International Education Forum, 2025, Volume 3, Issue 3
http://ojs.bbwpublisher.com/index.php/IEF
Online ISSN: 2981-8605

Application of Blended Teaching in the Reform of University Piano Course Teaching in the Network Environment

Jia Zhu[1], Chengxu Nie[1]*, Hang Xu[2]*

[1]College of Art, Hainan Tropical Ocean University, Sanya 572022, Hainan Province, China
[2]Guangzhou Preschool Teachers College, Guangzhou 511370, Guangdong Province, China

***Corresponding author:** Chengxu Nie, cx_nie@htou.edu.cn; Hang Xu, hangxu1995@163.com

Abstract: Blended teaching is a teaching model that integrates online and traditional teaching, leveraging the advantages of both to guide learners into deep learning. In college piano course instruction, blended teaching relies on online teaching platforms to systematically deliver piano knowledge through micro-courses, MOOCs, and other methods, providing students with more convenient and flexible learning opportunities. This approach is particularly suitable for university students with self-discipline and a proactive learning attitude. This paper explores the feasibility of combining the characteristics of the piano discipline with MOOC teaching, emphasizing the reform of teaching methods through online open courses to promote a student-centered learning model. This allows students to acquire piano performance skills more independently. Additionally, the paper analyzes contemporary university students' learning habits, highlighting that online learning has become a more suitable learning pathway compared to traditional classrooms, further supporting the value of blended teaching in college piano courses.

Keywords: Blended teaching; College piano course; MOOC; Online open courses; Teaching reform

Online publication: April 4, 2025

1. Introduction

With the rapid development of information technology, higher education is undergoing a profound transformation in teaching models. Blended teaching, which integrates the advantages of traditional classroom instruction and online learning, has become a crucial trend in higher education reform. In college piano courses, traditional teaching methods are often constrained by class time, faculty resources, and teaching space, making it difficult to meet students' needs for personalized and self-directed learning. The introduction of blended teaching provides a more flexible and targeted learning environment, enabling students to acquire theoretical knowledge through online courses while engaging in hands-on practice and in-depth discussions in

the classroom, thereby optimizing learning outcomes. The teaching objectives of college piano courses extend beyond piano performance skills to include music theory, improvisation, and musical expressiveness, making innovation in teaching methods particularly essential. By leveraging digital educational resources such as MOOC, micro-courses, and online open courses, blended teaching allows students to engage in self-directed learning based on their individual needs and progress [1]. At the same time, instructors can use online resources to supplement classroom instruction, employing flipped classroom strategies to enhance interaction, increase student engagement, and boost learning motivation. Against this backdrop, this paper explores the application value and practical models of blended teaching in college piano courses, analyzes its advantages and challenges, and proposes strategies for optimizing teaching, aiming to provide theoretical foundations and practical guidance for the reform of piano course instruction in higher education.

2. Exploration of the blended teaching model based on the characteristics of the piano discipline

As an essential component of music education in higher education, piano courses aim not only to develop performance skills but also to cover music theory, harmony analysis, musical interpretation, and improvisation. Therefore, a single classroom-based lecture model often fails to meet students' systematic learning needs in piano education. The blended teaching model integrates the interactivity of traditional instruction with the flexibility of online learning, enabling students to receive more targeted instructional support at different stages of their learning process [2].

2.1. The comprehensive nature of the piano discipline and the compatibility of blended teaching

Piano instruction involves a substantial amount of music theory knowledge, such as music theory fundamentals, harmony, and form analysis, while also relying heavily on students' practical performance abilities. Traditional teaching models are typically centered on teacher-led classroom instruction, where students engage in limited in-class practice and rely on self-study after class for reinforcement. In contrast, blended teaching leverages online platforms to provide micro-courses (Microlectures) or Massive Open Online Courses (MOOC), allowing students to independently learn theoretical concepts before class, while in-class sessions focus on practicing performance techniques and interactive learning. For example, when teaching "Analysis of Piano Work Styles", instructors can upload representative works from different musical periods onto an online platform, accompanied by explanatory analysis videos. Students can watch these materials and complete related exercises before class. During in-class sessions, teachers can then focus on guiding students in mimicking various playing styles and engaging in in-depth discussions that integrate harmony analysis, musical structure, and stylistic characteristics [3]. This approach not only enhances teaching efficiency but also strengthens students' self-directed learning abilities.

