

## **Research on the Construction of Piano Teaching Reform System in Higher Teacher Training Colleges under the Background of Internet**

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**Abstract:** In the process of national education system reform, more and more education departments began to pay attention to the construction of music majors in general colleges and universities. The Ministry of Education has issued a "Curriculum Teaching Guideline" and a "Curriculum Guidance Programme" for undergraduate music majors in general colleges and universities across the country, which provide important reference for the reform of piano teaching in colleges and universities of higher education. Under the background of the Internet, teachers in colleges and universities should make reasonable use of information technology, take the Internet platform as the basis, give full play to the advantages of the Internet in the reform of piano teaching, build a better learning platform for students, and then make the piano teaching more effective, to ensure the successful achievement of the course teaching objectives. In this study, the author will, according to his own educational experience, firstly expound the necessity of piano teaching reform and integration under the background of the Internet, then analyse the innovation and change of the teaching mode of colleges and universities under the background of the Internet, and finally put forward the reform strategy of piano teaching in higher demonstration colleges and universities under the background of the Internet, and build an evaluation system in line with it.

**Keywords:** Piano Teaching Reform System; Higher Teacher Training Colleges; Internet Technology

### **1. INTRODUCTION**

In the process of educational reform in colleges and universities, modern information technology plays a very important role, the use of Internet technology in education and teaching activities, can provide students with a richer and more varied teaching content, with the help of online lectures, microclasses, catechism and other innovative modes, which can make the traditional monotonous classroom teaching mode a good transformation, improve teaching efficiency. In the background of the Internet, higher teacher training colleges in the piano teaching process, teachers should make reasonable use of information technology, through the Internet teaching so that students have more learning opportunities, to promote the traditional teaching mode of continuous innovation, to ensure that the

quality of teaching to continue to improve, so as to successfully achieve the goal of teaching.

## 2. THE NECESSITY OF PIANO TEACHING REFORM AND INTEGRATION IN THE BACKGROUND OF THE INTERNET

So far, the piano art has more than 3,000 years of development history, and nowadays traditional piano education has begun to integrate with the Internet platform and information and communication technology, in which a new development ecology is bound to appear (Y. Zhang, 2024). In the process of the two have a deeper and deeper degree of integration, it has achieved the coverage of piano publishing, piano education, piano performance and other industries, and its manifestation is mainly divided into the following four categories: first, the network teaching platform, such as microclasses, boutique classes, catechism classes, multimedia network courseware, etc., because it has a more perfect communication and interaction, sharing resources, effect analysis, learning management and other functions, and it can achieve a more desirable The second is the related steel website, such as audio-visual resources, sheet music, academics, etc., with the help of these websites learners can obtain a wealth of piano knowledge in a short period of time; the third is the new media information promotion platforms, such as microblogging, WeChat QQ and so on, these platforms are very large in the number of users, with a powerful interface development mode, media display forms, information sharing and other advantages; the fourth is the APP, which is simply understood as an application in various mobile terminals. It is the application of various mobile terminals, and at this stage, there are many piano students who use programmes such as error correction, metronome, live broadcasting, sheet music, and accompanying training. The above Internet piano education model has the characteristics of rich, free, open and flexible, and has become an important element to achieve lifelong education (F. Zhang, 2024). This shows that it is very necessary to reform piano teaching in the context of the Internet and promote its deep integration with Internet technology.

## 3. RESEARCH ON THE INNOVATION AND CHANGE OF THE TEACHING MODE OF COLLEGES AND UNIVERSITIES IN THE CONTEXT OF THE INTERNET

