

Future Paradigm of Digital Music Education from the Point of View of Integrated Learning

Abstract. In China, the recent implementation of the undergraduate, master's, and doctoral eight-year integrated training model by Fuyao University of Science and Technology has provided a new approach for higher education reform. This cultivation mechanism that breaks down traditional educational barriers and emphasizes vertical integration of knowledge systems has not only sparked significant discoveries in the field of education, but will also bring about profound changes in the field of digital music education. This article will explore the inspiration and reconstruction path of the integrated training concept for future digital music education from three dimensions: educational model reconstruction, deep technological integration, and innovative talent cultivation.

Keywords: future paradigm of education, integrated learning, digital music education.

The phenomenon of stage separation is severe in the traditional music education system, with a clear gap between undergraduate skill training and graduate theoretical research. This is particularly evident in China, where undergraduate students need to pass the national unified master's entrance examination before starting their master's studies. Most students start preparing for the master's entrance examination in the second half of their third year of

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undergraduate studies. However, the subject settings of the Chinese master's entrance examination are mostly unrelated to future research directions, which leads to undergraduate students spending too much time preparing for exams rather than studying their majors, resulting in a lot of time being wasted. As a result, most graduate students face the challenge of research-based learning mode in the early stages of enrollment. The intervention of digital technology provides the possibility for the spatiotemporal reconstruction of education: intelligent teaching systems can track learners' cognitive trajectories in real time and dynamically adjust course structures through knowledge graphs. For example, the AIMI system developed by Berklee College of Music can automatically generate personalized training plans based on student performance data, increasing skill acquisition efficiency by 40 %.

Virtual reality technology is breaking the limitations of physical space. The experimental "Metaverse Piano Room" project of the Central Conservatory of Music allows students to enter a virtual music hall through VR devices and perform real-time ensemble with top performers from around the world [3].

Artificial intelligence composition systems have broken through the simple melody generation stage. The Google Magenta project has developed the NSynth ultrasonic synthesizer, which is able to learn multiple embeddings, allowing for transformations between instruments and meaningful interpolations in timbre, creating novel and expressive new sounds [2]. In the integrated training system, doctoral students can participate in the development of AI music algorithms at an early stage, forming a research paradigm driven by both technological research and artistic creation. The Shanghai Conservatory of Music has established a key laboratory for artificial intelligence music therapy. Its director pointed out that artificial intelligence music creation relies on advanced algorithms and massive music data to quickly generate diverse music clips, and its creation efficiency far exceeds the traditional human creation model. In the future, the establishment and construction of the Shanghai Conservatory of Music's key laboratory for artificial intelligence music therapy will be committed to the cross-integration of art,

medicine, and technology, and will make unique contributions to China's professional music education and the construction of a discipline system, academic system, and discourse system with Chinese characteristics, Chinese style, and Chinese style [1].

The educational subject is undergoing fundamental transformation. The intelligent mentor system is capable of undertaking basic teaching tasks, and the connection between artificial intelligence (AI) and the creative industry has recently attracted great interest and attention. This emerging research field has enormous potential to completely transform the creative processes of generative art, music creation, and aesthetic design. The application of artificial intelligence algorithms in these fields has created new opportunities for creativity and made it possible to create unique and captivating compositions, designs, and artworks. Hakuhodo, a Japanese company, once teamed up with Yamaha to create an event called "The Duet with Yoo" that allows people to perform piano duets with AI. AI analyzes the gestures and sounds of human performers to predict the next note they will press, and at the same time guides our Yamaha Disklavier to perform the corresponding piece [4]. From this, it can be seen that in the future, AI technology can not only analyze each person's daily habits and learning methods, but also develop a complete set of learning methods for the student, and continuously update the learning methods according to the student's growth and needs, thus achieving seamless integration of undergraduate, master's, and doctoral studies, greatly reducing time waste caused by entrance exams and other reasons.

Under this integrated training model, digital music education will form a new ecosystem of "technological empowerment, artistic sublimation, and humanistic infiltration". Learners are no longer passive recipients of knowledge, but co-creators of technology and art. When the 8-year training cycle meets the exponential development of digital technology, it may give birth to a new era of musicians who possess exquisite skills, innovative thinking, and humanistic care. The innovation of this educational paradigm will not only reshape the landscape of music education, but may also redefine the boundaries of human artistic expression.

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Будущая парадигма цифрового музыкального образования с точки зрения интегрированного обучения

Аннотация. Недавнее внедрение восьмилетней интегрированной модели обучения по программам бакалавриата, магистратуры и докторантуры Университетом науки и технологий Фуяо позволило освоить новый подход к реформе высшего образования Китая. Этот инновационный механизм культивирования, рушащий оковы традиционного образования и возводящий в приоритет вертикальную интеграцию знаний, стал не просто

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катализатором прорыва в педагогике, но и предвестником тектонических сдвигов в сфере цифрового музыкального образования. Вдохновляясь идеями реконструкции классической концепции интегрированного обучения, мы в этой статье исследуем будущее цифрового музыкального образования в трех измерениях: трансформации образовательной модели, глубинной технологической интеграции и воспитании плеяды инновационных талантов.

Ключевые слова: парадигма образования будущего, интегрированное обучение, цифровое музыкальное образование.