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Research on the Innovation of Music Class Interactive Modes Supported by Information Technology

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ABSTRACT
With the support of information technology to innovate the interactive mode of music class, it is necessary to adhere to the principles of diversity, flexibility and interaction. It needs to actively introduce virtual reality technology to help students immerse in music learning, use mobile learning tools to promote students' instant feedback and personalized learning, and use collaboration software to promote synchronous cooperation and extensive communication among students, so as to promote the innovative development of music class interactive modes supported by information technology.

KEYWORDS
information technology; music class; interaction; innovation

In the context of digitization, information technology has revolutionized many areas of education. Among them, the change of music education is particularly significant, and the continuous update of technology makes the music class move from the traditional teaching to a more dynamic and interactive new stage. Especially in the interactive mode of music class, the intervention of information technology has brought unprecedented innovation and changes. This paper will examine in detail the innovative principles of the interactive mode of music class supported by information technology, and analyze its innovative strategies in depth, with a view to enhancing the interaction of music teaching and students' participation, creating a diversified learning environment for students, and promoting the profound reform of music education.

1 The Innovative Value of Music Class Interactive Modes Supported by Information Technology

The interactive mode of music class supported by information technology promotes the transformation of traditional music teaching methods and broadens the teaching boundary. Through the integration of cutting-edge technologies such as virtual reality (VR), augmented reality (AR), mobile applications, and collaboration platforms, teachers can break through the limitations of time and space in music education, and provide students with a more flexible and personalized learning experience, so that students can access high-quality music teaching resources anytime and anywhere, and interact with teachers and students in other regions to participate in music creation and performance together.

The introduction of information technology by teachers also makes music teaching more vivid and enhances the attractiveness of the class. For example, by using VR technology to simulate concert scenes, teachers can allow students to experience masterclass performances up close, or

join bands and symphony orchestras in a virtual environment. This immersive experience, which is difficult to achieve in traditional teaching models, not only enhances students' engagement and learning motivation, but also stimulates their creative and musical talents.

In addition, information technology provides a variety of teaching tools and methods to help teachers more accurately assess the learning progress and effectiveness of student. Through real-time feedback systems and analysis tools, teachers can effectively monitor students' practice and adjust teaching strategies accordingly to ensure the accuracy and efficiency of educational activities.

2 The Innovation Principles of Music Class Interactive Modes Supported by Information Technology

2.1 Principle of Diversity

The interactive mode of music class supported by information technology should adhere to the principle of diversity. Teachers should integrate various information technology tools and methods in music education to adapt to diverse learning needs and preferences of students. Teachers can introduce intelligent applications, educational games and online collaboration platforms to provide multi-modal interactive modes such as visual, auditory and tactile for music teaching, thus effectively expanding the boundaries of teaching content and forms. With diversified interactive ways, students can explore music knowledge and obtain a personalized and customized learning experience [1].

2.2 Principle of Flexibility

The interactive mode of music class supported by information technology must adhere to the principle of flexibility. When introducing information technology, teachers should dynamically adjust teaching strategies and interactive forms according to students' feedback and learning progress. For example, teachers can apply responsive music teaching software to adjust teaching difficulty and content based on real-time students' feedback to provide students with a personalized learning experience. At the same time, the interaction of teachers in music teaching is no longer limited to the traditional teacher-student dialogue or group discussion. The application of information technology enables teaching to transcend the limitations of time and space, and allow students to collaborate with others in virtual ensembles or online music creation platforms to jointly promote the completion of music projects. Teachers introduce flexible interactive teaching methods driven by information technology, which not only enhances students' participation and learning enthusiasm, but also broadens students' musical vision and collaboration skills. It is thus clear that the principle of flexibility effectively promotes the dynamism and flexibility of teaching and learning with the help of diversified interactive ways and adaptive learning environments.

2.3 Principle of Interactivity

The interactive mode of music class supported by information technology must adhere to the principle of interactivity. Teachers can use information technology tools to enhance the interaction between teachers and students, as well as students and students. In this model, interactivity goes beyond simple information transmission and becomes a deeper, and multi-dimensional interactive experience enabled by technology. For example, through digital music interface (DMI) and music production software, teachers can observe students' specific operations and creative processes in real time, and provide targeted guidance and feedback. At the same time, students can also use

relevant tools to share personal music works and obtain comments and suggestions from peers, thus forming a mutually supportive learning network [2]. In addition, teachers can also use VR and AR technologies to reproduce music performances and creation scenes in the real world, provide students with an immersive learning environment, let students collaborate with the band in the virtual space, or carry out cross-regional cooperation, so as to stimulate students' learning interest, deepen students' understanding and application of music knowledge, and enhance students' teamwork and social skills in practical operations. Therefore, by integrating a variety of information technologies, teachers can expand the teaching interactive methods of music class and make the music education more vivid and attractive.

