

# Research and Practice of Innovative Models of Music Education under Digital Platforms

Shu Xinqi

Hunan Information University, Changsha, Hunan, China

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**Abstract:** With the rapid development of digital technology, the field of music education is also undergoing continuous innovation. In this process, the digital platform has become an indispensable part. This paper explores the innovation mode of music education under the digital platform from multiple perspectives and puts forward relevant practical strategies. Through the enrichment of digital teaching resources, the implementation of online interactive teaching, the introduction of virtual reality technology and the construction of intelligent teaching systems, music education can become more efficient, convenient and interesting. In order to realize these innovative modes, schools should focus on the construction of digital teaching resources. They should actively implement online interactive teaching and try to use virtual reality teaching technology. Furthermore, they should try to build intelligent teaching systems to improve the quality and effectiveness of music education.

## 1. Introduction

With the development of information technology, digital platform has become an indispensable part of music education. Digital platforms provide rich teaching resources and convenient learning methods, making music education more efficient, convenient and interesting. At the same time, digital platforms also bring new challenges and opportunities for music education. Therefore, it is of great significance to study the innovation mode of music education under digital platform.

## 2. Music education innovation mode under digital platform

### 2.1 Digital teaching resources

First of all, digital teaching resources can present music knowledge and skills in an intuitive and vivid way. Through high-quality audio resources, students can enjoy various styles and types of musical works and deepen their understanding and feelings of music. Video resources can show the playing skills and performance style of musicians and stimulate students' desire to imitate and innovate. Image resources can present music symbols, sheet music and other information to help students better understand and apply music theory. Text resources provide knowledge about music history and cultural background, enriching students' knowledge of music. In addition, digital teaching resources support personalized teaching to meet the learning needs of different students. Teachers can choose appropriate resources for teaching according to students' levels and interests. For some students with faster learning progress, more in-depth and challenging resources can be provided to help them continuously expand their musical skills. For some students with slower learning progress or special needs, the content of the resources can be simplified and explained to help them better understand and master music knowledge.

### 2.2 Online Interactive Teaching

First, through the video conferencing function, students can have real-time face-to-face communication with teachers. Teachers can conduct live lectures or organize group discussions and interactive activities through video conferencing. Students can participate in the classroom at home or anywhere else, interacting with the teacher and other students, asking questions, sharing ideas and discussing learning content together. This real-time interaction allows students to feel the atmosphere

and tension of the classroom, which is conducive to improving learning results and participation. Secondly, online discussion is another important interactive teaching tool of the digital platform. Teachers can create online discussion boards in which students can post questions, answer questions, and discuss with other students. This form of interactive teaching enables students to think and answer at their own pace and in their own time, which helps to develop their independent thinking and expression skills. At the same time, students can broaden their horizons and deepen their understanding of the learning content by observing and participating in the discussions of others. In addition, the online Q&A function is also an important part of interactive teaching on digital platforms. Students can ask questions at any time during the learning process, and the teacher will make timely answers or explanations. This one-on-one interaction can better meet students' individualized learning needs, help them overcome problems and deepen their understanding of the learning content. At the same time, other students can also gain inspiration and knowledge from these questions and answers, further expanding the breadth and depth of learning<sup>[1]</sup>.

### **2.3 Virtual Reality Teaching**

First of all, virtual reality technology can simulate different music scenes, allowing students to immerse themselves in the live atmosphere of a music performance. Students can enter a virtual concert hall or performance venue through virtual reality devices, such as head-mounted displays or handles. They can see the players on stage, the audience in the auditorium, and even hear the realistic sounds of the performance. This immersive experience allows students to better understand and feel the artistry of musical performance, inspires their love of music, and improves their performance skills. Second, virtual reality technology can also help students create and collaborate on music. Students can use virtual reality software and devices to create their own musical works. They can use virtual instruments to play and arrange music, adjust the tone and volume, and create the musical effects they want. At the same time, students can collaborate with other students to improvise or compose music in a virtual music space. This virtual collaborative environment can help students develop teamwork and creativity and improve their musical expression. In addition, virtual reality technology can provide a more personalized music learning experience. Students can choose music courses of different difficulties and styles according to their interests and levels. Virtual reality technology can dynamically adjust the teaching content and difficulty according to students' performance and feedback to meet students' learning needs. At the same time, virtual reality technology can also provide real-time evaluation and feedback to help students correct mistakes and improve their playing skills.