### 3.1 Innovation in Teaching Philosophy

Under the background of the Internet, in the process of reforming and

innovating piano teaching in higher model colleges and universities, teachers are direct guides, and their professional level and teaching philosophy can directly affect their actual teaching effectiveness. First of all, teachers should have a comprehensive and in-depth understanding of the Internet. After entering the information age, which provides favourable conditions for the development and innovation of piano teaching, teachers should keep a high degree of attention, strive to make themselves have more and more high information literacy, make reasonable use of the Internet technology to implement teaching activities, and make use of its advantages to improve the quality and efficiency of teaching. By analysing the relevant education and teaching practices, it is known that the integration of Internet technology can play a role in promoting the change of piano teaching, for example, teachers can upload music and other learning resources in the cloud disk, students can directly download when they need, realizing the expansion of teaching space and time (QIANFANG, 2022). Secondly, teachers should actively change their roles. In traditional piano teaching, the teacher plays the role of leader and dominator in the classroom, but in the context of the Internet, the teacher should transform himself into a collaborator and supporter of students' learning, for example, in the flipped classroom teaching, the role of the teacher and the student can be exchanged, the students complete the online live broadcast in the form of group cooperation, and in the process, the teacher can comprehensively understand the learning situation of the students, and provide targeted help and guidance to students. The teacher can fully understand the students' learning situation in this process and provide targeted help and guidance for the students. Finally, teachers should continue to improve their own professionalism, nowadays some teachers do not know enough about the integration of teaching activities and Internet technology, and in the context of a variety of information technology is becoming more and more perfect and special social background, teachers must actively learn a variety of information equipment operation methods and information technology, stimulate their own learning consciousness, in full consideration of the actual situation of piano teaching based on the basis of their own higher and higher quality of integrated qualities Ability to incorporate new methods and new technologies in teaching practice in a timely manner, to enhance the speed of reform and innovation of the piano teaching mode.

### 3.2 Expansion of Teaching Content

In the traditional piano teaching in higher teacher training colleges and universities, the teachers' teaching content is mainly based on the content of paper textbooks, which are all very classic content, but lack of sufficient

innovation and modernity, and cannot meet the needs of piano teaching under the new situation. Through the reasonable application of Internet technology, piano teaching can have more colourful content. On the one hand, with the help of various network platforms, teachers can obtain more teaching resources and download some students' favourite tracks as practice contents according to teaching needs. For example, in the popular piano network has saved a lot of popular songs piano sheet music, these songs can not only form an effective attraction to the students, but also make them more active learning, and in the process of playing such tracks can make the students improvisation accompaniment ability to be improved, can effectively solve the problem of traditional piano teaching there is a single content (Wang, 2021). On the other hand, the premise of Internet technology can establish multimedia teaching resource base, in which students can achieve independent search, audio-visual and download, to promote the piano teaching in higher teacher training colleges and universities towards the scientific and professional direction. Relying on Internet technology, teachers can organise and collect all kinds of learning resources in a more detailed and comprehensive way, and upload them to the multimedia resource library, so that students who need them can download and learn them. In the early stage of the construction of the multimedia resource library, teachers should not only take the piano repertoire as the content, but also add all kinds of information about piano learning, and accurately classify the categories. In addition, in the process of using the multimedia resource library, students can also use instant messaging or message boards to exchange views with teachers, so that teachers can understand the problems faced by students in a timely manner, which will stimulate students' motivation to learn.

### 3.3 Changes in Teaching Models

In the conventional piano teaching mode, although students sometimes practice on their own after school, this link can not be guided and supervised by the teacher, and in the analysis of teaching efficiency, the traditional teaching mode to a certain extent a waste of teaching resources such as equipment and teachers. In the background of the Internet, higher teacher training colleges and universities are constantly updating their piano teaching mode, solving a lot of problems existing in traditional teaching, for example, in recent years, the microteaching mode has been widely used, the teacher first collates and summarises the classroom teaching knowledge points, and then uses short videos to show the students the important points of knowledge, and in the development of the new repertoire teaching, it can be briefly introduced to the repertoire's homework and the background of the

creation of the situation, and then record the teacher's performance, and then record the teacher's performance of the piano. When teaching a new piece of music, the teacher can briefly introduce the work of the piece and the background of its creation, and then record the teacher's performance demonstration, and the teacher can directly upload the completed teaching video in the learning platform. After watching the videos after class, students can have a preliminary understanding of the classroom teaching content, which is convenient for teachers to carry out follow-up teaching. In response to the problem that teachers are unable to effectively guide and supervise students' contact after class, teachers can also use online learning platforms to strengthen communication with students. In addition, students can also use tablet computers, smart phones and other mobile terminals to log on to the online learning platform, practice during the video call with the teacher, thus providing convenience for teachers to guide students, or students can also send their own recorded practice videos to the teacher, and the teacher will make reasonable adjustments to the teacher's plan according to the students' practice, organically combining after-school and in-class teaching.

