

The Meaning and Path of Digital Vocal Teaching Materials Construction in Comprehensive Institutions

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Abstract

With the increasing popularity of online vocal courses, there is an urgent need for the simultaneous construction of digital teaching materials. The characteristics and advantages of digital vocal teaching materials are that they can meet the multiple needs of vocal music teaching. It enables the simultaneous presentation of the score of vocal work with its multiple versions of audio and video materials. By highly integrating the textual materials related to the background of the work and singing technique tips, it can restructure the learning content in real-time according to the learning situation of students and realize effective interaction between teachers and students. Based on the teaching practice of vocal courses in comprehensive institutions, this paper clarifies the historical development of digital teaching materials, explains the advantages and significance of digital vocal teaching materials, and analyzes the key points and difficulties of its practice path. It is expected to provide some theoretical support for the construction practice of digital teaching materials for vocal courses in comprehensive institutions in the future.

Keywords

Comprehensive institutions; Vocal courses; digital teaching materials; Fragmented learning.

1. The Urgent Need for the Construction of Digital Teaching Materials for Courses in The Post-Epidemic Era

Self-media based on the Internet and mobile terminals are constantly driving changes in traditional university vocal music teaching modes. The extension of the classroom is being expanded, and the semi-virtual form of "Internet+" is gradually penetrating into face-to-face offline physical teaching activities. With the emergence of short videos such as TikTok and Kuaishou, this virtual trend in vocal music teaching will be further extended. Since 2020, the nationwide online teaching mode due to the COVID-19 epidemic has obviously accelerated the overall process of online teaching mode. At the same time, the contradiction between the virtual properties of online teaching and traditional paper-based teaching materials has become more and more prominent. Therefore, the construction of digital teaching materials for various disciplines is particularly urgent.

Further, knowledge dissemination and sharing in the information age are highly dependent on digital media. That is to say, only digital textual information can be spread more effectively among online media. Meanwhile, self-media has strengthened the concept of fragmented time. According to the survey, the fragmented time of college students is basically occupied by social media, online short videos, online shopping, and online games. The point is that these self-media behaviors are breaking up the originally more continuous study time of school students. This leads to the fact that it has become common for college students to look at their cell phones in class. From this perspective, self-media platforms are competing with school education for students' effective learning time. If the fact that students are spending study time on their

phones is irrevocable, the ideal is for students to "browse" more in relation to their studies. This requires that the content of the course is effectively integrated into online media, and that it be in a form that students are comfortable with. Therefore, the first task for schools is to build digital curriculum materials that are adapted to the new media.

2. Development of Digital Teaching Materials for University Courses

The earliest electronic textbook was born at the University of Florida in the United States, and its form was basically an electronic version of a paper textbook placed at the back of the book. In subsequent developments, digital textbooks have added multimedia learning resources while retaining paper-based content. However, their essence is still an electronic version of paper-based textbooks, and they are still dominated by paper-based textbooks in teaching practice, which is closely related to the level of hardware popularity at that time.

Hyperlinked digital textbooks began to appear around 2000, and digital textbooks of this period implemented title navigation. Students can quickly glance at the content of the textbook by navigating through the headings. Digital textbooks at this stage also provided features such as assessment tools, online discussions, and out-of-class reading. Teachers and students can use the materials to provide feedback and evaluate the effectiveness of their teaching. The teacher also gradually changes from being the provider of knowledge and information to the role of a guide.

It is not difficult to find that the development of digital teaching materials is highly dependent on the overall development level of computer networks and media information technology. Nowadays, with the popularity of self-media smart terminals, digital textbooks are gradually integrated with computer applications. Digital teaching materials have become an important medium for interactive communication and information sharing between teachers and students, and some digital teaching materials even encourage students to participate in writing them. In recent years, big data and cloud technologies have also gradually entered the vision of digital teaching materials, and the advantages of cross-time and cross-teacher and student co-construction and sharing of digital teaching materials are gradually emerging. Especially driven by AI technology, digital textbooks have gone beyond the basic connotation of traditional textbooks, with built-in dictionaries and exercise databases that can answer students' homework questions in real-time. To a certain extent, it has become a "teaching assistant". However, the construction of digital teaching materials for vocal courses, which are more practical and specialized, is different from that of natural sciences and humanities in general and needs to be explored specifically for its special characteristics.

