

A Studying on virtual teaching guidance and methods for music in china

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Abstract

The rapid development of scientific and technological knowledge has resulted in a heightened use of information technology in educational settings across many topic areas. The rapid advancement and extensive use of virtual technologies have significantly enhanced the convenience of individuals' employment, lifestyles, and educational endeavors while also impacting traditional corporate sectors profoundly. This favourable influence has progressively acclimatised individuals to the reality of virtual life, fundamentally contributing to the genesis of the notion of the virtual. The expansion of the virtual has profoundly impacted music education. The virtual platform effectively addresses contemporary students' learning requirements, perhaps enhancing their overall efficiency in music education. Consequently, students may complete their acquisition of musical talents using the virtual platform. This presentation primarily explores the research for a virtual music instruction and guidance system that is rooted in the virtual environment. The writers provide their perspectives and propose remedies for the existing issues based on the current circumstances. This work aims to expedite the development of a virtual music teaching support system and enhance student learning efficiency.

Keywords: *Virtual music; teaching online music; music teaching method and Chinese music*

Introduction

The intersection of the virtual and music has had a significant influence on the field of music production and consumption. Virtual sharing complicates the collection of revenues from the music audience, thereby influencing the composition, performance, distribution, and other aspects of the music industry. On the other hand, from a different perspective, this impact has led to significant advancements and adjustments in the music business, which has also benefited music education (Ding, 2023). The offline teaching style has been in use for a significant amount of time in the field of music education at secondary and postsecondary institutions, with students receiving their musical education in traditional classroom settings. In recent years, the virtual has undergone rapid development, and as a result, the design of educational activities that are based on the channels provided by the virtual has become an entirely new option. In particular, against the backdrop of the virtual, the buildIn particular, the development of a new form of virtual teaching, set against the backdrop of the virtual, has the potential to introduce novel experiences into educational settings. and create the teaching mode, effectively support the growth of music teaching, and increase the efficacy of teaching activities so that music teaching may achieve better outcomes. This is necessary for music teaching in colleges and universities (Longwen, 2021).

Application of online music teaching mode

In China, the traditional method of delivering music instruction involves students singing in groups, following the instructor's platform performance. The instructional approach and techniques are too uniform, and there should be a shift towards a more diverse approach to teaching music. The uneven distribution of China's economic growth has resulted in a wide range of educational resources across its various a Virtual access could potentially address the issue of uneven distribution of educational materials, which arises in the context of uneven regional growth. The classroom's use of multimedia equipment for music education has shifted the focus from imagination to visual presentation. The use of multimedia makes the process of teaching music more intuitive and diverse. In order to thoroughly support the broad expansion

of music education, the integration of music education and the virtual may be used not only in the creation of music but also in fundamental classroom instruction. This is possible thanks to the proliferation of online learning platforms.

Additionally, the occasional development of musicians has brought art education to a quick upgrade stage. Many artists have started to post their works to new media platforms, and these high-quality works may complement and broaden school music instruction. Additionally, there has been a periodic surge in the development of musicians, leading to a rapid upgrade in art education. Information technology, thanks to advancements in virtual technology and the building of digital campuses, can direct students' musical activities inside schools. Additionally, Yang (2022) has made it possible to display all of the students' musical activities as numbers. The curriculum initiates the incorporation of the virtual into music education, successfully fostering the natural growth and combination of the virtual and music education through the use of a high-quality virtual music-sharing platform. The emergence of school music has disrupted the conventional method of teaching it and increased students' ability to listen to music in general. Students are able to better grasp and comprehend the theoretical information as they go through the process of studying music. This procedure has greatly enhanced my understanding of the acquired theoretical information. When performing musical skills is the primary focus of the curriculum in music classes, we can progressively adapt offline teaching strategies for use in online classrooms.

Music skills classes often employ one-on-one instruction due to the diverse skill levels and situations students bring to the classroom. Instructors should tailor their instruction to each student's unique set of circumstances. The offline classroom is the major learning environment for students as they go through the basic stage of the music skills learning process, with online instruction serving as a supplement. This form of instruction is the most effective in terms of its learning impact (Sun et al., 2020). The curriculum initiates the incorporation of the virtual into music education, successfully fostering the natural growth and combination of the virtual and music education through the use of a high-quality virtual music-sharing platform. The emergence of school music has disrupted the conventional method of teaching it and increased students' ability to listen to music in general. Students are able to better grasp and comprehend the theoretical information as they go through the process of studying music.

