

# Application Analysis of Digital Resources in University Classical Music Teaching

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**Abstract:** As an important part of art education in colleges and universities, classical music teaching needs to keep up with the development of The Times and actively integrate into modern digital resources. Firstly, this paper analyzes the current situation and problems of classical music teaching in universities. Then, the potential value of digital resources for problem solving is elaborated in detail, including providing diversified learning resources to help overcome regional restrictions, making it possible to learn anytime and anywhere, and using the visual characteristics of digital technology can make the learning process more intuitive and vivid. Finally, specific and effective strategies are put forward, such as establishing a perfect digital resource database and conducting moderate technical training, so as to deepen the application of digital resources in classical music teaching in colleges and universities. The results show that the use of digital resources can not only change the learning style while increasing the learning fun, but also improve the teaching effect.

**Keywords:** Digital Resources; Classical Music Teaching in Universities; Diversified Learning Resources; Technical Training; Teaching Effect.

## 1. Foreword

This art of classical music is characterized by its earlier traditions of teaching methods and forms. However, these too can become stringent and are unable to move along with the rapid development of society. Advanced technology and the access available through digital forms have opened unprecedented opportunities to improve the study and teaching of classical music. It is no longer a trend but a need for colleges and universities to meet the ever-changing requirements of modern education. The incorporation of digital resources into classical music education, however, does not go without challenges in practical implementation. Challenges include outdated educational concepts, lack of adequate teaching equipment, and unprepared educators with regard to digital competencies. These limitations hinder the proper use of digital tools and resources in the classroom, making this paper necessary for comprehensive research and discussion. By analyzing the current state of classical music teaching and identifying existing problems, this paper will aim to explore the detailed application of digital resources in this field.

Through a thorough investigation and analysis, the paper discusses specific strategies to overcome these challenges and enhance the integration of digital resources in classical music teaching. The proposed solutions focus on improving educational concepts, upgrading teaching equipment, and providing professional development for educators to enhance their digital skills. By addressing these issues, the paper theoretically predicts that the deepening application of digital resources can significantly improve the effectiveness of music teaching.

Ultimately, this paper underscores the need for classical music education to remain relevant and dynamic with technological advancements. Embracing digital resources can provide educators with the ability to offer more engaging and effective learning experiences, thereby making sure that

classical music continues to be a vibrant and integral part of higher education. This approach not only improves the educational process but also preserves and promotes the rich heritage of classical music in a modern context.

## 2. Analysis of the Current Situation and Problems of Classical Music Teaching in Colleges and Universities

### 2.1. Basic Status Quo of Classical Music Teaching in Colleges and Universities

Classical music education in Chinese colleges faces several significant challenges. Traditional teaching methods, which frequently lack innovation and fail to engage students effectively, result in diminished interest and sub-optimal learning outcomes (Guan, Y. (2023)). The reliance on conventional pedagogical approaches can lead to a rigid and uninspiring classroom environment, where students are not encouraged to explore their creativity or actively participate in the learning process. This lack of engagement is a critical issue, as it hampers students' ability to fully appreciate and internalize the complexities and beauty of classical music. To address these challenges, it is essential to introduce more dynamic and interactive teaching methods that can reignite students' passion for classical music and improve their overall educational experience. As an important field of art education, the teaching of classical music in colleges and universities carries the mission of cultivating students' artistic accomplishment and music appreciation ability (Guan, Y. (2023)). At present, the basic current situation of classical music teaching in colleges and universities presents a more complex situation. On the one hand, many colleges and universities have established a relatively systematic music teaching system, set up special classical music courses, invited professional teachers to teach, and gradually equipped

with the corresponding teaching facilities and resources. These efforts provide a better learning environment for students and meet the needs of some students to learn classical music.

Classical music teaching still faces many challenges in the practical development. The curriculum of some colleges and universities focuses on theory and has relatively few practical opportunities, which makes it difficult to effectively improve students practical performance and application ability. The uneven allocation of teachers is also a common problem. Some universities lack teachers with high-level performance and teaching experience, which makes it difficult to effectively guarantee the teaching quality. Due to geographical, financial and other factors, some universities are difficult for them to obtain the latest music resources and related teaching materials, resulting in relatively outdated teaching content and the forefront of the development of contemporary music.

These situations reflect that in the teaching of classical music in colleges and universities, it is necessary to further optimize the allocation of teaching resources and update the teaching concept, so as to better meet the students learning needs and artistic development requirements. With the help of modern technology, especially the application of digital resources, it is expected to provide an effective path to solve these problems and inject new vitality into classical music teaching.

