Research on the Blended Teaching Mode of Chinese Dance in Colleges and Universities in the Information Age

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Abstract. Based on the globalization of economy, politics and culture, the Ministry of education has put forward the important guidance of "Educational Informationization", and the research on the integration of modern science and technology into dance to create a new educational model is in the ascendant. This paper takes the exploration of the online and offline Chinese dance teaching mode in the middle line of higher education as the main research object, and intends to clarify the information technology and teaching theory that should be combined by the current online and offline teaching integration by combing the current situation, principles and pain points of online and offline dance teaching, so as to provide reference for the benign development of Chinese dance education and other curriculum designs involving online and offline action teaching.

Keywords: eywords are your own designated Information technology · Mixed teaching · Chinese dance teaching · Teaching principles

1 Introduction

Under the background of the "Internet +" era, the development of educational informationization has become an inevitable trend. In combination with the rapid development of China's higher dance education, exploring the integration point of traditional teaching mode and emerging technology has become an important issue that we can not avoid in the field of education. Based on the development trend of the current epidemic, it is normal for teachers and students affected by factors such as epidemic containment and prevention to carry out online teaching of dance. The traditional dance teaching mode also takes this opportunity to open up its possibility of development. At present, there have been abundant attempts to explore the online teaching modes of different disciplines. However, because dance has the unique attribute of moving, dance teachers in universities have not been able to establish sufficient high-qualified educational resources online. Therefore, the research and implementation of the online and offline hybrid teaching mode have not yet achieved mature results, There is still a long way to go to achieve the goals of "golden Courses" and "first-class undergraduate courses" in higher education advocated by the Ministry of education [1].

This paper mainly discusses the current situation, principles and pain points of the blended Chinese dance teaching mode of online and offline higher education. By consulting the documents and reports published on the government website, we can learn the necessity and "infrastructure" reserves of the current blended teaching; Based on the current research results of movement teaching theory, a questionnaire survey was conducted among 30 students majoring in dance performance at Guangdong University of foreign studies to clarify the core theory that should be paid attention to in the current blended teaching of Chinese dance; Taking the typical course "Body Rhyme of Chinese Classical Dance" in Chinese dance as the teaching design case, it provides an important reference for the exploration of the blended teaching mode.

2   The Importance and Main Methods of Blended Dance Teaching in Colleges and Universities

2.1   The Importance of Developing Blended Teaching in Dance Discipline in Colleges and Universities

With the development of educational informationization, the dance discipline in colleges and universities should also carry out research on the construction of teaching mode with other disciplines, which is the requirement for the establishment of personalized, digital, networked and lifelong education system in China, and also a must to build a learning society. According to the guidance of the Ministry of education and other eleven departments on promoting the healthy development of online education and the ten year development plan for educational inform (2011–2020), modern education should adhere to the concept of people-oriented and explore a diversified and effective way of education that adapts to the law of physical and mental development of modern people; The current educational form must actively integrate with modern science and technology, and open up the implementation space of online education and offline education; The relative people should integrate educational resources inside and outside the school to form an open, flexible and rich knowledge think tank.

The exploration of blended teaching mode in dance teaching in colleges and universities is not only the internal requirement of the modernization of dance discipline, but also the pursuit of dance discipline for the development level of other disciplines in talent training, scientific research, structural optimization and so on. The discipline of "art" was independently upgraded to a first-class discipline in 2011, and the discipline of "dance" was independently upgraded to a first-class discipline parallel to "art" in 2022.

It can be seen that the knowledge thickness and system completeness of the dance are gradually catching up with other disciplines in recent years. As an important component of higher education, dance courses in colleges and universities should actively learn from the good methods and achievements of other disciplines in blended teaching, so as to provide important theoretical and practical reference for the development of dance education at all levels.