This procedure leads to a significantly enhanced comprehension of the acquired theoretical information. The curriculum of music classes, where performing musical skills is the primary focus, may gradually adapt offline teaching strategies for use in online classrooms. Music skills classes often employ one-on-one instruction due to the diverse skill levels and situations students bring to the classroom. Instructors should tailor their instruction to each student's unique set of circumstances. The offline classroom is the major learning environment for students as they go through the basic stage of the music skills learning process, with online instruction serving as a supplement. This form of instruction is the most effective in terms of its learning impact (Chen, 2022). Also, College music construction When implementing the virtual mode of teaching, we need to grasp the relevant key points and then use reasonable measures to achieve the corresponding goals.

Virtual music learning platform

Virtual mode construction begins with the establishment of an online learning platform, which serves as the foundation for virtual education. When it comes to the construction of an online learning platform, there are two options from which to choose. The first option is to use an already established virtual learning platform, which requires the creation of a unique online learning account and the subsequent configuration of the appropriate online learning function. For instance, music instructors can directly utilize the pre-existing "Yi School" and "Rain Classroom" as ready-made online teaching platforms. The second method involves separately developing a more functional online learning platform that considers the requirements of genuine music instruction. Because of how music education has evolved over time in high schools, colleges, and universities, selecting the second channel seems to make the most sense. The development of a virtual teaching mode necessitates not only the application of philosophy but also the realization of an extended period of application.

Consequently, given the current demands on music professionals in the classroom, it has become increasingly urgent to establish a professional online learning platform that can support the sustained growth of music education (Liu et al., 2021).

Study through the Virtual platform

The creation of an online learning platform necessitates its use for student instruction. Specifically, we can focus on extracurricular learning links like pre-class previews, after-class exercises, knowledge reviews, and similar activities. We can then transfer these learning links to the online platform, allowing teachers to organize and manage them. This can help strengthen students' extracurricular learning and enable the extension of teaching activities. Firstly, before the classroom teaching begins, instructors can base their lessons on the music teaching materials from the teaching knowledge section, refine their knowledge points, create a pre-class preview task, and then release the preview task on the web platform. This can all take place before the classroom teaching begins. After that, the students will need to go on to the online platform, complete the preview work before class, and then submit the results of the preview. Second, the online platform may release certain theoretical activities after the classroom instruction. This allows students to do the after-class exercises on the online platform instead of having to bring their homework home. After the end of the knowledge teaching for each area, it is required to write a solid summary of the section of music knowledge based on the thinking map, develop the knowledge system, upload it to the online platform, and distribute it to the students so that they may study it after class.

Additionally, you can create open learning activities on the online platform to group students for topic study and debate, thereby enhancing the learning impact (Ping, 2020).

Teaching forms based through virtual

In addition to building a virtual learning platform to guide students through the process of online learning, we also need to innovate our virtual channel-based teaching activities to enhance the effectiveness of music instruction. To begin, we will use new forms of media in an effort to obtain extracurricular musical resources. The virtual platform, a new media platform, offers a vast array of musical content. B-Station, TB-Station, TikTok, and several other platforms offer substantial amounts of musical content. Educators can collect relevant resources from various channels and incorporate them into their classroom instruction. Second, using the model of the Virtual to aid in the process of instructing students in music as a result of recent advancements in music education in colleges and universities, a number of these institutions, particularly those with robust music departments, have developed high-quality model programs. Students can present and receive instruction based on these high-quality models during the actual music instruction process. Live instruction One option to consider when using virtual instruction is live instruction. Educational institutions can collaborate and educate one another through live classes, providing a beneficial learning environment for their respective student bodies.

Keep offline teaching and online learning unified

When building the virtual model, it's crucial to maintain the coherence of offline teaching and online learning, ensuring their mutual development. In addition, it is necessary to make sure that both offline teaching and online learning continue to grow. Firstly, both traditional classrooms and virtual environments should adhere to the same material structure. Second, the online learning should inform traditional classroom instruction. For instance, educators may sign in to the online platform in advance of the beginning of the instructional activity. Understand the students' previews, and based on what the students said in their previews, conduct offline teaching with the goal of promoting students' mastery of the material. In the third place, bridge the gap between online learning and offline teaching by emphasizing the need for suitable extensions, expanding learning content, and delving deeper into the material.

Virtual learning platform based on the virtual

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already established virtual learning platform, which requires the creation of a unique online learning account and the subsequent configuration of the appropriate online learning function.