3. The Advantages and Significance of Building Digital Teaching Materials for Vocal Music Courses in Comprehensive Institutions

Currently, the development of digital materials varies widely across disciplines. Generally speaking, science and technology are better than the humanities, and art disciplines, including music, are lagging behind, perhaps because art has long been considered a practical subject. However, in theory, the living form of digital teaching materials should be more in line with the characteristics of a practice-oriented discipline like art. As of yet, there are no systematic digital teaching materials for vocal music courses. The most common ones are various types of vocal WeChat public accounts and applets, which have some functions of digital teaching materials to some extent. Their contents are either centered on the works, introducing their background knowledge and information of singing versions along with audio and video of classical singing versions and music scores, or on the theme of singing techniques, introducing the general problems and solutions of vocal learning. However, most of them lack systematization and

relevance and cannot be used directly as teaching materials, while their technical means can provide a reference for the construction of digital teaching materials for vocal music.

For college vocal courses, digital teaching materials are more in line with the characteristics and needs of vocal art teaching. It can effectively dovetail with the current teaching environment of online media and can improve the shortcomings of traditional teaching materials while highly integrating teaching resources. Vocal music lessons are a multi-dimensional teaching process that integrates "seeing", "hearing", and "singing". Traditional vocal music teaching materials basically refer to the text of the score of vocal works or the textual parts of the background of the works and technical difficulties tips added on top of that, but the audio-visual links cannot be presented simultaneously. Digital vocal teaching materials, on the other hand, can meet the multiple needs of vocal teaching by synchronizing the presentation of the score of vocal work with its multiple versions of audio and video materials. It highly integrates the textual information related to the background and the singing technique tips, and can reorganize the learning content in real-time according to the students' learning situation. Most importantly, it allows students to learn anytime and anywhere through smart terminals such as cell phones and enables effective interaction between teachers and students, which is undoubtedly an advantage that traditional vocal textbooks cannot match.

4. Construction Ideas of Digital Teaching Materials for Vocal Music Courses in Comprehensive Institutions

First of all, the vocal music course materials in colleges and universities should not only follow the general rules of vocal art talent training but also highlight the purposes and characteristics of vocal music talent training in different institutions and different levels of schooling. Specifically, a certain proportion of vocal works or native folk songs of regional styles and related genres should be added to the selection of repertoire in a planned manner. Secondly, digital materials for vocal music courses should break the overall progression of the syllabus set. The repertoire is divided into different levels according to the degree of technical difficulty required to complete the vocal works, and the works are formed in correspondence with targeted technical training. In this way, when a teacher encounters a certain type of technical problem with a student, he or she can directly select the corresponding repertoire for targeted practice in order to solve the student's technical problems faster and more accurately. Furthermore, on the basis of the difficulty of the pieces, they are categorized according to musical styles so that students can choose their own repertoire among pieces of the same level and similar styles according to their preferences and realities. In addition, teachers and students can expand the content of the materials by adding additional pieces at any time. Therefore, the digital vocal textbook is an open and living textbook system. Finally, digital vocal music teaching materials are a comprehensive teaching material system that integrates visual, listening, and singing in three dimensions. It should be centered on the music score, configured with texts such as background introduction of the work and hints of technical difficulties in singing, and linked with audio and video materials of different singing versions.

The main part of the vocal digital materials is the vocal repertoire. In order to meet the actual situation of vocal students in different institutions, the repertoire can be cataloged for the inaccessible institutions, and the specific approach should be relevant and operable. For example, the repertoire of their final examinations for vocal students in the past ten years can be systematically counted, and after removing duplicates, the difficulty coefficients of the repertoire can be developed after discussion to establish a repertoire library of vocal works dominated by the degree of difficulty. In order to make the teaching materials match the training objectives of music performance students in ethnic colleges and universities, vocal adaptations of different ethnic styles or ethnic folk songs can be included in the selection of the

repertoire. The Exercises section integrates the effective entries summarized by the faculty over the years in teaching practice and systematically classifies them.

The digital textbook cannot be just a digital form of the paper textbook but should fully reflect its advantages in the new media. The introduction of background knowledge, multiple versions of singing audio and video and hints and solutions to technical difficulties are added to the score of the piece, and the textbook text can be edited in temporary combinations according to each student's specific situation to achieve effective interaction between teachers and students.