### **2.4 Intelligent Teaching System**

Intelligent teaching system uses technologies such as data analysis and machine learning, which can provide personalized teaching and intelligent assessment according to students' learning situation and needs. The system can analyze students' learning data to understand their learning preferences, weaknesses and potentials, so as to design the most suitable teaching plan for each student. The system can provide students with teaching content of appropriate difficulty according to their knowledge level and learning progress to help them improve gradually. In terms of assessment, the system can automatically generate assessment reports based on students' assignments, tests and answers to guide them to improve and enhance their learning. The personalized teaching and intelligent assessment of the intelligent teaching system can help students learn and grow more efficiently<sup>[2]</sup>.

## **3. Practical Strategies for the Innovative Mode of Music Education under the Digital Platform**

### **3.1 Strengthen the construction of digital teaching resources**

First of all, audio and video resources can make abstract knowledge more concrete and easy to understand by showing real practical operations, vivid experimental processes, and rich visual and auditory effects. For example, in language learning, students can improve their listening

comprehension and oral expression by listening to authentic spoken dialogues and recordings simulating real-life situations. In science classes, students can watch videos of experiments and phenomena to enhance their understanding of practical operations and principles. Secondly, image resources can enrich the presentation form of classroom teaching and make abstract knowledge more intuitive. Images can help students understand abstract concepts and complex processes by showing them the structure, relationships and changes of things in the form of charts, diagrams and illustrations. For example, in the math classroom, by drawing graphs and charts, students can better understand concepts such as geometric shapes and functional relationships. In humanities and social sciences courses, image materials can also help students better understand historical events, works of art, and so on. In addition, text resources are equally important in digital teaching. Schools can build rich e-libraries and online document libraries to provide all kinds of course materials, reference books, academic papers and other resources for students to read and find information. At the same time, teachers can utilize text resources to prepare electronic lecture notes and lesson plans to provide students with clear learning orientation and guidance.

### **3.2 Implementing online interactive teaching**

Through online interactive teaching, students can access the learning platform through computers, tablets or cell phones and other devices at any time and any place to interact with teachers and classmates. Teachers can transfer knowledge to students, answer questions and solve problems, and provide real-time assessment and feedback through online classroom, instant messaging, discussion forums and other functions. Students can participate in discussions, solve problems, share ideas and other ways to build knowledge systems and learning communities with teachers and classmates. Online interactive teaching has multiple advantages. First, it breaks through the limitations of time and space so that students can independently choose the learning content and learning progress according to their own schedule and learning needs. Secondly, it provides a more interactive and participatory way of learning, cultivating students' cooperative ability, innovative thinking and problem solving ability. At the same time, through the sharing and opening of network resources, students can be exposed to a wider range of knowledge and views, develop their horizons and improve their comprehensive quality<sup>[3]</sup>.

### **3.3 Introducing virtual reality teaching**

Through virtual reality teaching, students can immerse themselves in exploring various scenes and situations, touching, moving, rotating, adjusting objects and even interacting with virtual characters, in order to achieve a more profound and comprehensive learning effect. For example, in the history classroom, students can immerse themselves in ancient wars, architecture, customs and culture through virtual reality environments. In the science classroom, students can use virtual laboratories to conduct simulated experiments and simulation operations to gain a more in-depth understanding of knowledge principles and application skills. Virtual reality teaching not only enhances the learning effect of students, but also promotes their active learning and exploring their potential, making learning more interesting and challenging. In addition, virtual reality teaching is also conducive to improving students' spatial collaboration ability, innovative thinking and practical ability, and helping them develop the skills and qualities needed by the future society.

### **3.4 Building intelligent teaching system**

Schools can make full use of the intelligent teaching system to build a platform for personalized teaching and intelligent assessment, in order to help students learn better and improve their abilities. By collecting students' learning data and behavioral information and combining it with artificial intelligence algorithms for analysis and processing, the intelligent teaching system is able to carry out personalized teaching design according to each student's learning needs and characteristics. Through the intelligent teaching system, students can learn at the right time and place according to their own learning progress and interests. The system can intelligently recommend suitable learning resources and learning paths according to students' knowledge reserves and learning styles, enabling students to acquire knowledge more efficiently. At the same time, the system can also adjust teaching strategies

in real time according to students' learning performance, provide personalized tutoring and guidance, and help students overcome learning problems and improve their academic performance. In addition, the Intelligent Teaching System also realizes the intelligent assessment function, which helps teachers to understand students' learning progress and problems through comprehensive and objective assessment of students' learning, so that they can provide more targeted guidance and support. Students can also adjust their learning strategies and improve their self-knowledge through the assessment results of the system to promote their overall personal development.

#### **4. Conclusion**

The innovative model of music education under the digital platform brings new opportunities and challenges to music education. Schools should strengthen the construction of digital teaching resources. They should implement online interactive teaching, introduce virtual reality teaching, and build intelligent teaching systems. This will help realize efficient, convenient, and interesting music education.

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