## **2.2. Problems Faced by Classical Music Teaching in Colleges and Universities**

Although classical music teaching in colleges and universities has made some progress in recent years, it still faces many problems. Lack of teaching resources is an urgent problem to be solved. Many universities have deficiencies in teaching materials, audio and video resources and professional teachers in the field of classical music, leading to limited channels for students to acquire knowledge. The teaching method is relatively single, most of the courses are still traditional teaching, lack of effective use of modern teaching means. This way is difficult to stimulate students interest in learning, nor is it conducive to cultivating their creativity and critical thinking.

Classical music teaching in Chinese colleges and universities faces several notable challenges. Firstly, the teaching content often remains outdated, failing to incorporate modern music trends and diverse genres (Yu, F., & Damdindorj, T. (2024a))(Yu, F., & Damdindorj, T. (2024b)). This lack of contemporary relevance can make the curriculum seem disconnected from the current musical landscape, potentially diminishing students' interest and engagement. Secondly, traditional teaching methods frequently lack innovation and fail to engage students effectively (Yitong Guan, 2023; Yu Feng & Tsetsegdelger Damdindorj, 2024a). Without incorporating interactive and dynamic teaching strategies, lessons may become monotonous, leading to decreased motivation and enthusiasm among students. Lastly, there is a notable shortage of teaching resources, particularly in terms of qualified faculty (Yu Feng & Tsetsegdelger Damdindorj, 2024b). This insufficiency can hinder the quality of education, as students may not receive the guidance and expertise required to fully develop their musical skills and understanding. Addressing these issues through curriculum updates, innovative teaching practices, and investment in faculty development is crucial for enhancing classical music

education in Chinese universities.

There is also the disconnection of course content and the development of The Times. When teaching courses, some teachers pay less attention to the current development trend of music culture, and the course content is outdated, which cannot meet the students understanding needs of modern music culture. The internal curriculum in colleges and universities lacks systematic planning and coordination, and the connection between courses is loose, which cannot form a complete knowledge system.

The inadequacy of students personalized needs has also become a factor hindering the improvement of teaching effect. Due to the lack of flexible teaching mechanism and diversified teaching resources, it is difficult to realize teaching students in accordance with their aptitude, and students interests and potential abilities cannot be fully developed. Considering the influence of the above problems, the classical music teaching in colleges and universities urgently needs to be reformed to meet the needs of modern education(Guan, 2023).

## **2.3. Analysis of the Relationship between Modern Technology and Classical Music Teaching**

Modern technology has exerted a profound influence on the teaching of classical music, and has become a bridge between tradition and innovation. Under the promotion of multimedia technology, the teaching content has become more vivid, and students understanding and memory are enhanced through visual and auditory multi-sensory stimuli. The popularity of the Internet has made a large number of high-quality classical music materials within reach, and students and teachers are no longer limited to traditional textbooks. Emerging technologies such as virtual reality (VR) lead the interactive learning experience, and students can feel the charm of classical music in a simulated concert hall environment[3]. The integration of technology in music classrooms has significantly enhanced learning efficiency, cooperation, and interaction among students, while also influencing teaching concepts and fostering the development of blended learning environments (Liang, 2020). By incorporating digital tools and resources, educators have been able to create more engaging and interactive lessons that cater to diverse learning styles. Online platforms, in particular, have facilitated communication between teachers and students, making it easier to share resources, provide feedback, and support collaborative projects. This has been especially important during the COVID-19 pandemic, which necessitated a rapid shift to online learning and prompted further research into the effectiveness of online music education (Liang, 2020).

Overall, the adoption of technology has made education more entertaining and accessible, offering students a wealth of online resources that enhance their learning experiences (Ghory & Ghafory, 2021). These resources include virtual instruments, music theory apps, and online tutorials, which provide students with additional tools to practice and refine their skills outside of traditional classroom settings. Furthermore, technology has transformed traditional teaching methods by enabling more personalized and adaptive learning approaches, allowing educators to tailor instruction to meet the individual needs of their students. In addition, the rise of online platforms has promoted the interaction and communication between teachers and students, and webinar, live courses and other forms have injected new vitality into

classical music teaching. These technologies not only improve teaching efficiency, but also stimulate students interest and initiative in learning, changing the traditional mode of teaching.