Guide students to study through the virtual platform

It is possible for us to pay attention to the important links of extracurricular learning, such as pre-class previews, after-class exercises, knowledge reviews, and other similar activities, and then transfer these learning links to an online platform, where they can be organised and managed by teachers through the online platform. This can help strengthen students' extracurricular learning and extend teaching activities.

Innovative teaching forms based through virtual channels

When it comes to the actual process of instructing students in music, these high-quality models may be presented to students and instructed based on these model materials. Live instruction is an option that should be considered while using the Virtual. To provide a more beneficial learning environment for their respective student bodies, educational institutions may collaborate and educate one another through live classes.

Keep offline teaching and online learning unified

Recognise the students' preview, according to the students' mouth, offline teaching, focusing on relevant knowledge, promotes student's mastery, online learning to offline teaching, on the basis of offline teaching, appropriate extension, expands learning content, deepens the students' mastery of music knowledge, and improves the students' learning effect. In order to make the system more stable, it may be partitioned into three layers, each of which is responsible for the upkeep and expansion of the system.

Data layer and logic layer

The data layer enables the system to access data through an interface and perform various operations on the stored data on the database platform. In addition to the objects stored in the database, the system's data also encompasses user passwords. Utilise JDBC in order to run the database, which includes doing tasks such as querying the data included within the database, uploading information that is pertinent to the database, and updating the data for the very first time. Additionally, the system's database stores fundamental information about students, along with pertinent information and a question bank related to their academic achievements. The business logic layer consists of: This layer allows for the definition of the system's business logic and the formulation of business rules. In a general sense, there are two methods by which one might store business logic definitions. First, an XML file, then a database table. The information setting may be completed in the reading and writing of the data table record, and the logic can be set and read in the JavaBean to give information on the processing result. Moreover, the reading and writing of the data table record can complete the information setting (Wang, 2021).

Functional performance

The functional performance layer may connect the user interface and the system. When appropriate, the system may send the information that the user's operating system enters or selects to the server. The server's calculation process will then be visible. This will display not only the prompts for operation results, but also the outcomes of any data queries, among other things. The functional authority layer is home to many different operation pages, including those for basic information management, the assignment of homework, practice management outcomes, communication facilities management, and many more. The structure of the system is hierarchical, which makes it more extensible. Customers can change the system's business logic at any time to meet their needs, and the process for doing so is relatively simple. Expanding the business layer or making modifications to the business based on the original data may eliminate the need to alter the front-end business or amend the business logic. This results in a significant reduction in the expenses associated with maintaining the system. The system's physical structure links the user terminals, and the physical network in turn connects them. Each user may connect to the mobile communication network by using a mobile phone in order to obtain background information, or they can use a desktop computer. Students are able to finish their music education online using their mobile phones (Lu et al., 2019).

System detailed design

The aforementioned study has led us to the conclusion that user information management includes not only queries and statistics, but also other essential tasks like maintenance. In practice, maintenance makes it possible for users to add, change, or remove procedures. Users may conduct a search for the information they need by inputting keywords, which is known as a user query. When it comes to user statistics, each individual user is responsible for classifying their own information inside the database by inputting the criteria they wish to count. This illustrates the comprehensive framework of the user information management class. The DB class facilitates the database connection in the user information management category, while the data set enables operations like adding, modifying, or deleting information in the database. Typically, users can add, remove, or modify their information to perform statistical work. Additionally, there are predetermined categories for both user information query operations and user statistics activities. Customers' varying requirements may be satisfied by products in a variety of areas (Zhang et al., 2018).

The music job management module not only features a music job inquiry, but it also links to various actions like uploading music jobs and performing maintenance. The module outlines the structure of the music homework management class. This module includes resource files designed to simplify the management of students' music assignments for instructors. Performing activities such as querying, adding, saving, and deleting data in this module is quite easy. Because music assignments involve a variety of data types, including audio, video, and text, the method for opening each page should vary. The file command will display the file, and the "upload" command will upload it.

When designing the categorization system, resources have to be considered entities. To start, you must provide the resource's number. You have the option of uploading the resource file, checking to see whether it is being shown, and then deleting the material that is found inside the resource file. Display and command are both viable options for doing this. Students have the option to do music activities using their mobile phones. The system can enhance the effectiveness of the exercises by generating sounds using mobile phones. The system can generate these sounds through accompaniment questions and examples of popular pieces. In order to cater to the requirements of both students and their parents, an extra-grade import class has also been established. Students' private information is kept secret and is also recorded. Keep track of students' operational practices via their works; utilize student IDs to identify students; and use work IDs to identify students' projects (Yan, 2022).