### 3.4 Transformation of the Teaching and Learning Environment

In teaching practice, the teaching environment is also an important influence on the quality of teaching, higher teacher training colleges and universities in the development of traditional piano teaching, there is generally a more boring teaching environment, there is a high probability that will lead to students' interest in learning to continue to decline, and in the integration of the Internet technology, you can build a more three-dimensional and diversified teaching environment. Specifically, its content is mainly divided into the following aspects. First of all, to build a good learning and communication environment for students, compared to the traditional teaching mode, when the online teaching is correctly implemented, the distance between teachers and students can be closer, so that there is a closer exchange and communication between the two, and in the process of online communication can be transformed part of the student's introverted personality, take the initiative to elaborate their own confusion and problems, on an equal and sincere basis with the teacher to communicate with the teacher, as a short time to get the teacher's help and guidance in. Getting help and guidance from teachers (Zhu et al., 2021). Secondly, designing a competitive learning environment. Piano teaching should be to cultivate students' practical ability as the teaching focus, but in the actual teaching due to a variety of factors students generally lack of practical practice opportunities, which makes students can not be relaxed, calm mentality for

public performance. After the application of Internet technology, teachers can organise and implement anonymous performance competitions with the help of online learning platforms, where students play on the online platform, other students listen and vote, and finally choose the student with the highest performance skills, which not only can fully stimulate students' autonomy, but also can continue to improve their performance level and make them form a good mentality of playing.

#### 4. PIANO TEACHING REFORM STRATEGIES IN HIGHER TEACHER TRAINING COLLEGES UNDER THE BACKGROUND OF INTERNET

##### 4.1 Mining Resources to Create Situations to Promote Students' Understanding of Knowledge

Piano teaching in higher teacher training colleges and universities has a lot of music playing skills and professional knowledge, the teacher only rely on verbal explanation of the way to implement the teaching, the students will have the feeling of learning boring, but also can not form an in-depth understanding of the connotation of the music, although the students can access to a variety of performance demonstrations, but can not form an emotional resonance, and can not be mastered in the real sense of playing skills and theoretical knowledge. To promote the effective integration of piano teaching and Internet technology, teachers can collect relevant teaching resources in the Internet centred on classroom teaching content, so as to produce higher quality courseware, and build a good learning environment based on multimedia, so that students can understand and master theoretical knowledge in a deeper way, and continuously improve the level of students' performance (Rao, 2020). For example, in the teaching of Autumn Whispers, the teacher can use multimedia to show food about the piece of music, with piano music as the background music of the video, and autumn rain and falling leaves as the main body of the video screen, using video clips to drive the students to enter the learning state quickly, to give the students good auditory and visual enjoyment, and to make the students feel unfulfilled after the end of the relevant pieces of music and images. Teachers can then guide students to explain their own feelings after enjoying the music, summing up the author wants to express the emotions, and then show the music related information to the students, guiding the students to integrate their own emotions into the exercise, accurately grasp the characteristics of the style of the music, and at the same time, make the students have a broader knowledge

of the field of vision, in an accurate understanding of the emotions and connotations of music on the basis of independent participation in the practice of the students' playing skills continue to improve, making the students develop a better musical literacy. The students' playing skills are constantly improved, and the students develop a better musical quality.