In addition, the traditional classroom of dance has been highly dependent on the teaching mode of "oral imparting with physical instruction", and the new blended dance teaching mode is helpful to solve its teaching pain points. First, it can broaden the time
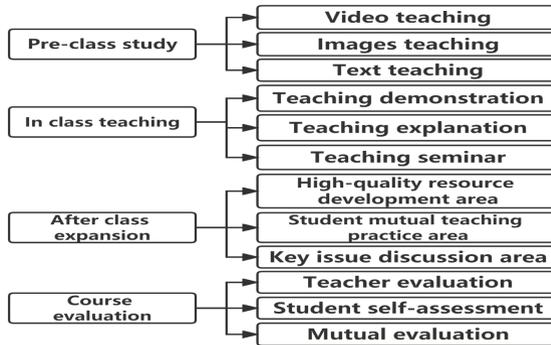
and space of teaching. With the cooperation of online teaching, students can preview the course in advance before class and review the core content with clear objectives after class, making offline teaching more efficient. Even large-scale teaching content can have good conditions for steady progress; Second, the idea of "teaching students in accordance with their aptitude" can be realized in a deeper way. Through online video playback and amplification, as well as the corresponding "key points" and "difficult points analysis", students with poor foundation can have the conditions to watch and demonstrate from a close distance and repeatedly strengthen their weaknesses; Third, a more scientific and effective evaluation system can be formed to improve the teaching effect. By adding "process evaluation" and "student mutual evaluation", the evaluation subjects can be diversified and the evaluation system can be hierarchical.

2.2 Basic Mode and Elements of Curriculum Design

Blended teaching and learning are a pair of similar concepts, both of which are more novel, efficient and rich educational models in both form and content than traditional teaching. Professor He kekang first proposed in 2003 that blended learning is the combination of the advantages of digital learning and traditional learning, is the development trend of future educational technology, is the return of contemporary educational technology theory, and is a spiral rise. According to Professor He kekang's basic concept, China's teachers belonging to educational field have carried out a lot of research on new teaching models combining online and offline. The popular blended teaching mode can basically be summed up in the form of "three stages" as pre class guidance, in class research and learning, and after class expansion. In the course design elements, it can be summed up as "four in one" of teaching objectives, teaching contents, teaching methods, and teaching evaluation [2].

The blended dance teaching mode in colleges and universities is similar to other disciplines, but it will make appropriate adjustments in the choice of information technology in view of the physical movement characteristics of dance courses. At present, compared with the traditional teaching mode, blended dance teaching in colleges and universities has added two parts: pre class guidance and after class expansion. Two online forms, MOOC and SPOC, are widely used. At present, there are many platforms for both. MOOC is based on an open online free resource platform. Its advantages are that everyone can learn, the course content is relatively mature, but its disadvantages are that the teaching content and progress cannot be adjusted with less flexibility to adapt to specific teaching groups; SPOC is generally built on the local platform in the school. Teachers can transform from knowledge imparters to organizers of teaching activities and integrators of teaching resources. The teaching content and progress can be adjusted arbitrarily according to the needs of teaching groups. It is a teaching tool for active research and exploration in the mixed dance teaching in colleges and universities.

On the basis of SPOC, the "teaching in class" link can be carried out in the form of recording and broadcasting, live broadcasting and offline physical classes according to needs. The recording and broadcasting are mainly for teachers to record teaching videos in advance and students to watch by themselves. The live broadcasting should be carried out online teaching with the help of Tencent Conference, Ding Talk, Wechat and other online platforms. Teachers and students can communicate with each other face to

Fig. 1. General model of blended dance teaching in colleges and universities.

face through video communication. The offline physical classroom has more sufficient teaching information transmission than the live broadcast "planarizartion", and is still the preferred form of dance teaching in colleges and universities.

Based on the above selection of SPOC mode, blended dance teaching in Colleges and universities can generally show good characteristics of clear objectives, rich content, diversified methods and deepened evaluation in the course design of "four in one", as shown in Fig. 1.

3 The Practical Basis of Blended Teaching of Chinese Dance in Colleges and Universities

3.1 Abundant but Undeveloped "Capital Construction" Reserves for Action Teaching

China's determination and achievements in the construction of residents' infrastructure are well-known all over the world. The construction and coverage of railways, highways, electric power and networks are among the highest in the world. It is also the rich "infrastructure" reserve in the network environment that has laid a solid practical foundation for blended dance teaching in Colleges and universities. The main "infrastructure" to achieve "blended" is teachers' and students' networking equipment, network environment, communication perspective and online high-quality resources, which play an important role in the development of online dance classes.