2.2. Advantages of MOOC teaching in piano courses

Massive Open Online Courses (MOOC) are large-scale online courses characterized by systematic content, self-paced learning, and abundant resources. Introducing MOOC into college piano instruction can fully leverage these advantages to improve both teaching quality and learning efficiency. Firstly, MOOCs can break down complex theoretical and technical aspects of piano courses into short video segments with

accompanying quizzes, allowing students to progressively master key concepts, thereby enhancing learning outcomes. Second, MOOCs offer opportunities for repeated learning, addressing the limitations of traditional classroom instruction [4]. In conventional teaching models, if students struggle to understand a concept, they often have to wait until the next class to seek clarification from their instructor. However, with MOOC, students can rewatch lessons anytime, enabling them to reinforce learning until they fully grasp the material. Additionally, MOOC optimize teaching resource allocation by addressing the faculty limitations in college piano education. They allow students from different regions to access high-quality instructional content, thereby improving the overall equity and quality of piano education. **Table 1** compares traditional piano teaching models with blended teaching models.

Table 1. Comparison between traditional piano teaching and blended teaching models

Comparison dimension	Traditional piano teaching model	Blended teaching model
Knowledge acquisition method	Teacher-centered lectures	Online micro-courses and offline hands-on interaction
Time flexibility	Fixed class schedules	Flexible online learning and adaptive offline guidance
Error correction mechanism	Relies on real-time in-class feedback	AI-based intelligent assessment and multidimensional feedback
Resource coverage	Primarily limited to faculty within the institution	Global expert courses and cross-institutional resource-sharing
Practice intensity	45 minutes of daily in-class practice	72 minutes of daily blended learning (online and offline)
Interest alignment	Standardized teaching content	Personalized learning pathways

2.3. Optimized teaching pathways through the integration of theory and practice

In the blended teaching model, the instructional design of piano courses can adopt an "online theoretical learning and offline practical training" approach. For instance, when teaching "Application of Harmonic Progressions in Piano Performance", students can first learn fundamental harmony theories through MOOC courses, then practice using virtual keyboard software, and finally receive face-to-face guidance and corrections from instructors during in-class sessions [5]. This teaching approach ensures that students receive targeted support at different learning stages, ultimately improving learning outcomes. Furthermore, research has shown that adopting a blended teaching approach significantly enhances students' classroom engagement and self-directed learning abilities.

In summary, considering the characteristics of the piano discipline, the integration of blended teaching and MOOC effectively improves teaching quality. It allows students to enhance their piano performance skills and musical literacy in a flexible and efficient learning environment. This teaching model not only optimizes the instructional design of college piano courses but also provides an innovative direction for the future of music education.

3. Research on the empowerment of college piano teaching through online open courses

3.1. Optimizing teaching content to enhance learning efficiency

The curriculum of college music programs is extensive, with piano instruction encompassing not only a