#### 4.2 Implementing Diversified Teaching Modes to Enhance Students' Learning Efficiency

Higher teacher training colleges and universities want to achieve better teaching results in the context of the Internet, teachers need to make reasonable use of various teaching methods in teaching, such as online live broadcasting, microclasses, catechism and so on. In the process of education and teaching with the Internet foundation has a deeper and deeper degree of integration, many schools have implemented the online teaching mode, in the process there are also many online teaching platforms, which are more widely used is the 'Tencent classroom, nail, etc., teachers need to take into full account the real needs of the students and the characteristics of the piano course under the premise of a reasonable choice. For example, in the implementation of Beethoven's "Passion Sonata" teaching, teachers can complete the micro-lesson video recording work before classroom teaching, effective collation and generalisation of the teaching resources that exist in the network, with the online teaching platform as the basis for students to download and watch at any time and any place, the initial understanding of the music playing skills, background knowledge, etc., in the classroom teaching, but also Lang Lang's performance of the music of the video as a teaching material. There are three movements in the piece, each with a different theme. The first movement is mainly based on the theme of repressed emotions and hope for the coming of light, which is a very strong dramatic conflict; the second movement is an anthemic theme, which is full of vigour and hope in spite of a difficult life; the third movement is based on the theme of high spirits, which is the culmination of the whole piece. Teachers and the three movements of different themes combined with the recording of three videos, and in each video equipped with appropriate explanations, and at the same time according to the students to contact the actual situation of the score to give corrections and guidance, to further enhance the learning efficiency of the students.

#### 4.3 Flexible Use of Relevant Teaching Software to Extend After-School Teaching

In order to enable students to practice more efficiently after school,

teachers should recommend software that matches their actual situation, so as to organically integrate after-school practice and classroom teaching, and make use of a large number of exercises to promote students to have stronger abilities. Although there is still a gap between online practice and real piano playing, this way can break the limitations of time, space, equipment and other factors, students can practice their own performance deficiencies, and fully mobilise students' interest in learning (Niu, 2021). Flow Key software, for example, has a large number of sheet music in the software, and reasonably divided into all levels of players need to contact the sheet music, compared with the traditional teaching mode, students in the software to carry out performance practice, in the absence of a wealth of professional theoretical knowledge on the basis of the instrument can be contacted to help students to achieve the goal of learning while practicing, even if the students are facing a certain amount of problems in the practice, but also in the software to the professional advice, the software is a very useful way of learning. Even if students face certain problems in practice, they can ask for advice from professionals in the software, which in turn reduces the difficulty of learning music theory. When learning and practising new repertoire, students can also use the software's functions to break up and slow down their practice, and then gradually increase the difficulty of their practice. The software has sufficient internal resources and many other features that not only reduce the stress of learning, but also develop the students' playing skills.

#### 4.4 Creating an Online Communication Platform to Enrich Students' Practical Exercises

Higher teacher training colleges want to implement high-quality piano teaching, in the context of the Internet also need to make reasonable use of the nail group, micro letter group and other chat software advantages, require students to share their own practice piano video within a specified time, and accept teachers and other students to monitor, with the help of comments and other ways to help students understand their own in the process of playing the problems that exist, and through the joint discussion of the measures to solve the relevant problems, and ultimately promote students to improve together. Ultimately, it can promote the common progress of students (Huang & Wang, 2021). In addition, the shared learning platform should be used reasonably, in which teachers and students can upload information about piano learning and share their own experience and insights. For example, in the teaching of Autumn Whispers, after classroom teaching, teachers can upload learning resources related to classroom teaching content on the learning platform, and at the same time share other music with the



same theme with students, such as *Wedding in a Dream* and *To Alice*, etc., and encourage students to independently collect relevant information on the network and practice the music of their own interest, and then organise thematic performance competitions, in which students can choose four-handed playing according to their own preferences. Students can choose to play four-handed, ensemble, solo and other forms of performance according to their own preferences. Before the official competition, students can be encouraged to practice on the live broadcasting platform, so that the relevant scene experience becomes more realistic, and teachers, students and other viewers watching the live broadcasting can improve their own suggestions or opinions. When students choose to play in an ensemble, they should be pulled into a group to strengthen communication and discussion among students, deepen their understanding of the music, and lay a solid foundation for the successful completion of subsequent performances. In conclusion, teachers should give full play to the role of various online platforms to build more practice and learning opportunities for students, so that learning can be put to use in a real sense.