At present, the networking equipment suitable for dance teaching in Colleges and universities mainly includes tablet computers, notebook computers, desktop computers, mobile phones and televisions. The quality, quantity and type of equipment have an important impact on the teaching effect. The recording pixels and frames of the equipment and the processing capacity of the system will affect the information capture quality of the image quality. The number of equipment will affect the possibility that students can continuously complete a large number of online learning. The image size and definition type of the equipment will affect the transmission of audio-visual information in Teaching. According to the 49th Statistical Report on the Development of China's Internet Network (hereinafter referred to as the Report) issued by China Internet Network
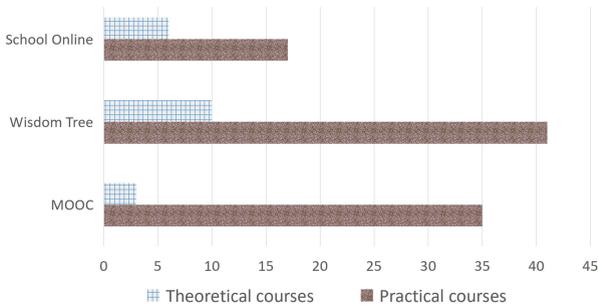
Information Center, by December 2021, the proportion of Internet users using mobile phones to access the Internet in China had reached 99.7%; 35.0%, 33.0%, 28.1% and 27.4% of the Internet users use desktop computers, laptops, TVs and tablets respectively. The results of the questionnaire survey for foreign students also showed that 96.67% of the students had two or more online learning devices. It can be seen that the online recording and broadcasting of Chinese dance in Colleges and universities and the live teaching have a good "infrastructure" of networking equipment.

The network environment mainly includes the network bandwidth of teachers and students, the degree of delay and the degree of stability, which are three important factors affecting the smoothness of the live online dance class, and also an important "infrastructure" that still needs to be improved. The network bandwidth will affect the data transfer volume per unit time. The degree of network delay will affect the synchronization of information transmission between terminals. The degree of network stability will affect the stability of classroom progress. The current level of information network construction in China has been able to meet the basic needs of China's online dance recording and broadcasting classes. According to the report, in 2021, China's information infrastructure continued to be optimized, and its supply capacity was significantly enhanced. The world's largest optical fiber and mobile broadband networks have been built, the transformation of optical fiber has been fully completed, and the development of 5G networks has accelerated. By the end of 2021, a total of 142,500,0 5G base stations have been built, and the number of 5G mobile phone users has reached 355 million. It can be seen that the "infrastructure" reserve of the current network environment has been relatively perfect, and the development of online recording and broadcasting classroom teaching has also had a relatively sufficient foundation.

However, due to the influence of the above three elements of the network environment, the current dance live broadcast classroom in Colleges and universities is still full of difficulties: the picture quality is often not high enough in the teaching process, resulting in the loss of action details in teaching; Due to the different degree of delay, it is impossible to make differentiated teaching for the details related to the dance rhythm in the teaching process; Due to the lack of stability, teachers and students sometimes fall off the line and get stuck, which will affect the normal progress of teaching.

The visual angle of video communication mainly refers to the degree to which teachers and students capture information about body movements in online classes. At present, the three-dimensional movements of dance can only be presented in two-dimensional form, which is not only a pain point that needs to be adjusted in online classes, but also one of the advantages of online classes over offline classes. In the teaching process of local movement and whole body movement, the lens can only capture visual information from three aspects of single front, side and back.

Compared with offline traditional classroom, there is a certain loss of visual information. However, this single lens can provide a good space for teachers to show the details of their actions. Only teachers need to use multiple lenses, close range and perspective, so that students do not have to worry about their position in the classroom. All students have equal perspectives on learning. If conditions permit, we can also consider using Adobe After effects, 3D stereo imaging, virtual reality (VR) and other technologies to empower teaching in the future to maximize the ability to capture information.

Fig. 2. Statistics of online dance teaching types

At present, the construction of online dance teaching resources has become a new research field for teachers in major universities. It is not only supported by free online teaching platforms, but also has a large number of online learning resources available at any time. As shown in Fig. 2, taking the three common online dance teaching platforms of Chinese University like MOOC, School Online and Wisdom Tree as examples, although the number of courses is abundant, the construction of practical courses is much higher than that of theoretical courses. Teachers should make full use of online text resource platforms such as China National Knowledge Internet and Superstar in the course of SPOC course design, and try their best to supplement the theoretical content of the courses in combination with offline text resources.

