

A Study on the Digital Enhancement Pathways of Music Education Based on the New Basic Education Concept

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Abstract

This paper explores the integration of new basic education concepts and digital technologies in music instruction, aiming to improve teaching quality and promote educational modernization. The new basic education concept, centered on student agency, process-oriented teaching, and an educational ecosystem, provides theoretical guidance for music instruction that is student-centered and prioritizes emotional experience and creativity. Through a literature review, this paper analyzes the current application of digital technologies, such as virtual reality, artificial intelligence, and online learning platforms, in music instruction, and examines their role in enhancing classroom interactivity, personalized learning, and resource sharing. The study further incorporates practical case studies to reveal both the successes and challenges of digital technologies in improving music instruction, including insufficient technological infrastructure, limited teacher digital literacy, and the need to balance the humanistic values of instruction. This paper proposes that music instruction should integrate new basic education concepts with digital technologies, optimize instructional design and resource allocation, and build a dynamic and open teaching ecosystem to comprehensively enhance students' comprehensive qualities, providing theoretical and practical references for educational reform.

Keywords: new basic education concept; music teaching; digital technology; teaching quality improvement; student subjectivity

1. Introduction

1.1 Research background and significance

Following the very rapid development of information technology as well as the very great breakthrough in education reform, application of digital technology in education has gained popularity in world education study as well as application. Focus in the new basic education concept is laid on student-centeredness, emphasis is laid on cultivating students' subjectivity, imagination as well as all-around qualities, providing new theory guidance for music teaching^[1]. As one important sector in the field of quality education, music education is not only closely connected to artistic literacy elevation, but also greatly influences aesthetic capacity, emotional expression as well as innovative thinking of students. But existing music teaching mode is flawed in teaching means, interaction as well as personalized learning, which renders it difficult to adapt to the requirement of the new basic education concept in full. The arrival of digital technologies such as virtual reality, artificial intelligence as well as online learning platform has provided music teaching various tools as well as means, greatly expanding teaching efficiency as well as student participation^[2]. Especially in the post-epidemic era, popularization of digital teaching has accelerated music education's transition towards intelligence as well as personalization even more. The significance of this study is focused on how to integrate the new basic education concept naturally with digital technology, setting up the scientific method to improve the level of music teaching, providing theory support as well as practical guidance to modernization in education, as well as contributory development towards sustainable music education in the context of technological breakthrough as well as social evolution.

1.2 Research Purpose and Questions

This study is intended to research how to improve the teaching level of music in line with the theory of new basic education, to research the way digital technology can improve teaching level in music teaching, as well as to provide practical means to education practice. The theory of new basic education puts forward taking the students as the main body and giving attention to dynamic generation and personalized development in teaching practice, while digital technology provides technical means to accomplish this end^[3]. This study attempts to answer the following questions: How can digital

technology be combined with the new basic education concept to optimize music teaching? What is the current status and challenges of digital application in music teaching? How to design a scientific path to improve the effectiveness of music teaching? Through literature review and case analysis, this study will systematically sort out the current status of the application of digital technology in music education and explore its applicability and limitations under the guidance of the new basic education concept^[4]. The study not only focuses on the application effect of technology, but also focuses on its impact on students' learning experience, teachers' teaching ability and educational equity, providing theoretical basis and practical reference for building an efficient and fair music education system.

2. Integration of the new basic education concept and music teaching

2.1 The core connotation of the new basic education concept

As an important theoretical achievement of China's education reform, the new basic education concept emphasizes students as the main body, focuses on the dynamic generation of classroom teaching and the cultivation of students' comprehensive qualities. Its core connotation includes three aspects: student subjectivity, teaching process and educational ecology. First, student subjectivity requires that teaching be student-centered and stimulates their active participation and self-construction ability^[5]. Second, teaching process emphasizes that the classroom is not a one-way transmission of knowledge, but a dynamic interactive process in which teachers and students participate together, focusing on students' emotional experience and meaning generation^[6]. Finally, educational ecology advocates establishing an open inclusive classroom to facilitate all-round student development in the heterogeneous environment. For music education, the concept of new basic education requires breaking away from the traditional teacher-oriented technical skill education model and into student-oriented teaching design depending on emotional experience as well as creativity. The concept provides theory to inform music education. Especially in the digital era, through technical means such as the application of online production software for music as well as virtual classes, the application scope of the new basic education concept can be expanded constantly, students' initiative as well as music learning creativity can be promoted, as well as the preliminary construction can be achieved in terms of improving teaching quality^[7].

2.2 Characteristics and Challenges of Music Teaching

As an important branch of art education, music teaching is highly aesthetic, practical and emotional. Its characteristics are to cultivate students' aesthetic ability, emotional expression and creativity through music activities, while emphasizing teacher-student interaction and practical experience^[8]. However, traditional music teaching faces multiple challenges. First, the uneven distribution of teaching resources, especially in remote areas, is a lack of high-quality music education resources, which limits students' development opportunities^[9]. Second, the traditional teaching model often focuses on skill transfer and ignores students' individual needs, which is contrary to the subjectivity requirements of the new basic education concept. In addition, although the introduction of digital technology has brought new opportunities to music teaching, such as online courses and virtual instruments, it has also brought about problems such as high technical barriers and insufficient digital literacy of teachers^[10]. These challenges require music teaching to explore how to optimize resource allocation, enhance teaching interactivity and personalization through digital means when adapting to the new basic education concept, so as to achieve a comprehensive improvement in teaching quality.

