultural resources, and these rich ICH cultural resources provide an important guarantee for the teaching of ICH music creation, on the basis of which to realize upholding fundamental principles and breaking new ground.

At the same time, the new era of smart education is not only the application of technology, but also the innovation of educational concepts and methods. Empowered by AI, let the classroom "live". In the music creation classroom teaching, the application of AI high-tech is reflected in all aspects of music creation, which not only optimises the process of traditional music creation teaching, opens up new forms of artistic expression, and is conducive to the activity of music classroom teaching and student participation.

2. Analysis of the Present Situation of AIGC Enabling ICH Music Creation

2.1. About the Intelligence of Music Creation

In recent years, with the development of science and technology, AI (Artificial Intelligence) has penetrated into various fields of artistic and literary creation, and gradually emerged a revolution in the mode of artistic creation. In music creation, AIGC technology has demonstrated a powerful ability in the generation of multimedia content such as images, audio and video, which can be used for personalised recommendation, intelligent guided tours, virtual reality experience, etc., to provide people with a more convenient and richer music listening experience, and at the same time provide the corresponding visual images, bringing a new experience of audio-visual synthesis. The underlying logic of AI composition is a variety of intrinsic data, styles and laws for learning and imitation, and applying this to ICH music creation can enrich the fun of creation, the sense of technology and the sense of achievement it gives to the creator, and at the same time, through this kind of learning experience, it also allows the creator to dialectically understand the creativity and innovativeness of the artist, and to rationally utilize and master AI, so as to better promote the innovative development of music creation.

2.2. About the Digitization of ICH

As a valuable treasure of the Chinese nation, many ICH are facing inheritance dilemmas, and problems such as the ageing of the inheritors of ICH skills, the loss of skills, and low market recognition are becoming more and more prominent. At present, culture and science and technology are deeply integrating in an unprecedented manner, and under the technical empowerment of a new generation of artificial intelligence, profound changes have occurred in the cultural industry represented by ICH, such as big data and cloud computing and other technologies that can help to build a database of ICH music, and these digital technologies not only capture high-precision content of ICH music, providing new possibilities for the storage, recording and reproduction of ICH music, but also reveal the laws and trends of the evolution of ICH music through data analysis. On the content production side, AIGC can quickly and efficiently complete the production of a large amount of digital native content, promoting the digitalisation process of ICH music. In the teaching of music creation, combining multi-dimensional information display, interactive collaboration, virtual learning and other methods, digital cultural content breaks through the traditional time and space limitations, and provides students with a new way of information experience.

3. The Main Features of AIGC Enabling ICH Music Creation in Wisdom Teaching

3.1. The Broadening and Deepening of Interdisciplinary Perspectives

AIGC empowers the creation of ICH music in the disciplinary perspective is not limited to the traditional theory of compositional techniques of a single discipline of the fence, but cleverly integrated with public culture, information technology and even sociology and other multiple perspectives, to build an interdisciplinary and comprehensive analysis of the framework, so that the traditional culture and art and scientific and technological innovation combined.

3.2. The Integration and Innovation of Cross-Field Research

AIGC empowers ICH music creation, and achieves diversified and comprehensive innovation in research methodology, ensuring the comprehensiveness and depth of the research through the organic combination of quantitative and qualitative, field research and other methods. Technically, the combination of composition theory and creative practice, and the introduction of cutting-edge data analysis technology and visualisation tools not only enhance the accuracy and efficiency of the research, but also provide advanced technical means and ideas for future research.

3.3. Dual Enhancement of Education Reform Practice and Theory

On the one hand, exploring AIGC to enable ICH music creation in wisdom teaching can provide scientific and systematic decision-making basis for educational decision-makers and help them formulate more practical and operational teaching reform policies. On the other hand, it also provides practical operational guidelines for front-line teachers to help them effectively implement reforms in a complex and changing teaching environment. In terms of research methodology, theoretical framework and innovative viewpoints and other academic issues, it not only provides valuable references and lessons for subsequent research, but is also expected to lead the academic trend in the field of teaching reform and promote the deepening and development of related theories.

3.4. Achieving Innovation in Teaching and Learning and in the Translation of Results

In wisdom teaching, AIGC is used to empower ICH music creation, breaking through the traditional, single-discipline teaching method of composition, and the training of talents is transformed into the cultivation of composite talents who are both knowledgeable about traditional culture and familiar with AIGC composition technology; the integration and utilisation of traditional cultural resources is implemented to provide intellectual support for the development of the industry and the industry; and information-based, process-based teaching evaluation is emphasised to improve and enhance the effectiveness of classroom teaching.

Break through the technical bottleneck in the application of AIGC technology in music creation, so that AIGC can better serve human music, realise the organic combination of ICH culture and music art, and make digital and intelligent presentation.

To develop smart music products with unique cultural connotation and market attraction, to meet the personalised needs of the people in the society, and at the same time to realise the innovation and market promotion of smart music products and achieve sustainable development.