3.2   The Theory Texture of Action Teaching with Universality and Particularity

The blended dance teaching in Colleges and universities has the universal theoretical basis of the blended teaching of general disciplines. It takes the "Three-stage" method of pre class guidance, in class research and learning, and after class expansion as the basic framework of the blended teaching process, which conforms to the basic law of the universality of general teaching. However, based on the teaching concept of "student-centered", the design of dance teaching scheme should focus on the learning effect of students. It is necessary to pay more attention to the particularity of dance teaching [3]. As shown in Fig. 3, in order to achieve a better dance teaching effect, we should focus on the relevant factors that affect the learning effect, including three aspects of dance movement completion, three stages of dance movement learning and two aspects of movement learning feedback.

The three aspects of dance movement completion include: movement specification, movement image shaping, movement emotion and meaning expression. First of all, dance movement specifications should include the standardization of body movements and the degree of completion of the coordination between movements and rhythms. In the view-point of behaviorism learning theory, this is declarative and procedural knowledge that can be completed through mechanical memory. According to the action schema theory of Schmidt (1975), action learning needs to pay attention to four kinds of important information, including action perception sequence, starting point of movement, generalized action parameters or variables (direction, force, speed, etc.) and information
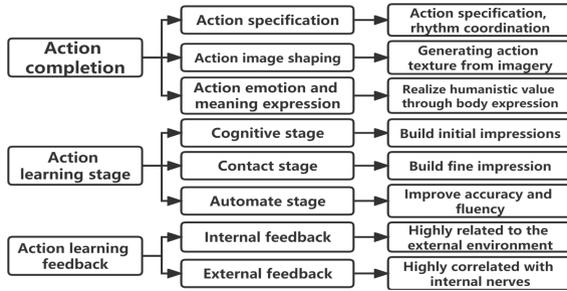
Fig. 3. Theoretical texture of mixed dance teaching in colleges and universities

feedback of action completion results. The mastery of these four kinds of information and action rhythm is more suitable for students to complete independently [4]. Secondly, the image shaping of dance movement is mainly the process of forming movement by borrowing the cognition of existing life experience. In the perspective of cognitive and constructive learning theory, teachers should guide students to combine and integrate existing experience to realize the generation of dance movement texture [5]. Wen Rou and Zhang Mengzhen put forward the concept of "mental movement method" in the Theory and Practice of Physical and Mental Training of Dancers.

They believe that the generation of dance movements can first establish dynamic images of general things, and then guide the nervous system and muscle movement through images, which can be used as an important reference for teachers to inspire and guide students to master movements. Finally, the expression of movement emotion and meaning is the core path for dance to realize humanistic value, and it is also an important category different from martial arts, physical education and other disciplines. The accuracy of the expression of students' body movement emotion and meaning depends on the "carving" of students' body expression by teachers, which is also an irreplaceable part of the traditional dance classroom of the form "oral and personal teaching".

According to Fitz and Posner's three-stage model of movement skills, the three stages of movement learning mainly include cognitive stage, connective stage and automatic stage. Under the "Three-stage" teaching framework, teachers should deal with the primary and secondary relations of these three stages. In the cognitive stage, it is mainly to establish a preliminary impression of dance movements, and to guide students to achieve a preliminary grasp of the above-mentioned movement specifications. In the connection stage, it is mainly to establish the fine impression of the corresponding relationship between body and mind of dance movements and the connection of dance movements. It is necessary to guide students to establish the expressive fragments of movements and improve the fluency between fragments. In the automation stage, we should mainly improve the accuracy and fluency of movements, and guide students to practice continuously on the basis of correct "movement impression", so that the high-quality presentation of movements does not need too much conscious participation, so as to complete the final stage of dance teaching.