5. The Practice Path of Digital Teaching Materials for Vocal Music Courses in Comprehensive Institutions

Firstly, the target audience of vocal music courses varies from one institution to another, and can be roughly divided into types of vocal music major courses, music performance singing major courses, and instrumental performance minor courses in the music education direction of musicology majors. Thus, the practical path of digital teaching materials should also vary according to different types of courses. Specific settings are made according to the overall characteristics of different course types and teaching subjects, i.e., they should not only follow the general rules of vocal art but also address the differences between different training subjects and the specificity of training goals.

Secondly, most college vocal courses are taught individually on a one-to-one basis. Each teacher has his or her own unique teaching style, approach, and method, and each student has different characteristics and problems. However, both have their general rules to follow. Therefore, the construction of digital vocal materials should be carried out in the form of a team. In addition to vocal education practitioners, the team should also include the involvement of piano art instruction, because piano accompaniment is an indispensable element of vocal art teaching. At the same time, solid research should be conducted among the general student population to understand the actual needs of the students and to be practically student-oriented. More importantly, the construction of digital teaching materials for vocal music courses involves computer network and information technology related hardware and software support. This is why it is inevitable that computer information technology professionals should be involved in the development team.

Thirdly, although the pace of vocal courses is generally set by grade level and the grade level staging of the teaching content is reflected in the syllabus, in reality, the difference in vocal singing level is not necessarily related to the grade level. Due to the difference in students' foundation and talent in professional learning, it is common for the professional level of lower-grade students to exceed that of higher-grade students. Therefore, the construction of digital materials for vocal music will no longer be grade-referenced but will be conducted in a way that the difficulty of the lessons is graded.

Fourthly, as the digital teaching materials of vocal courses in comprehensive institutions, they should not only reflect the characteristics and goals of vocal talent training in colleges and universities but also conform to the general rules of vocal art talent training, as well as meeting the learning needs of students and the teaching environment of digital media.

Fifthly, digital vocal materials should eventually be open for online use in the form of WeChat applets or specialized APPs. On the one hand, teachers can choose the content of the teaching materials through different questions from each student and temporarily edit the way the course content is combined. On the other hand, each student can combine his or her own library of teaching materials and upload and share his or her favorite works and related resources on his or her own. A more important principle is that digital teaching materials should strive to achieve the goal that students can learn professionally anytime and anywhere, making full use of fragmented time and improving learning efficiency.

6. Difficulties in the Development of Digital Vocal Teaching Materials for Colleges and Universities

First of all, the selection of teaching materials should reflect the laws of the vocal curriculum while meeting the aesthetic needs of current students. If the content and format of the materials are not popular with students, it will lead to the motivation of students to actively use digital materials for learning outside of the classroom, not to mention the effective use of fragmented time, which defeats the original purpose of digital materials construction.

Second, the construction of digital teaching materials should go hand in hand with the reform of the teaching environment and teaching methods. However, the development process of the two is often not synchronized in teaching practice. Therefore, the construction of digital teaching materials must be carried out in a phased and orderly manner and cannot be completely detached from the connection with traditional paper-based teaching materials.

In addition, digital teaching materials have to meet the teaching needs of digital media in order to be truly applied to teaching practice. Thus, the effective interface between digital teaching materials and the existing online teaching platform is one of the key issues to be solved during their construction.

Finally, digital vocal teaching materials should establish a teaching material system and evaluation criteria that break the grade boundaries and develop e-learning packages according to the actual situation of each student's professional learning. The teaching materials, such as background knowledge of works, scores, audio and video, analysis of difficult points, and targeted vocal practice, songs should be digitally integrated and shared online to realize the real-time intervention mechanism of teachers on students' learning effects.

7. Conclusion

Digital teaching materials will integrate teaching resources inside and outside the classroom in a digital form, so that the teaching space is no longer confined to the school classroom but can effectively run online and offline, and coordinate formal and informal learning time. It is more in line with the teaching rules of the music discipline and can effectively address the potential need for "audio-visual" aspects of vocal art teaching, effectively improving teaching quality. Meanwhile, digital vocal teaching materials in comprehensive institutions will provide supporting online teaching resources for online courses such as MOOC and promote the systematic construction of online classes. In the long run, digital voice teaching materials will effectively promote the deep integration of discipline construction and digital information technology, change the traditional education mode and knowledge dissemination, and drive the further development of the new digital teaching ecology of the discipline.

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