significant amount of performance practice but also related subjects such as music theory, harmony, and ear training. However, due to time constraints in classroom teaching, instructors often struggle to cover all essential knowledge points in detail, making it difficult for some students to fully absorb and process the material. The introduction of online open courses can effectively address this issue. Firstly, online open courses can modularize piano teaching content, breaking down complex theoretical concepts and performance techniques into concise and structured teaching videos, enabling students to gradually master the material at their own learning pace [6]. For example, a course on piano pedal techniques can be divided into multiple videos covering topics such as "Basic Usage of the Sustain Pedal", "Half-Pedaling Techniques", and "The Relationship Between Pedals and Harmony" allowing students to focus on specific aspects according to their needs. Additionally, online courses are often equipped with quizzes, assignments, and feedback systems, helping students assess their learning progress, identify gaps, and build a more comprehensive knowledge framework. Furthermore, online open courses provide personalized learning pathways. Depending on students' skill levels, courses can be categorized into "Beginner Piano Fundamentals", "Intermediate Technique Improvement", and "Advanced Performance and Interpretation" to offer students targeted learning experiences that align with their individual needs and enhance overall efficiency.

3.2. Promoting the sharing of teaching resources and expanding learning opportunities

Traditional piano teaching is often constrained by the faculty strength and teaching resources available at a given institution. High-level piano courses are typically limited to a select number of prestigious universities, making it difficult for students at regular institutions to access the same quality of education. However, the promotion of online open courses removes these geographical and institutional limitations, allowing high-quality educational resources to be shared on a broader scale [7]. Firstly, online open courses provide students with access to world-class piano instruction. Piano courses from top domestic and international music academies can be made available to global learners through open course platforms. For instance, performance demonstration courses recorded by renowned pianists and music educators allow students, regardless of their institution, to receive high-quality piano education. Secondly, the shared nature of open courses facilitates inter-university teaching exchange. Universities can collaborate on course resources, learn from each other's teaching experiences, and continually optimize piano education systems. For example, a university could partner with a renowned international music institution to co-develop online courses, exposing students to a broader musical education perspective. Additionally, online open courses can integrate with social learning platforms, providing students with more interactive learning opportunities. Students can participate in course discussion forums, engage with global learners, share learning insights and performance experiences, and even collaborate on remote ensemble performances, thereby enhancing the social and practical dimensions of music learning.

3.3. Promoting innovation in teaching models and achieving student-centered learning

For a long time, traditional piano teaching has primarily relied on a lecture-based classroom model, where teachers deliver knowledge within a fixed schedule, and the content is largely teacher-driven, leaving students with limited opportunities for self-directed learning. However, the promotion of online open courses has gradually shifted college piano teaching towards a student-centered model, encouraging students to actively participate in learning and improving classroom interaction and practical engagement [8]. Online open courses support the flipped classroom model. In this approach, students can independently learn piano theory through

online courses before class, while classroom time is primarily dedicated to performance practice, discussions, and personalized guidance. For example, students can watch a music analysis course on Bach's The Well-Tempered Clavier before class, then discuss different performance interpretations with their instructor and engage in practical playing exercises, receiving personalized feedback from the teacher. This model makes more efficient use of classroom time and enhances teaching effectiveness. Online open courses enhance students' ability to learn autonomously. Students can freely choose learning content, set their own learning pace, and explore different piano performance styles based on their interests. Some students may be interested in classical piano, while others may prefer jazz or pop piano. Online open courses cater to these diverse preferences, offering more flexible learning options. Additionally, most course platforms feature progress-tracking functions, allowing students to monitor their learning through assessments and progress reports and adjust their study plans accordingly to ensure they meet their learning objectives. The interactive features of online open courses further drive teaching innovation. Teachers can utilize discussion forums and live Q&A sessions on online course platforms to engage in real-time interactions with students and address any learning difficulties they encounter. At the same time, automated assessment functions on these platforms can intelligently analyze students' performances and provide instant feedback, helping them accurately refine their playing techniques.

4. Analysis of the compatibility between online teaching and students' learning habits

4.1. Increasing dependence on the internet among students

With the widespread adoption of smartphones, tablets, and other mobile devices, modern university students have become significantly more dependent on the internet for learning. Whether outside the classroom or in daily life, students increasingly prefer to obtain information, look up materials, and watch instructional videos online. In piano learning, traditional classroom instruction is often constrained by time and space, limiting students' opportunities for review and practice after class. MOOC teaching platforms effectively overcome these limitations by allowing students to access course content at any time, watch instructional videos, and engage in self-directed learning. This convenience makes MOOC an essential tool for adapting to students' learning habits, especially in practice-intensive disciplines such as piano. Through these platforms, students can learn new techniques and theoretical knowledge from video courses and repeatedly practice in their fragmented free time, significantly improving learning efficiency [9].