The two aspects of movement learning feedback mainly include internal feedback and external feedback. Improving the cognition of these two principles can make the establishment of phased objectives of dance teaching more targeted. External feedback in the process of dance learning mainly means that the adjustment and memory of movements are highly related to the external environment. The feedback information generally comes from audio-visual perception, which is deeply bound to the relationship between the body and the specific environment, the relationship between movements and specific sounds, and the relationship between movements and teacher guidance; Internal feedback refers to that the adjustment and memory of actions are highly related to the muscle movement information obtained by their own internal nerve reflex. The feedback information generally comes from the linkage of various joints and muscles of the body.

4 The Scheme Design of the Blended Teaching of Chinese Dance in Colleges and Universities — Taking the Teaching of the Body Rhyme of Chinese Classical Dance as an Example

4.1 Design Basis of Teaching Plan

Teaching objectives are the direction of teaching activities and should be the main basis for the design and implementation of teaching plans. In the blended teaching of Chinese dance in Colleges and universities, they can be divided into three dimensions: knowledge objectives, ability objectives and ideological objectives. With the development of cultural globalization, the connotation and extension of the concept of "Chinese Dance" are constantly enriched, especially in the teaching method, it has found a unique development road of "cultural teaching" with Chinese characteristics. Chinese dance can cover Chinese classical dance, Chinese folk dance, Chinese ballet, Chinese contemporary dance, Chinese modern dance, etc. whether it is the inheritance and development of traditional dance or the nationalization of foreign dance, it is closely connected with Chinese history, culture, aesthetics and national psychology. It is the content that should be paid attention to in the process of realizing the teaching objectives of Chinese dance in Colleges and universities. The blended teaching course of Body Rhyme of Chinese Classical Dance (hereinafter referred to as "Body Rhyme") in Colleges and universities mainly focuses on "combined" teaching. The teaching content is divided into several teaching combinations with different training objectives by single elements, main teaching materials and branch teaching materials. Driven by the above teaching objectives, teachers lead students to complete the course learning. The following will describe the three dimensions of the teaching objectives of the course in combination with the above contents:

The knowledge goal of Chinese dance teaching in Colleges and universities is the basis of course learning, which mainly refers to students' in-depth understanding of the historical development and style characteristics of dance. College students have a high level of independent cognition and understanding ability. Therefore, during the learning process of Body Rhyme, most of the knowledge about the historical development process, teaching system, action name, action rhythm characteristics, action image meaning and other contents of Body Rhyme can be independently completed by students online.

According to the questionnaire issued to foreign students, 73% of the students believe that the combined action process and rhythm are relatively easy to master independently, while the combined action emotion and meaning are relatively difficult, so teachers need to carry out targeted teaching.

The ability goal of Chinese dance teaching in Colleges and universities is the main part of course learning, which mainly refers to the students' in-depth mastery of dance in body and mind. Although college students have a certain understanding of movement learning, emotion and thought, they are not fully capable of presenting the unique charm of dance through their bodies and transferring emotion and consciousness. Therefore, in the course of Body Rhyme, in addition to the students' initial online independent learning of movement completion, teachers need to inspire, correct and improve each student's different problems in the online and offline classes. According to the questionnaire issued to foreign students, 70% of the students think that it is difficult to master the direction, speed and strength of the action independently, because these action elements are closely related to the expression of the emotion and meaning of the combined action. It is not conducive for students to capture their complete information from the online two-dimensional perspective, and teachers' offline personalized guidance is required, The online two-dimensional perspective is easy to capture the information about the action sequence and the starting point of each action. Students can give priority to the formation of internal feedback information memory about such action elements online.

The ideological goal of Chinese dance teaching in Colleges and universities is to expand the content of course learning, which mainly means that students should obtain a deep sense of national cultural identity, pride and mission of national cultural communication through the process of dance learning. Dance is not only an art form, but also a culture. The Body Rhyme course not only requires students to master the relevant movement characteristics and expression methods physically and mentally, but also requires teachers to guide students to seek for the source of movement rules and the aesthetic basis of movements in the process of offline teaching, so as to ignite students' enthusiasm for independent learning and Research on Chinese dance.