Some of you may complete the processing, addition, and storage of works by using commands like del, add, save, and so on. You can also query, import, and delete by using search, add, and delete, respectively. An indication is associated with each individual component. Not only does the student's basic score appear on the score, but the student's practice score shows as well. You may get information on the practice score by clicking on the student logo. If you choose the student classification, you can access both the student's practice questions and the practice outcomes. Some of the ways in which additional categorization qualities may be used have already been detailed, and this paragraph is not going to go into any more detail about those approaches. The online classroom not only allows for online contact between students and professors but also incorporates various types of online questioning, resource browsing, and homework assignments (Tan, 2020).

Students are able to better understand and satisfy their needs through online courses. After establishing their objectives, students are free to access the system at any moment for further testing and education. During the learning process, you can utilize the available tools within the module to take notes, express your comments, and raise questions. Later, you can debate

these topics for further learning. The system will immediately begin recording the outcomes of the pupils' study period for the instructors to use in later evaluations. The virtual learning environment is structured.

This section delves into topics like the online classroom learning log, learning reflection, and the management of student information (He, 2021). Whenever it is time for students to complete their music homework in online classrooms, teachers have the ability to access various resources in order to obtain the students' homework. Students, meanwhile, have the ability to access various resources in order to obtain the most recent assignments, begin self-learning, and record their progress through the use of a learning logo, including the time they began learning and the time it took them to finish the job. At this point, the method of teaching music has already gained widespread acceptance. The platform allows for the distribution of some instructional information and dynamics. The technology is capable of sending a push notification with the dynamics that the instructor just published to all of the students' mobile phones. In light of prior experiences, the information provided by the system and the instructional notifications are actually quite comparable. The system consists of two components: fundamental information and attachment information. To notify and maintain this information, the system just needs to create a large category. Class design may serve as a useful lens through which to see and comprehend the system function design process. The structure of the information notification class is comprehensive. Public information may have new fundamental information added to it or have existing information altered, and publicity encompasses both information and communication (Li et al., 2017).

This will be able to get the information you want by obtaining publicity for it and displaying it via the system. Querying, storing, erasing, and adding corporate information are only some of the things that fall within this category's purview. Once we've sent all the information, we can promptly disseminate it, allow the recipient to inquire, explore, and store it, and allow the message's notifier and publisher to promptly delete it. There is also a category called notice that falls within the information announcement category. The inherited information triggers the aforementioned actions, which are based on the daily notification information. Execute actions on connected files, such as requesting information, viewing it, uploading it, and so on, using the file manager. Some examples of these activities include Li et al. (2017).

System database design

Understand the purpose of the system by conducting a system analysis and designing it. Since a system requires a database, it is crucial to design a comprehensive database for the system. In this paragraph, we will gain an understanding of the database's architecture by first creating a mental model of the system database, followed by a description of its physical structure. Three distinct components work together to form the database. This section's conceptual model diagram of the database readily describes the design philosophy and logic of the system. When discussing the physical layout of the database, the core table is the component that is referenced. The procedure to physically construct the database heavily relies on the design of the database table. It won't be possible to improve the database's physical architecture until the data table's structure is complete (Wang, 2022).

Attachment information is an attachment that either explains or gathers the primary information, as the name of the attachment suggests. The system often saves the attached information as a file. The attachment information table includes the title, category, and address of the saved document. The daily notification information table contains a variety of information, some of which pertains to daily notifications. This table encompasses essential information about alerts, explorable information, and more. The public information table on homework is capable of storing, in a timely manner, the information regarding homework that the instructor publishes. It provides details on fundamental operations, such as the instructor's

assigned homework, browsing information, and a variety of other subjects. The development of the system is carried out on Windows 7; the integrated development environment (IDE) that is used is MyEclipse 6.0; the programming language that is utilised is Java; and the web client employs HTML5 and JavaScript. The client runs Android versions higher than 4.0 and uses the ADT Bundle for client development under MyEclipse. The author posits that the dual roles of student and teacher are capable of managing music homework and monitoring its usage, as they replicate the classroom dynamics of students and teachers (Prahl et al., 2021).