4.2. Demand for self-directed and personalized learning

Modern university students generally possess strong self-directed learning abilities. Unlike traditional teacher-led instructional methods, MOOCs provide greater autonomy, allowing students to select course content based on their interests and needs while managing their own learning pace. This characteristic is particularly significant in piano education, as learning the instrument requires long-term accumulation, with students needing to choose appropriate learning content and progress according to their personal interests and abilities. Through MOOC platforms, students can select courses of appropriate difficulty based on their actual skill level, ranging from fundamental music theory to advanced piano techniques, enabling them to learn at their own pace in a personalized manner. Moreover, MOOC learning resources are not limited to a single textbook or classroom lecture but incorporate diverse formats such as videos, audio recordings, and e-books, providing a comprehensive range of study materials that help students understand and master piano techniques from

multiple perspectives. By selecting suitable learning resources according to their specific needs, students can enhance both their autonomy and the effectiveness of their learning [10].

4.3. Enhanced interactivity and feedback mechanisms

Traditional piano instruction often relies on face-to-face interaction between teachers and students. However, due to time and space constraints, it is difficult to provide each student with sufficient individualized attention during class. MOOC teaching platforms address this limitation by offering enhanced interactivity and feedback mechanisms, allowing students to receive timely assistance and guidance throughout their learning process. On MOOC platforms, students can not only watch pre-recorded instructional videos but also participate in online discussions, ask questions, and even upload their own performance videos for evaluation by instructors and peers. Teachers can also assess students' learning progress through online assignments and quizzes, providing personalized feedback and recommendations based on their performance. In piano education, where technical proficiency requires continuous practice and immediate feedback, the interactive features of MOOC platforms enable students to upload their performance videos at any time and receive targeted guidance from instructors [11]. This allows students to correct mistakes through practice while also gaining valuable insights into musical expression and technical nuances. Additionally, the social features of MOOC platforms facilitate knowledge-sharing among students, enabling them to learn from each other's experiences and fostering a greater sense of engagement and belonging.

Table 2. Comparison of teacher and student roles in blended teaching

Teaching aspect	Traditional teaching roles and behaviors	Blended teaching roles and behaviors
Knowledge delivery	Teacher provides one-way lectures → Students passively listen	Teacher designs the curriculum → Students choose learning paths independently
Skill training	In-class demonstration → Self-practice after class	AI-assisted error correction → Targeted teacher guidance → Peer evaluation
Feedback and assessment	Final performance exam and paper-based tests	Real-time data tracking and multidimensional evaluation (system/teacher/student)
Innovation development	Dependent on teacher's personal teaching style	Cross-institutional creative community and virtual ensemble projects

4.4. Compatibility of Fragmented Learning Mode

Modern university students generally have tight schedules, with extracurricular activities, internships, and part-time jobs taking up a significant portion of their time. In this context, fragmented learning has become an efficient way to study. The MOOC teaching model fully accommodates this need, allowing students to access instructional videos at any time and utilize any available fragmented time for learning. For example, students can continue practicing piano techniques and studying music theory through short learning modules while commuting on public transport, during lunch breaks, or before bedtime. Unlike traditional classroom-based learning, which requires long, continuous study sessions, MOOC platforms design their courses to be concise and focused, emphasizing key concepts and core content. Each video lesson can be completed independently, enabling students to arrange their learning progress flexibly based on their available time. Piano learning inherently requires extensive practice, and MOOC platforms break down learning content into small units, delivering instruction through short videos and practice tasks. This approach allows students to make use of

fragmented time for study and practice, improving learning efficiency while reducing procrastination and interruptions in the learning process.