3 The Innovation Strategies of Music Class Interactive Modes Supported by Information Technology

3.1 Introducing Virtual Reality Technology to Help Students' Immersive Music Learning

Teachers can introduce VR technology to provide students with an immersive music learning experience. Teachers should work with technical experts to develop or select VR applications suitable for music education. The applications cover several modules such as virtual instrument playing, music theory teaching, and concert simulation. When students put on a VR headset, they can enter a carefully simulated music environment, such as a virtual music classroom, a concert venue or a recording studio. In this environment, students will study music theories in depth and try to play different styles of instruments. Taking the piano learning as an example, VR software can provide real-time visual and auditory feedback according to students' performances, such as pointing out correct or wrong notes and simulating real piano sound effects [3]. In addition, VR technology also allows students to join a virtual band or choir, and perform with students from other regions online, in order to improve students' collaborative abilities. Meanwhile, it can make students experience the joy of playing together in the case of no physical boundaries. Teachers should act as supervisors and mentors to monitor students' performance and progresses from the console and provide individual guidance as appropriate. Finally, schools at all levels need to invest the necessary funds and resources to purchase equipment and subscribe to software, while regularly updating related hardware and programs to keep up with the rapid development of VR technology. Schools also need to regularly organize teacher training, so that teachers are familiar with the operation skills of relevant technical tools, and master the method of integrating traditional music teaching with VR technology. It is thus clear that VR technology creates an immersive learning space for students, enhances the interaction and experience of music teaching, makes music education more vivid and interesting, and effectively stimulates students' passion and creativity for music.

3.2 Use Mobile Learning Tools to Facilitate Instant Feedback and Personalized Learning for Students

Teachers should use mobile learning tools to facilitate instant feedback and personalized learning for students. Teachers should make full use of the convenience and popularity of mobile devices such as smart phones and tablet computers, make reasonable use of applications customized for music education, update teaching content in real time and make personalized adjustments, so as to effectively enhance students' learning enthusiasm and participation. Teachers need to select or develop mobile learning applications that meet the needs of music education. These applications cover many aspects such as music theory teaching, ear training, rhythm

exercises, and instrument playing lessons, so that students can choose appropriate learning content according to their own learning processes and interests, and arrange their own learning time to achieve the independent learning goal [4]. In addition, teachers should use the interactive function of mobile learning tools to facilitate the immediate communication and discussion between teachers and students, as well as students and students. The built-in functions of mobile learning tools such as instant messaging, discussion boards and video conferencing can support students to have in-depth exchanges on the analysis and performance skills of music works, thus enhancing the interaction of learning for students and expanding the depth and breadth of learning. Teachers can adjust teaching programs and content in real time based on student feedback to ensure that teaching activities are aligned with students' needs. Therefore, the application of mobile learning tools will make the music classroom more dynamic and interactive, and greatly improve the teaching quality and efficiency through technological means, so that music education is closer to the evolution of modern education technology, and better adapt to the learning habits and development needs of contemporary students.

3.3 Use Collaboration Software to Promote Synchronous Cooperation and Communication among Students

Teachers should also use collaborative software to promote synchronous cooperation and communication among students. Teachers can use real-time collaboration platforms, such as video conferencing software, online whiteboards, and shared documents and libraries, to enable students to engage in musical activities, perform ensemble exercises, organize composition projects, and engage in music analysis and discussions across geographic boundaries. Teachers need to firstly screen for collaboration software suitable for music education. The software needs to have the high-quality audio and video transmission function to meet the strict requirement of music teaching for sound quality. At the same time, the software should also support the simultaneous online operation and editing by multiple users, so as to help students cooperate and modify the same music project at any time. For example, when using the online music composition software, students can participate in the creation of a work together, observe each other's progress in real time, and discuss creative ideas and technical details through chat tools [5]. In addition, teachers should act as coordinators and guides to manage the daily use of collaborative software, help students become proficient in using relevant tools, and design teaching activities that meet the needs of collaborative learning. Activities can include assigning specific music creation tasks, such as arranging music, writing lyrics or planning a concert, as well as organizing online discussions and guiding students to explore different musical styles, historical backgrounds and performance techniques. Therefore, the introduction of collaborative software by teachers enhances the interactivity of music class, enables students to enjoy the fun of teamwork in a virtual environment, and deepens their understanding and appreciation of music.

4 Conclusion

With the widespread use of technologies such as virtual reality, mobile learning tools and collaboration software, the quality and efficiency of music teaching have been significantly improved, and the learning motivation and engagement of students have been enhanced. With the help of these technical strategies, music education has successfully broken through the traditional restrictions, driven the extensive realization of educational equality and resource sharing, and vigorously promoted the globalization of education. Looking forward to the future, with the

continuous evolution of technology and the continuous innovation of educational concepts, the music education will develop more innovative teaching modes. It is hoped that more educators and researchers will go deep into this field and carry out more extensive research and practice.

About the Author

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