4.2   Design of "Three Stage" Teaching Scheme

Based on the above-mentioned practice basis, action learning theory and curriculum design basis of the blended curriculum, the "Three-stage" teaching mode of pre class guidance, in class research and learning, and after class expansion of the blended teaching of Body Rhyme in Colleges and universities can be divided into different stage tasks according to the teaching needs and teaching characteristics of different stages. As shown in Table 1, the "Pan wrist" combined blended teaching in the body rhyme course can be carried out according to the above structure, and other teaching combinations can also be carried out by analogy.

The pre class guidance stage can be independently completed by students online. Students' first contact with new actions should focus on action cognition and connection, appropriately realize the automation of actions, and actively pay attention to the establishment of feedback within actions. Teachers can establish course learning modules through SPOC platform, including presentation of front and back of combined action specifications, explanation of combined music characteristics, tips on combined

Table 1. Examples of "Pan wrist" combined Blended Teaching

Teaching stages	Teaching process	Teaching objectives
Pre class guidance	① On the SPOC platform, the teacher provides a complete video of the "Pan wrist" teaching combination and a video of the key points (including music characteristics and movement difficulties) ②Students' online autonomous learning	Students preliminarily master the movement process and rhythm of the "Pan wrist" combination to form a preliminary impression of internal feedback.
In class research	① Students are divided into groups to show the online learning results of "Pan wrist" ② Teachers demonstrate and explain the details of "Pan wrist" ③ Students help each other in groups to promote their mastery of the combination of "Pan wrist"	Students will deeply master the details of the combination movement of "Pan wrist" and deeply understand the emotion and meaning of the movement.
After class expansion	① Teachers upload hyperlinks on "Pan wrist" culture, aesthetic characteristics and other contents on SPOC platform ② Teachers and students continue to discuss stage guidance and problem discussion in online group	Students comprehensively master the knowledge and skills related to the combination of "Pan wrist" and form long-term memory through continuous practice and review.

key points and detailed analysis of difficulties. The main goal students should achieve is to establish a preliminary impression of the combined content and form, especially to memorize the key action specifications in the direction of "internal feedback", so as to provide a basis for the next stage of learning.

The research and learning stage in the class mainly focuses on the offline traditional dance class. Teachers should teach students in accordance with their aptitude in the three aspects of students' combined action completion and the three stages of action learning. Teachers can carry out classroom teaching through three links: student grouping display, teacher demonstration and comment, and student mutual assistance improvement. In the first link, students present the autonomous learning achievements in the pre class guidance stage in the form of grouping "back to class", in the second link, teachers comment and guide the problems in each group in the form of "demonstration", and in the third link, they "regroup" according to the focus of students' problems, Each group carries out mutual assistance to improve learning. If the time is rich, the above three links will be recycled.

The after-school extension stage mainly focuses on online dance classes, with students' independent exploratory learning, teacher-student exchange learning, and students' mutual aid learning as the main learning methods. By uploading videos, texts, rich text links and other forms on the SPOC platform, teachers provide students with extended learning content about the course, expand students' after-school learning channels, realize students' autonomous exploratory learning, and improve students' desire for autonomous learning; Teachers establish communication platforms through Wechat and other communication tools, and teachers and students conduct after-school guidance and mutual assistance in the form of video recording and real-time video, which can realize the interactive learning between teachers and students and the mutual learning between students and students.

5   Conclusions

Chinese dance teaching in higher education has a very mature offline traditional classroom teaching mode, but there has not been sufficient systematic research on the construction of online high-quality resources, the application of information technology and the classifying of teaching principles, so that the current blended teaching development of Chinese dance still has a long way to go. This paper hopes to explore the "blended" mode. It provides the path for the breakthrough and improvement of traditional dance classroom teaching quality. Although China is currently at the forefront of the world in the "infrastructure" reserve of information technology, in order to achieve the goal that the "blended" teaching quality is better than the "traditional" teaching, we should also have a deeper understanding of the uniqueness of Chinese dance teaching in terms of movement specifications, movement image shaping, movement emotion and meaning expression, and should have a deeper integration of teaching "hardware" and theoretical "software", and teachers should also meet the teaching needs of specific courses, actively research and create online and offline blended teaching mode to improve teaching quality. Although the exploration of the blended teaching mode in this paper is mainly aimed at the Chinese dance teaching in colleges and universities, it is also hoped that this research can provide a reference for other disciplines related to action teaching.

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