## 5. CONSTRUCTING AN EVALUATION SYSTEM FOR PIANO TEACHING REFORM IN HIGHER TEACHER TRAINING COLLEGES AND UNIVERSITIES

### 5.1 Principles of Construction.

In the process of constructing the evaluation system of piano teaching reform in higher model colleges, teachers need to follow the following principles: first, the principle of development. Teaching evaluation should take improving teachers' teaching ability and promoting students' development as an important goal, only in this way can we ensure that teachers and students actively participate in teaching evaluation and give full play to the role of teaching evaluation; second, guiding principle. Teaching evaluation should clearly point out the problems of teachers and students in teaching and learning, and give targeted optimisation suggestions, so that the evaluated can make the best use of their strengths and avoid their weaknesses, and constantly improve their overall quality; third, the principle of objectivity. Teaching evaluation not only needs to meet the requirements of science and rationality, but also must be fair and objective, to avoid the influence of private emotions on the final evaluation results, to ensure that the evaluation results are consistent with the actual situation.

## 5.2 Establishment of an Evaluation System

### 5.2.1 Adjustment of evaluation objectives

Combined with the constructive theory, it can be seen that in the whole learning process, "meaning construction" is the ultimate goal, which requires teachers to guide students to understand the connection and difference between the thing and other things, and the law and nature of the learning content. In the higher teacher training colleges and universities, piano is an important compulsory course in the major of musicology, which will be offered for 2 years under normal circumstances, and the main goal is to cultivate professional music education teachers. In the higher teacher training colleges and universities piano teaching needs to achieve artistic aesthetics, common techniques, sight-reading and shifting ability, basic playing knowledge and so on. In traditional piano teaching, in the environment of one to many per lesson and one lesson per week, many students are unable to achieve the goal of "four in one" within a limited time, and it is more difficult to achieve this goal (Dai, 2023). Students spend a lot of time practicing common techniques and basic playing knowledge, which makes students unable to achieve the goals of aesthetic and application of piano art in the learning process. After the application of Internet technology to piano teaching, the teaching work is free from the limitations of space and time, even in non-classroom time, students can obtain professional piano knowledge on the Internet platform, accumulate regular performance skills and basic knowledge, the teacher in the classroom to answer the doubts, help students overcome the weak links. In order to carry out evaluation in this situation, not only do we need to take into account the students' performance of specific works, but we should also take into full consideration the key contents of the course, clarify the relationship between the knowledge points, and ensure that the evaluation results can reflect the students' application of knowledge points.

### 5.2.2 Clarify the Content of the Evaluation

Constructive thinking suggests that students should acquire the ability to analyse and collect information on their own. In conventional piano teaching, the teaching content is presented by the textbook, which is mainly a collection of simple playing and repertoire, which is traditional, limited and static, and cannot stimulate students' curiosity and interest in learning. Piano teaching in the context of the Internet has a lot of APP software, public numbers, online live classes, microclasses, boutique classes and so on about the piano, which provides teachers and students of higher teacher training colleges and universities with interactive, cutting-edge, instantaneous, intelligent, visual and