4. The Application Path of AIGC Enabling ICH Music Composition in Wisdom Teaching

4.1. Preliminary Preparation

4.1.1. Higher-end Configuration of Experimental and Practical Training Sites and Equipment of Teaching Units

Teaching units need to build up a series of professional laboratory systems closely related to the application project, such as music production classrooms, recording rooks, concert halls, observation halls, intelligent classrooms and other key equipment, which provide students with a skills training space in the working environment of music creation, and strongly contribute to the leapfrog enhancement of students' practical ability.

4.1.2. All-round Guarantee of Policy and Financial Support

The university attaches great importance to teaching reform and scientific research projects, and has formulated a series of forward-looking policies to encourage them. These policies not only cover the principle of priority allocation of scientific research funds, but also establish a diversified reward mechanism for scientific research results, in order to fully stimulate the innovative vitality of researchers.

4.1.3. Systematic Construction of Safeguard Conditions

This course requires a research team with a stable structure and diversified disciplinary backgrounds. Meanwhile, the richness of library resources is also a major advantage for this research, especially the ICH specialised books, journals and electronic databases closely related to ICH music creation, which provide comprehensive and in-depth literature support for the research.

On this basis, the teaching unit should also have established a long-term and stable co-operation with the local cultural and tourism system, which builds a broad and efficient platform for the practical application and transformation of the results of ICH music creation.

4.2. System Construction

1. In wisdom teaching, we make good plans for teaching and research activities, carry out teaching and research activities according to the plan, and have a clear purpose for each activity, with detailed goal-oriented, task-allocated and time-planning clearly defined at each stage to ensure that the project can be carried forward in an orderly manner;

2. Taking teaching reflection, mutual research among group members, theoretical guidance, listening to and evaluating lectures as the main forms of activities, and with the cultivation of high-quality and applied talents as the orientation, we flexibly use a variety of teaching and research activities such as analyses of class cases, problem solving, investigation and research, exploration of practice forms, and exchange of course groups, and endeavour to improve the relevance and effectiveness of teaching and learning research, and advocate a wide range of teaching and research activities, such as openness, facilitating, integrative, targeting, and

activity-based activities;

3. Each semester, guide students to complete a certain number of ICH music works in teaching; learn to generate excellent digital ICH music works, participate in various activities and competitions inside and outside the school, and polish the works repeatedly;

4. Establishing mechanisms for exchanges and cooperation within and outside the university. Through "inviting in" and "going out", we will continue to improve our ability to research and solve practical teaching problems, improve our ability to build digital course, and form a good state of teaching in a research state.

4.3. Stage Content:

Stage 1: Form a teaching team of ICH music creation as well as determine the specific implementation plan of teaching, teaching methods, teaching objectives, using the interview method, inductive method, literature analysis method, case study method, collection and collation of relevant literature, collection and analysis of representative cases. The implementation of each person, each major, specific content, questionnaire survey of young college students and analysis of how to attract young people to pay attention to the ICH culture through music creation, combined with the field picking, and the establishment of a database.

Stage 2: Starting the courses of Song Writing and Adaptation and Theory of Composition and Composition Techniques, expanding the students' practical operation space, organising the students to collect ICH materials, perfecting the database of ICH music and combining with the AI music creation software to create the first batch of works, as well as perfecting the database of ICH and the music works collected in the first round, and analysing the students' experience of creation and related data on the traditional theoretical lectures. Use AIGC technology to explore how to use music creation to better promote the transmission of ICH culture, including the digital preservation and dissemination of skills. And assess the support of existing policies for the development of smart tourism of ICH culture. Develop personalised and customised ICH cultural smart music products using the collected data combined with AIGC technology. Cultivate composite talents who understand both ICH music creation and are familiar with AIGC technology to provide intellectual support for the development of the industry.

Phase 3: Organize interviews between teachers and students, complete teaching tasks according to the research plan on time and in quantity, undertake certain teaching research and music creation tasks, guide students to use AIGC technology for digital ICH music creation, and deliver outstanding works to the public cultural system for digital dissemination. Explore the integration mode of AIGC technology with music creation and ICH cultural inheritance to achieve sustainable development. Seek government policy support for the application of AIGC technology in ICH culture smart tourism.

Table 1. Corresponding work content of AIGC technology in the production of ICH music

AIGC technology	Software used	Scheme 2
ICH music recording	iZotope RX	audio restoration and enhancement, noise removal, audio restoration and quality improvement
arrangement	AIVA, amper music	automated arrangement
ICH music composition	Sono	automatic generation of melodies and chord progressions
virtualise vocals	Vocaloid	writing lyrics and melodies, AI generates corresponding vocals
VR AR live creation	jukedeck	actions and interactions in virtual space to change the music
ICH music video production	Mubert, Filmstro	automatic generation of soundtracks based on the plot, style and atmosphere of the work
interactive music creation	Smule, Incredibox	generate or modify music in real time based on user interaction

4.4. Construction and Use of Wisdom Teaching Resources

Using wisdom teaching, a set of interactive and interesting multimedia teaching resources is created, covering multiple dimensions such as breakthroughs in music creation techniques, ICH music database, etc. The integration mode of AIGC technology with music creation and ICH cultural inheritance is used to cultivate digital ICH music creation talents, establish a database of ICH music materials that can be used in a sustainable way, and collect and create music works on related subjects to achieve sustainable development.