### **3. The Potential Value of Digital Resources in Classical Music Teaching**

#### **3.1. Mapping the Role of Digital Resources in Teaching Classical Music**

Digital resources play a more and more important role in classical music teaching, and it has become an important boost to promote the modernization of art education in colleges and universities. Digital resources can not only enrich the teaching content, but also redefine the way teachers interact with students. The introduction of digital resources provides more possibilities for the interpretation and analysis of music works, and makes the teaching process more dynamic and interactive. Through HD audio and video, panoramic concert recording, and 3D virtual reality resources, students can experience classic works in a more vivid way. Such resources not only enhance the interest and immersion of learning, but also help to improve students understanding and memory.

Digital resources also promote the realization of personalized learning. According to their own progress and interests, students can study and explore independently through rich digital resources such as online music courses, electronic books and professional software. This way of independent learning can effectively cultivate students self-study ability and analytical thinking. Using the online platform, students can have diversified exchanges and cooperation, share their learning experiences and experiences, and form a benign mode of learning interaction.

Digital resources and new media technologies are transforming classical music education in higher education institutions. These innovations not only enrich the content of teaching but also redefine the nature of teacher-student interactions and promote personalized learning experiences (Lin Xu, 2024). The integration of sophisticated digital tools, such as audio processing and machine learning, will enable educators to fine-tune curriculum design and refine teaching methods to ensure that students are more engaged and instructional control is more accurate (Lin Xu, 2024). Such technologies allow for a more interactive and dynamic classroom environment in which students can interact with music in ways that were previously unimaginable.

New media technologies, in particular, provide a wealth of resources and help overcome traditional limitations of time and space in music education (Hao Tian, 2019). Online platforms, digital libraries, and virtual learning environments make a vast array of musical materials accessible to students and educators alike, and this facilitates continuous learning and collaboration regardless of physical location. This ease of access allows the students to explore different genres, attend virtual masterclasses, and join other global music communities, therefore enriching their educational experiences.

However, traditional modes of teaching lack innovation, and students are not properly engaged (Yitong Guan, 2023). The reliance on obsolete methods makes students disengage and lack interest in such a scenario since they are more

comfortable with the interactive and instantaneous nature of modern digital tools. Therefore, educational institutions should embrace new technologies and modify their teaching styles to fully tap the potential of digital resources. This shift will not only improve the quality of music education but also ensure that it remains relevant and inspiring for the next generation of musicians.

Digital resources also provide more tools and means for teaching evaluation. For example, through the data analysis software, teachers can make a more accurate analysis of students learning behavior, adjust and optimize the teaching strategies in time, so as to improve the teaching effect in a short time. It can be seen that digital resources play an indispensable role in classical music teaching, which not only expands the depth and breadth of teaching, but also provides infinite possibilities for educators and learners.

#### **3.2. Diversified Learning Resources Will Bring about Changes to Classical Music Teaching**

Diversified learning resources have brought about profound changes in the classical music teaching in colleges and universities. These resources, including online music libraries, virtual reality technology and interactive learning platforms, have injected new vitality into the traditional teaching models. Diversified learning resources enable students to have access to a wider range of music works and playing videos, thus broadening their vision and depth of learning. Digitalized music teaching models, which use audio processing and machine learning, have greatly enhanced student engagement and teaching precision (Xu, 2024). These developments allow for a more personalized educational experience, responding to the specific needs and preferences of each student. The use of such technologies enables teachers to give more accurate feedback and create more engaging lessons that resonate with students.

Moreover, the introduction of digital multimedia VR technology in music education curricula has been welcomed by students, as 72.2% of them have found it effective (Xiao, 2022). VR technology offers immersive learning experiences where students can walk through virtual concert halls, touch musical instruments in a simulated environment, and even perform virtually. Such an immersive approach enhances understanding and retention and makes learning enjoyable.

These different learning resources, online libraries, VR technology, and interactive platforms are changing classical music pedagogy. It allows independent learning because a lot of different resources are available at their convenience. Besides, these technologies make possible multi-directional interaction. In this way, students have more dynamic and interactive learning. More interactive and engaging approaches instead of the traditional one-way transmission of knowledge replace the process, encouraging active participation and deeper learning.

These digital tools open up new avenues for evolution in classical music education, hence offering students a more contemporary and complete educational experience. Integration with these tools not only enhances the effectiveness of teaching but also prepares students to live in a world in which digital literacy and proficiency in technology will be considered important. Students can not only watch the master performances, but also obtain rich background knowledge and comments, so as to deepen their understanding of the work. With the help of virtual reality

technology, students can experience concerts and rehearsal scenes personally, thus improving the intuition and immersion of learning. This kind of experiential learning no longer only relies on classroom teaching, but improves students participation and learning interest through visual and auditory multiple sensory stimuli. The interactive learning platform encourages students to interact with music lovers and experts from around the world. Through discussion and communication, students can better master and internalize what they have learned. Diversified digital resources effectively promote the cultivation of students independent learning ability, make the classical music teaching from one-way knowledge transmission to multiple interaction, and provide a new direction for the development of art education in colleges and universities.