5. Conclusion

The application of the blended teaching model in college piano courses fully utilizes the advantages of information technology and traditional educational methods, promoting the modernization of teaching content and innovation in teaching approaches. Through MOOC, micro-courses, and online open courses, piano education can overcome the limitations of time and space, providing students with a more personalized and flexible learning experience. The core value of blended teaching lies in its ability to integrate theory with practice, reinforcing students' understanding of piano theory while allowing for repeated practice and real-time feedback through online platforms to enhance performance skills. Given that contemporary university students exhibit strong self-learning abilities and a high dependence on digital resources, MOOC and other online learning tools offer them greater flexibility and choice, fostering a student-centered learning approach. However, the implementation of blended teaching still faces certain challenges, such as how teachers can effectively design online and offline course content and how to balance technology with teaching quality. Therefore, future improvements in the blended teaching model should include greater investment in teacher training, enhancements in platform interactivity and feedback mechanisms, and better alignment with students' learning needs [12]. Additionally, refining teaching content, integrating and sharing course resources, and diversifying learning methods will be key directions for the future reform of piano education.

In summary, the blended teaching model not only enhances the teaching efficiency of college piano courses but also drives continuous innovation in educational methods and technological approaches. It provides students with a more autonomous and personalized learning experience while offering new perspectives and practical pathways for the reform and development of piano education.

Funding

This research was financially supported by the Project supported by the Education Department of Hainan Province, project number: Hnjg2024ZC-99, Hnjg2025ZC-80; the Scientific Research Foundation of Hainan Tropical Ocean University, project number: RHDRCSK202421.

Disclosure statement

The authors declare no conflict of interest.

References

[1] Li R, 2024, Exploration and Reform of Online and Offline Blended Course Teaching—A Case Study of Piano Courses. Innovation and Entrepreneurship Theory Research and Practice, 7(11): 51–54.

[2] Du JN, 2020, Research on the Blended Teaching Model of Piano and Piano Accompaniment Courses. Northern Music, 2020(24): 212–214.

[3] Jia Z, Hang Z, Hang X, et al., 2024, Research on the Hybrid Teaching Mode Combining MOOC and Flipped

Classroom in Piano Courses in University. Journal of Contemporary Educational Research, 8(12): 207–216.

[4] Liu J, 2021, Thoughts on the Blended Teaching Model of College Piano Courses in the Internet Era. Contemporary Music, 2021(7): 55–57.

[5] Liu T, Wang ZJ, 2020, Application Research on the Online and Offline Blended Teaching Program for Basic Piano. Art Evaluation, 2020(21): 149–151.

[6] Jia Z, 2022, Research on Teaching and Practice of Piano MOOC in University. Curriculum and Teaching Methodology, 5(3): 108–115.

[7] Li J, 2022, Research on the Construction of Online and Offline Blended Teaching Models in Colleges—A Case Study of Piano Courses. Educational Informatization Forum, 2022(1): 24–26.

[8] Guo ZY, 2023, Exploration of the Implementation of Online and Offline Blended Teaching in College Piano Courses. Shaanxi Education (Higher Education), 2023(2): 28–30.

[9] Ma YQ, 2022, Innovation and Practice of Blended Piano Teaching in the MOOC Environment. Art Evaluation, 2022(7): 141–143.

[10] Jia Z, Hang X, 2022, Research on the School-Enterprise Cooperation Training Mode for Music Professionals in University. Journal of Contemporary Educational Research, 6(12): 1–8.

[11] Yan H, 2022, Exploration of the Blended Teaching Model for Piano Courses in the Context of "Internet+". Art Grand View, 2022(5): 106–108.

[12] Yang J, 2022, Innovative Strategies for Blended Teaching in College Piano Courses under the MOOC Environment. Contemporary Music, 2022(10): 40–42.