Stress test

During the test, select a few frequently used system functions, simulate user activity, and set the virtual user count to 4,000, 5,000, or 6,000, based on the number of employees in each system department and the application system. Visit in various test situations. You may see the outcomes of the stress test by using a load runner. The test ultimately determines the winner based on the reaction time. This refers to the instant after the user submits a request, the system receives it, and then returns it to the user. Even if the number of users exceeds 6,000, the response time of the system will not exceed three seconds. Because people often request more complicated data, the author believes that the response time can meet the system's requirements. After conducting tests on this component, the author has concluded that the reaction time of the system while carrying out sophisticated data services must not exceed 9 seconds (Xie et al., 2018).

Strengthening the teaching atmosphere

Most of the time, individuals who get their education online are unable to have an immersive experience. This primarily stems from the lack of personalization in online education and the reduced interaction between professors and students. The use of big data in online education allows for a better understanding of students' learning habits, the accumulation of some data on their learning process, and an evaluation of their level of course mastery. Students can interact with professors and each other online and ask questions. Because of this, it will be much simpler for pupils to concentrate on instruction, which will significantly improve the learning impact it has on them. Voice recognition and facial recognition are only two examples of the kinds of artificial intelligence technology that might make classroom interaction between students and instructors easier. Firstly, big data can precisely document the duration it takes for students to log into their accounts, absorb knowledge points, watch videos, respond to class exercises, and the percentage of correctly answered exercises.

Educators may use these data for analysis and comparison with kids who excel. Educators can use the degree of comprehension of knowledge points to gauge the gap between the students' current learning condition and their self-set objectives (Hong, 2021).

The following educational procedure can enhance pupils' capacity to assimilate new information, and narrow the existing divide to achieve the purpose of education. Teachers can also modify lesson plans based on the input they receive from students. They will be able to obtain a focused and personalized education, which will actually increase the pertinence of their teaching when they have mastered the demands of their pupils. Another benefit of big data is that it can capture students' questions while learning after inserting them into the backdrop. Teachers may focus their attention on the questions that the majority of students ask. Traditional forms of education have several drawbacks, but this method compensates for them to a large extent while also allowing professors to respond immediately to any queries pupils may have. Students with similar questions can discuss them and exchange expert responses to make learning more enjoyable (D'Agostino et al., 2021).

Using them allows for a better understanding of students' current learning state, enhances the overall student experience, and contributes to the development of personalised instructional methods. Technological advancements in face recognition enable teachers to gain insights into their students' knowledge points by observing their students' facial expressions in real time. After the instructor has received information about the pupils' performance, they are in a position to make timely adjustments to the lesson plan and teaching techniques in order to provide personalized instruction. The use of technology like speech recognition and language

comprehension, which fall under the umbrella of big data, may bring the experience of online education closer to that of a traditional classroom setting. Students have the opportunity to broaden their comprehension of the material being taught in online classes by participating in either question-and-answer sessions or class discussions. Voice recognition technology for large data sets allows teachers to pose queries to their students. If the voice input recognition software delivers feedback to the students based on their own answers, it will genuinely achieve the same level of involvement as traditional classroom teaching (Tripathi et al., 2021).