audible, vivid, shared and fragmented knowledge resources, breaks the constraints of space and time, enables teachers and students to have a broader vision, builds a good learning environment, supplementing and extending traditional paper-based teaching materials. However, in the background of a very large number of resources, there are bound to be some low-quality performance videos, performance scores, etc. Especially in the increasingly mature self-media, there is no doubt about the existence of some low-quality performance videos. Especially in the case of the increasingly mature self-media, the profit-seeking feature is more and more obvious in the network environment, and at the same time, the sharing speed has been increased, in this process, if the teacher is not serious enough, he/she may use the unprofessional resources in teaching. Teachers should optimise themselves with the development of the times, pay full attention to the integration of piano teaching and Internet technology, focus on the teaching objectives, and choose content that meets the actual situation and is of high quality (Zhi, 2022). In the process of carrying out the evaluation of teaching reforms, the evaluation of students and the evaluation of teachers should be included. Strictly speaking, the evaluation of management should also be one of the evaluation contents. In a word, in the process of carrying out the evaluation of piano teaching reform, the relevant personnel should be based on the development of the law of piano teaching art, and based on the new standard to determine the evaluation content, mainly management level, teaching equipment, teaching conditions, teaching field, etc.; for the purpose of promoting the development of the teacher, should be set up for the evaluation of teachers' quality, teaching content, teaching methods, teaching attitudes, teaching concepts and other evaluation content; to promote the development of students perspective, the evaluation content not only needs to include the students' evaluation, but also the evaluation of teachers' evaluation (Du, 2013). From the perspective of promoting students' development, the evaluation content not only needs to include students' ability to understand and master knowledge and academic performance, but also needs to take students' humanistic cultivation and knowledge, and the ability to apply piano knowledge as important evaluation content.

#### 4.2.3 Changing the Way Evaluations are Conducted

Because the evaluation of piano teaching reform involves a very wide range of contents, it should use diversified evaluation means. In the original teaching evaluation, the evaluation method is mainly the final examination, which not only can't make the students' learning level be accurately reflected, but also can't fairly complete the measurement of the teacher's teaching level, which is

contrary to the intention of the actual evaluation work (Cao et al., 2022). In essence, the piano teaching reform in higher teacher training colleges and universities in the evaluation of the main is in the dynamic process of change in the textbook, students, teachers, internal and external comprehensive evaluation of these contents, fully consider the current teaching content and teaching purposes, organic combination of diversified evaluation methods (Zhu, 2020). In the actual evaluation process, whether it is to evaluate the quality of teachers' teaching, or to evaluate the learning effect of students, it is necessary to make full use of diversified evaluation means, that is, combining summative evaluation and developmental evaluation, combining qualitative evaluation and quantitative evaluation, combining mutual evaluation, other people's evaluation and self-evaluation, quantifying the weight of the various evaluation methods, and ultimately obtaining a comprehensive evaluation (LAI & Boriboon, 2023; Yan, 2023). By making rational use of the advantages of various evaluation methods, we can not only include students' learning and teachers' piano teaching in the scope of evaluation, but also ensure that the evaluation results are reasonable and fair enough, thus making the evaluation more effective and credible (Ding & Huang, 2022).

#### 5.2.4 Enrichment of Evaluation Subjects

In teaching evaluation, the subject of evaluation plays a central role and can have a direct impact on the objectivity and scientificity of the evaluation results. Therefore, teachers should determine the appropriate evaluation subject according to the actual evaluation situation. Therefore, when teachers carry out the evaluation of piano teaching reform, they should take themselves, other teachers of the same subject, students, supervisors, faculty leaders and so on as the evaluation subjects. Teachers and school leaders have a deeper understanding of the teaching work, and they can provide more professional evaluation results, which can effectively improve the teaching level of teachers (Li, 2021). Students are direct participants in piano teaching activities, and their learning experience is also a factor that must be considered in the education and teaching reform, so students should also be the main body of the evaluation of teaching reform. Only with a rich enough evaluation subject, can we analyse the quality of teachers' piano teaching and students' learning effect in depth, help teachers and students understand their own deficiencies, and then improve the quality of teaching and teaching effect.

## 5. CONCLUSION

In summary, under the background of the Internet, teachers in higher teacher training colleges and universities should pay attention to their own common development with the times, reform and innovate the piano teaching mode with the help of Internet technology, and make use of the advantages of Internet technology to promote the piano teaching to achieve higher and higher quality. In the actual teaching activities, teachers should develop rich and effective teaching strategies, organic combination of online and offline teaching, according to the evaluation results of continuous optimisation, only in this way can we build an efficient piano classroom.

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