### 3.3. Possibility of Using Digital Resources to Cross Geographical Restrictions

The rapid development of digital resources provides new possibilities for classical music teaching to transcend the regional restrictions. Through the Internet, teaching resources can be widely shared, and students can access world-class music courses, master classes and high-quality music materials at any time. Digital innovations have revolutionized classical music education by breaking geographical barriers and enhancing accessibility significantly. Online platforms enable students to access quality resources, attend virtual masterclasses, and engage in collaborative learning across different cultures (Gohn, 2013; Rohit & Ashfaq, 2023). This has democratized music education because students from all walks of life can now learn from famous instructors and peers from around the world.

The integration of digital tools into pedagogy in music studies has optimized curriculum design and techniques for teaching by incorporating advance technologies such as audio processing and machine learning. Due to this digitalization process, the learning and training outcomes of students have changed significantly, and students experience very interactive and personalized learning results. It further helps allow educators to have a much closer control over the process and adapt instruction according to what is needed from a given student (Xu, 2024).

More so, the innovation of web technology-based Massive Open Online Courses (MOOCs) has further encouraged the assimilation of digital platforms with traditional music education in universities (Qi, 2023). These courses allow students to learn at their own pace and convenience through comprehensive learning materials and resources. The integration of traditional and digital methods has opened up horizons for students, making them more creative and aware. As a result, classical music education has become more balanced and universally accessible, offering enriched educational experiences to a broader audience (Rohit & Ashfaq, 2023; Xu, 2024). This form of sharing provides college students in remote areas or with limited resources with access to excellent educational resources and breaks down geographical barriers. Online platforms and virtual technologies enable collaborative learning, and students can interact with peers and teachers from different regions for cross-cultural communication and discussion. This global way of learning not only expands students horizons, but also improves their understanding and creativity. By providing convenient and rich learning channels, digital resources make the classical music education more balanced and universal,

and promote the fair distribution of educational resources.

## 4. Strategies of Using Digital Resources to Improve the Teaching Effect of Classical Music in Colleges and Universities

### 4.1. Build a Comprehensive Digital Resource Base to Enhance the Teaching Experience

Building a comprehensive digital resource base is one of the key strategies to improve the teaching effect of classical music in colleges and universities. Digital resource database can not only break the limitation of traditional teaching resources, provide teachers and students with multi-level and diversified learning resources, but also help students to have a deeper understanding of the connotation of classical music through rich audio and video materials and interactive courseware. In the process of constructing the resource library, the high-quality audio and video recording of various classic tracks should be included, so that students can obtain intuitive and rich perceptual cognition. The resource database should incorporate music historical materials and music analysis articles in multiple languages to provide students with a broader vision.

In the construction of digital resource database, we should not only pay attention to the diversity of teaching materials, but also pay attention to the update and maintenance of resources. Only by ensuring the timely update of resource content can we keep the freshness and era of teaching materials. Efficient retrieval and recommendation systems should be established to help teachers and students quickly find the required resources, save time and improve learning efficiency. AI-based learning AIDS can also be added to the resource library to recommend appropriate learning content according to students learning progress and interests, and to further personalize the learning experience.

Multimedia technology gives ways to conduct new training and has greater sources with a stronger possibility of interdisciplinary integration according to the works of Zong 2024. More so, through the support of media, educators can ensure that classroom sessions become colorful and versatile to handle with various issues. Thus, other than bringing a better experience for any learner it can give more significant enlightenment regarding classical music in their culture and academies.

The technology associated with big data analysis facilitates the integrated management and simultaneous extraction of extensive music teaching resources, thereby markedly enhancing resource monitoring and recommendation algorithms (Yang, 2022). By leveraging big data, educational institutions are able to analyze usage trends, recognize deficiencies in existing resources, and offer tailored suggestions to both students and educators, thereby guaranteeing that all individuals can access the most pertinent and high-caliber materials.

Three areas should be targeted to maximize the benefits from digital resources: infrastructure development, promotion of new teaching methods, and improvement of educators' digital literacy. Such investment in strong technological infrastructure ensures that students and teachers have the necessary tools and connectivity to work effectively with digital resources. The promotion of innovative instructional pedagogies requires the inclusion of technology-

based tools in curricular frameworks in ways that enhance outcome delivery and sustain students' interest. Educators need enhancement in digital literacy since a literate educator will develop pedagogical tools with these tools confidently and creatively, leading to more innovative and effective pedagogies.