2.3 Theoretical Basis for Concept Integration

The integration of the new basic education concept and music teaching relies on the theoretical foundations of pedagogy, psychology and philosophy of technology. First, constructivist learning theory provides a basis for integration, emphasizing that students can achieve meaning generation through active construction of knowledge. The creation and performance practice in music teaching is the embodiment of this theory^[11]. Second, experiential learning theory points out that learning effects depend on students' emotional and cognitive experiences in real situations. Music teaching can enhance students' immersive experience through digital tools such as virtual reality^[12]. Finally, the theory of technology and education integration from the perspective of technological philosophy believes that digital technology is not only a tool, but also a medium for reshaping the teaching ecology and can promote the implementation of the new basic education concept^[13]. These theories jointly provide support for the digital improvement of music teaching, emphasizing that technology should serve students' subjectivity and teaching process, and construct a student-centered, dynamic and interactive teaching model, providing a solid theoretical basis for the application of the new basic education concept in music teaching.

3. Overview of the application of digital technology in music teaching

3.1 Development of digital technology and educational applications

The rapid development of digital technology has brought revolutionary changes to the field of education, especially in music teaching, showing great potential. From the initial computer-assisted teaching to today's artificial intelligence, virtual reality (VR) and augmented reality (AR), digital technology has continuously expanded the boundaries of education and provided a variety of tools and platforms for music teaching [14]. For example, digital audio workstations (DAWs) such as Ableton Live and GarageBand enable students to compose and edit music, greatly reducing the threshold for creation while improving students' creativity and technical capabilities [15]. Under the guidance of the new basic education concept, digital technology enhances the dynamic generation of teaching by supporting students' subjectivity and personalized learning. For example, online learning platforms such as Coursera and Kadenze provide a wealth of music course resources, and students can learn independently according to their own interests and progress. Moreover, application of artificial intelligence technology in music teaching, such as automatic accompanying generations and in-time feedback systems, also best optimizes teaching interaction [16]. The production of these technologies not only broadens teaching means, but also enables teachers to analyze students' learning behavior to understand their needs better, thus forming teaching plans that are more satisfactory to students, which provides the sound technical conditions for digitalizing music teaching in the best way.

3.2 Practical cases of digital music teaching

Practical cases of digital technology used in music teaching have demonstrated their exemplary results in teaching quality improvement. For example, the UK's "Sing Up" project uses digital tools to provide primary as well as secondary schools' online teaching tools in music. By means of interactive song collections as well as teaching video collections, it has significantly improved students' participation rates in music as well as their learning interest [17]. In the United States, Carnegie Mellon University's Piano Tutor is adopting artificial technology to provide piano students with prompt feedback as well as customized schedules for practice, literally improving learning efficiency as well as skill acquisition [18]. Back in China, digital teaching practices in music under the concept of new basic education are coming into sight as well. For example, a primary as well as secondary school in Shanghai uses virtual reality technologies to build a virtual reality teaching classroom in music. Students are able to feel the performance in various instruments in the world of virtual reality, improving their emotional feeling as well as their learning creativity [19]. These cases suggest that digital technology is capable of keeping pace with the student-centered approach to teaching in the concept of new basic education through diversified tools for learning as well as interaction means. Practices in regions remain, however, to show unbalanced implementation. Especially in regions less equipped with resources, popularization of teaching through digital tools still needs to be broader promoted.

3.3 Opportunities and challenges of digital quality improvement

Digital technology has brought excellent opportunities to improve the teaching level of music, while with that there are many challenges. Opportunities are as follows. Digitally, digital technology has improved teaching content with multimedia equipment and online rooms, helped students access global sources of music, broadening their aesthetic perspectives as well as cultural knowledge [20]. Moreover, using artificial intelligence as well as data analysis technology can achieve personalized teaching, cater to diverse students' learning needs, as well as cater to personalized as well as subjective needs of the new basic education concept. Virtual reality as well as extended reality technologies enhance students' learning interest as well as emotional investment through immersion. Challenges inevitably exist. Firstly, the use of digital technology requires high technical facility construction as well as teacher training costs, which is difficult to popularize in underdeveloped regions [21]. Secondly, depending too much on technology can make emotional interaction in teaching decrease, eating away humanistic value in music teaching. Moreover, low digital literacy among students as well as teachers can obstruct the effective application of technology [22]. Therefore, in the process to popularize digital level improvement, we ought to balance technology with humanistic value, ensure that technology is utilized to benefit the primary targets of the new basic education concept, as well as eliminate implementation obstacles through policy support as well as teacher training.

4. Conclusion

This study systematically explored the integration path of the new basic education concept and digital technology in music teaching, revealing the important role of digital technology in improving the quality of music teaching. The concept of the

New Basic Education, centered on student agency, process-oriented teaching, and an ecologically sound education, provides theoretical guidance for music instruction that is student-centered and prioritizes emotional experience and creativity. Digital technologies, through virtual reality, artificial intelligence, and online learning platforms, have enriched teaching resources, enhanced classroom interactivity, and personalized learning experiences, significantly improving the quality of music instruction. However, the widespread adoption of digital applications still faces challenges such as insufficient technological infrastructure, limited teacher digital literacy, and a balance between humanistic values and pedagogy. Going forward, music instruction should further integrate the New Basic Education concept with digital technologies, optimize resource allocation, strengthen teacher training, and ensure that technology serves the well-rounded development of students.

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