Table 2. Teaching contents corresponding to the smart classroom mode

Smart classroom model	Teaching content
digital teaching model	1. Collection of ICH materials, including ICH music, ICH drama music, ICH dance music, etc. 2. High-quality ICH video, image and sound presentation 3. Construction of ICH database
personalised teaching model	1. AI analyses the differences in ICH music 2. Precise creation of ICH music 3. Data interpretation, intelligent push
literacy classroom teaching model	1. Systematic study of ICH music composition techniques 2. Creative training in compositional thinking

4.5. Optimization and Enrichment of Teaching Content and Practice Systems

In view of the lag in the teaching content of the current music composition programme and the weakness of the practical aspects of composition, therefore, in teaching, it closely tracks the industry dynamics and technology frontiers of music creation and ICH, AIGC, etc., combines the characteristics of its own teaching platform, pays attention to local ICH materials, integrates local public cultural resources, and forms a database to provide curricular support for local music education and creation, and provides technical services for social music education and creation, so as to ensure that the teaching content is current and forward-looking.

4.6. Innovation and Improvement of the Assessment and Evaluation System

The addition of AIGC in intelligent teaching will also bring about a comprehensive innovation in the assessment and evaluation system, such as the report of application results, practical demonstration and teamwork evaluation. By constantly adjusting the teaching content in order to achieve the constant newness of the teaching content, and realising the mutual penetration, support and exchange of the three aspects of 'social demand - school cultivation - teaching exploration'. Eventually, we will form the 'order cultivation type' application-oriented talent cultivation mode, which will lay a solid foundation for the future career development of the students.

Table 3. Detailed rules of the assessment and evaluation system

Evaluation content	Evaluation rules	Evaluation requirements
skills and practice	1. Improvement of the index system for assessing classroom teaching of composing techniques and theories in regular classes 2. Proficiency in AIGCD's compositional style and techniques for ICH music, with beautiful melodies and complete structures, to create ICH music with heritage, innovation and individuality. 3. A closed-loop classroom teaching quality evaluation system of measurement, diagnosis, analysis and feedback has been formed	intelligentize visualization
report on results	Using the platform for comprehensive assessment and diagnosis and analysis of teaching quality, improve the management of teaching quality through the process of "evaluation model customisation, assessment implementation, real-time feedback, data report, intelligent analysis of data, diagnosis and reform mission statement, improvement report, and assessment of teaching performance".	instantization systematize
teamwork	1. Collaborative precision teaching, through the technical support provided by the smart classroom (such as questionnaire star, rain classroom, super star learning pass and other applications and online platforms), teachers can quickly and accurately obtain students' evaluation and views on classroom activities in the classroom 2. AI review analysis 3. Information technology system "SWOT analysis" teachers in the teaching process of what are the strengths and weaknesses of the quality of teaching to form a virtuous circle of teaching and learning	cooperatization precision

5. The Application Objectives of AIGC Enabling ICH Music Creation in Wisdom Teaching

5.1. Promoting Professional Integration

According to the guiding spirit of higher education institutions to comprehensively promote the cultivation of high-quality talents, improve the comprehensive competitiveness of schools, and achieve the goal of running schools at a high level, this paper takes the advanced educational thought as the guide, quality education as the goal, and the brand-new concept of curriculum reform as the guideline, carries out classroom teaching reform, improves the efficiency of teaching, updates the concepts, and promotes the professional fusion of music creation with ICH culture and artificial intelligence in the composition course Through the implementation of this project, students will be able to combine theory and practice, and apply them flexibly and extensively, so as to truly put the cultivation of moral education and innovative talents into practice.

5.2. Promote the Industry

Through the continuous updating of the teaching content of composition theory and the strengthening of the practical aspects of composition, with improving the quality of education and teaching as the core, and focusing on the innovation of talent cultivation mechanism, we will build a teaching system that is closely connected with the development of the music creation industry, strengthen the requirements of "producing talents, works and achievements", and cultivate the practical and innovative ability of the students to make them adapt to and lead the future changes of the industry and the reform of the aesthetic education in the school.

5.3. Promote Industrial Linkage

This project echoes the requirements of accelerating the

development of new quality productivity, through the application of AIGC technology in ICH music creation, cleverly empowered by AI, on the one hand, to improve the quality of music creation teaching, on the other hand, to promote the in-depth integration of the local culture and tourism industry, and to provide a new path for the creative transformation and innovative development of ICH music, while providing a practice base and platform for the cultivation of music creation talents in colleges and universities to help build the countryside. Give full play to the important role of industry-university-research co-operation in the implementation of the strategy of developing the country through science and education, the strategy of strengthening the country through talents, and the strategy of innovation-driven development.

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