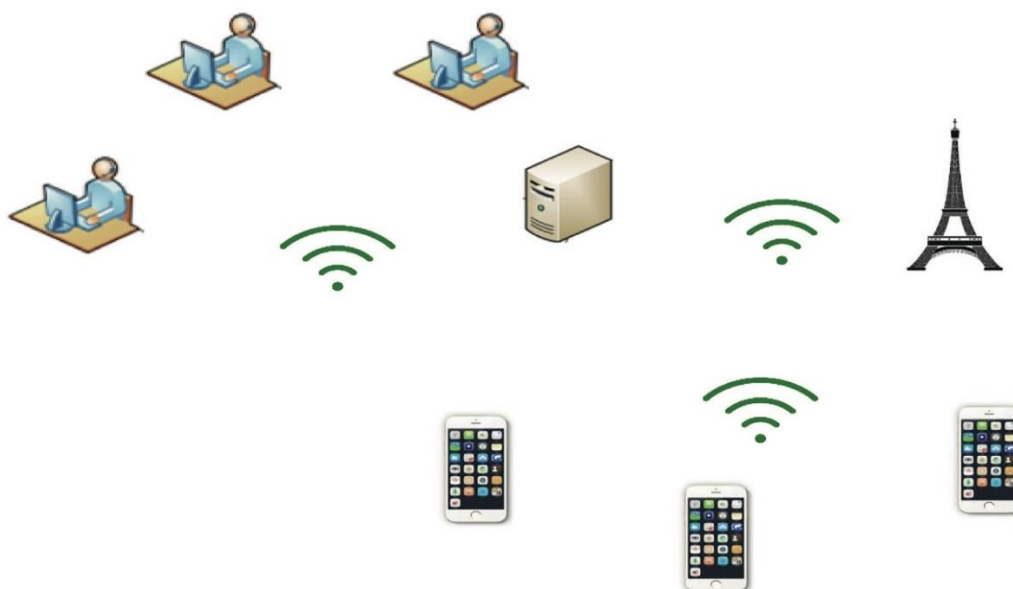
Reshaping virtual teaching system

There are a few negative aspects that come along with getting an education on the Virtual. The idea of learning by doing little chunks at a time is getting more and more attention in online educational contexts. Because students are capable of retaining a considerable quantity of knowledge, it may be difficult to choose courses that are a good fit for their current level of expertise. And if big data and artificial intelligence are used in the teaching process, science and technology may be used to analyse the learning interests and habits of students as well as record their mastery of a specific information point while they are in the process of learning that knowledge point. The data collected on the pupils' academic progress could offer an accurate picture of their prerequisites. It is possible for the approach to put students in the courses that are most suitable to them since it takes into consideration both the students' current level of academic competency and their interests. Students not only do not need to worry about which courses to attend, but they also have the chance to expand their knowledge. As a consequence of this, after sufficient amounts of time have passed, society will recognise online education more, and the degree of satisfaction that students feel about the programmes they are enrolled in will increase (Fan, 2023).

Improving the virtual system

The problem of a low completion rate is a common issue in the world of online education. Students' lack of self-discipline is the primary contributor to this problem. The presence of students in front of computers does not indicate to teachers that those students are really in the classroom. Students often do not have a strong level of interest in the subject matter being taught, and as a result, their focus is frequently directed towards topics that do pique their interest. Therefore, despite the fact that the majority of trading platforms have introduced features such as sign-in and facial recognition to encourage students to study and finish their daily course assignments, the majority of students still do not practise it. However, the effectiveness of these techniques can only be maintained for a limited amount of time. We are able to deduce from the statistics that the percentage of students who are successful in the classes in which they are enrolled is typically rather high. Students have the misconception that while they are studying something that interests them, time passes more quickly, which has the effect of multiplying the impact. For instance, children in elementary and middle school do not have a high degree of mastery of subject knowledge and learning reasoning.

Once games are engaged, what they know becomes highly comprehensive, and they are well-founded when talking. As a result, we have reason to believe that pupils have excellent logical thinking skills and have the potential to do well academically. Students' habits and interests may be determined with the use of big data and artificial intelligence, which can then be used to pair students with courses that are more fascinating to them. Additionally, by combining the themes of interest with books, the courses will become more appealing. Because students will engage in learning with enthusiasm, the percentage of students who successfully complete the course will significantly increase (Yan, 2022).



Virtual Music Teaching

Conclusion

Both the SCMA system's multiuser identification method and AI aid in the growth of current businesses. Incorporating AI into the SCMA system's multiuser identification algorithm has the potential to both accelerate value creation and have a positive impact on future industries. One emerging field combines artificial intelligence (AI) with the SCMA system's multiuser detection algorithm to provide online music instruction. Online music lessons can't happen without the virtual and other forms of educational technology. People might get a fresh perspective on distance learning as AI advances. It suggests that people may grow increasingly open to and accepting of online education. The study centers on the education sector, specifically focusing on music instructors, students, and policymakers within the framework of remote learning programs. The functions of the music education system encompass a wide range of tasks, from basic data administration to students' musical assignments and online lessons. Online music lessons using this method are of the highest quality.

People from all walks of life are connecting with the virtual world, a sign that the virtual era has finally reached its peak in terms of the specific conditions surrounding the advancement of the times. Given that higher education represents the pinnacle of the educational system, it should be the sector that spearheads the development of online instructional approaches. In order to provide professional music instruction, teachers need to be aware of the value that the virtual brings to the classroom, eliminate any shortcomings that may exist in their current teaching methods, become virtual savvy, actively construct an online learning platform, direct students towards online education, innovate traditional in-classroom instruction, ensure that students maintain their mastery of musical knowledge, and enhance the learning effect for students. This is required in order to teach music at a professional level. Studies have demonstrated that synchronous online teaching and learning can foster professional music instruction and yield superior results.

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