Collectively, these methods enhance the engagement and effectiveness of classical music education in higher learning settings. By embracing digital tools, learning institutions can transform the learning experience of classical music to be more interactive, accessible, and appropriate for the needs of the contemporary student.

In terms of technical support, a perfect digital resource database requires universities to have certain information technology infrastructure, and provide necessary technical support and maintenance. This includes the stability of the server and the network, information security protection, to ensure the efficient operation and safe use of the resource library. Through

## **4.2. The Importance of Technical Training to Improving the Teaching Effect**

Technical training is crucial to improve the teaching effect of classical music in colleges and universities. Technical training is a necessity for the improvement of pedagogical effectiveness of classical music in higher education. The effective use of digital resources in learning environments is not only determined by the intrinsic value of these resources but also by the skill in which they are used. The technical skills of teachers need to be enhanced to fully adapt to the digital change happening in the learning environment. In this context, vigorous technical training is essential because it equips the teachers with the appropriate skills of using a range of different digital tools and applications, which can be used directly in their teaching methods.

Through extensive technical training, teachers can become proficient in several operations, including audio software editing, the creation of interesting music videos, and the use of interactive online tools. Such skills are crucial for enriching educational content, which is sure to capture the interest of students and increase their motivation to learn. Educators can develop more lively and interactive lessons that resonate with students by incorporating digital technologies into their teaching methods.

Technical training also allows instructors to exchange their experiences and best practices among themselves, creating a collaborative environment of learning. The sharing of insights and best practices in this way contributes to the enhancement of the overall digital literacy of the teaching staff, such that all teachers are adequately prepared to meet the challenges arising from modern education. In fact, technology is fast changing, and it is essential to keep abreast of such changes. Through the development and further professional education with technical updates, instructors maintain knowledge over time to the current most productive methods and equipment with their pupils while serving their classes effectively.

Improving this ability is therefore important in effectively responding to the challenges arising from continued technological innovation of digital resources. Then, institutional investment in the technical training of educators can ensure that teaching staff, to a great extent, can better assimilate new technologies into classrooms to enhance the quality of education as well as prepare students with requisite skills to navigate an evolving digital environment. This calls

for a good, well-trained teaching team of digital literates who could create a teaching and learning environment wherein both the instructors and learners could blossom.

## **4.3. Practice Result Analysis and Subsequent Improvement Direction**

The results of the application of digital resources in classical music teaching showed that students participation and interest in learning increased significantly. The research about the use of digital tools in the teaching of classical music indicates a significant improvement in students' interest and participation in learning. The ease of availability and diversity of digital resources allow students to acquire ample musical information at any given time and place. Such access allows students to achieve more profound understanding of music theory using the interactive learning tools. The approach not only inspires creativity among students but also helps improve their overall academic performance.

Despite these advantages, the implementation process of digital resources faces some challenges. Most teachers are not familiar with digital technology, which is one of the barriers to using these resources effectively. Technical training programs should, therefore, be designed to enhance the digital literacy of teachers. When the teachers become digital literates, the learning process may be efficient and interesting.

The digital resource base also needs to be continuously updated and optimized in order to maintain the freshness and appeal of the teaching content. The universities must invest in the right hardware equipment to facilitate digital resources and create an environment conducive to their use. Continuous seminars for teaching and feedback mechanisms help in the betterment of application strategies in utilizing the resources to their best extent.

By implementing such strategies, the pedagogy of classical music within the higher education sector can undergo significant progress and development in this digital age. By utilizing technological advancements and improving the technical expertise of teachers, institutes can create a more effective and engaging learning environment better suited to the needs of modern education. This methodology will ensure the students are both proficient at classical music and maneuvering skills in the digital environment while preparing them for a time when technology will be more deeply involved in all their dimensions of life.

## **5. Tag**

This paper explores the application of digital resources in classical music teaching in colleges and universities. First, it analyzes the current situation and existing problems of classical music teaching, then expounds the various potentials and characteristics of digital resources, and finally establishes specific and effective strategies to promote the in-depth application of digital resources in music teaching. The practical results show that the use of digital resources not only brings brand-new learning methods and fun to students, but also has an obvious improvement in teaching effect. However, the current application of digital resources in classical music teaching still faces many problems, such as the technical acceptance ability of teachers and students, the demand for high-quality digital resources, and the popularity of technology, which need us to conduct more in-depth discussion in future research. Future research also needs to further explore how to effectively integrate and utilize these

resources to realize the modernization and individuation of art education.

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