Improving the Teaching Ability of Dance Major Courses

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Abstract—To improve the teaching ability of dance major courses, special attention should be paid to the following factors: the completeness of the evaluation index system (EIS), the fuzziness and uncertainty of the evaluation process, and the reliability and accuracy of the evaluation. Considering these factors, this paper summarizes the connotations and essential features of the teaching ability of dance major courses, and explores deep into the factors affecting that teaching ability. On this basis, the authors created a series of improved EISs and constructed an improved model for the evaluation of the teaching ability of dance courses, drawing on entropy method and grey theory. The proposed model enables dance teachers to improve their ability to teach dance major courses. The research results lay the theoretical and practical bases for the teaching reform in the dance major of colleges.

1   Introduction

As modern science and technology is developing rapidly and people's living standards are improving continuously, modern education is now paying more attention to the cultivation of professional talents; in the context of quality education, cultivating professional talents with high comprehensive qualities has become an important goal for modern education [1-4]. As an important part of modern education, dance teaching plays a promotive role in improving the level of quality education [5-6], and one important factor for enhancing the competitiveness of dance majors and cultivating high-level dance professionals is the teaching ability of dance major courses. However, the improvement of the teaching ability of dance courses is a complex systematic project that requires us to comprehensively consider various constraints, in particular, how to effectively evaluate and analyze the teaching ability of dance courses directly affects the improvement of the course quality [7-8]. Aiming to improve the dance teaching ability of kindergarten normal students, TANG explored methods and strategies to improve the dance teaching ability of kindergarten normal students [9]. To improve the teaching ability of dance courses, SHI analyzed from the aspects of dance teaching concept innovation, dance foundation training, choreography theory teaching, and choreography learning environment creation [10]. Serafina Pastore et al. discussed a

conceptual method of teaching practice analysis and explained it with specific cases, which provided a good reference for the improvement of dance teaching ability [11]. SHI discussed the evaluation of physical dance education with improving the teaching ability of physical dance education as the research purpose, which provided a theoretical basis for the improvement of the teaching ability of PE dance courses [12].

In regards of the complex and dynamic features of the evaluation process of the teaching ability of dance courses, as well as the fuzzy and uncertain information contained in the evaluation process, how to establish a set of evaluation systems and models suitable for improving the teaching ability of dance courses is of very important research significance. Although the existing evaluation methods have a good application background [13-16], still they have certain limitations, such as some are subjective, some require a huge amount of data for training and analysis, and some have very complicated computation processes, etc. For this reason, based on the existing research results, this paper analyzes the essential issues concerning the improvement of the teaching ability of dance courses drawing on the entropy method [17-18] and gray theory [19-20], and makes a further discussion on the improvement of the teaching ability of dance courses.

The research content of this paper includes six parts. The first part summarizes the research content of the teaching of dance courses, and summarizes and compares the existing research results. The second part discusses the connotation and essential features of the teaching ability of dance courses. The third part analyzes factors affecting the teaching ability of dance courses. The fourth part establishes a series of EISs for evaluating the teaching ability of dance courses. The fifth part gives an evaluation model for the teaching ability of dance courses. The sixth part gives the conclusions.

2 Essential Features of the Teaching Ability of Dance Courses

Compared with other technology-oriented majors or majors of applied science, the teaching of dance major is quite different; on the one hand, dance major requires a good knowledge background of professional theories and high-level professional dance literacy, which is affected by various factors such as the cultural background, growth experience, spirits and temperament, etc.; on the other hand, although dance major generally does not require special application conditions, its teaching development often has obvious features of the times and it is a dynamic and sustainable development process. Therefore, we need to probe deep into the connotation of the teaching ability of dance courses and explore its essential features, so as to improve the teaching ability of dance courses. The authors hold that, the essential features of the teaching ability of dance courses are reflected in the following aspects:

2.1 Mastery of the teaching philosophy

The teaching concept of dance courses is the epitome of dance major knowledge; therefore, it requires a good dance major background and professional dancing literacy, which reflected the teaching ideas, views, attitude and concept of the dance teach-

ers or administrators, and it is also the beliefs held by dance educators during the teaching of dance courses. Therefore, adopting advanced teaching concept, clarifying the development direction of teaching concept, and clearly expressing the teaching concept of dance courses have very important guiding significance for carrying out the teaching activities of dance courses. To this end, in terms of the mastery of the teaching concept of dance courses, it's necessary for the professional dance teachers and administrators to do a good job in aspects of teaching theory, teaching implementation, and construction of disciplines and majors, etc.; moreover, they also need to formulate reasonable teaching goals and development plans for dance courses, scientifically carry out dance teaching activities, and provide good support for cultivating high-level professional dance talents.

2.2 Construction of teaching system

Constructing a teaching system for dance courses is a complex and systematic project, which not only needs to take various factors in the implementation links of teaching activities into consideration, but also needs to pay attention to all kinds of influencing factors in aspects such as the organization of the teaching of dance courses, the preparation before class, and the feedback and communication after class. At the same time, it can be seen from the operation process of these implementation links that these links have close logical and systematic relationships, and they are complementary and can promote each other. If we can well manage the correlations among these links, it'll be helpful to the implementation of teaching tasks and the completion of teaching progress of dance courses, and it's also conductive to carrying out the teaching activities, and thereby fully reflecting the teaching ability of dance courses. Meanwhile, in terms of the cultivation process of dance major students, we need to train the students to have not only a solid theoretical knowledge background of the dance profession, but also excellent dancing skills, strong body functions, good musical sense, and higher cultural qualities, etc., and the teaching of such contents should also be included into the entire teaching system, so that the teaching system of dance courses can be more integrated, complete and consistent.

2.3 Cultivation of teaching ability

The teaching ability of dance teachers is the most basic and direct manifestation of the quality of dance courses. From the perspective of the teaching ability of dance courses, the higher the teaching ability of dance teachers, the more dance knowledge they have, and the broader their professional vision is. In student cultivation process, teachers need to teach dance knowledge, dance movements, and dance skills to students, help them expand their professional vision, cultivate their interests in dance learning, and stimulate their learning initiative. As a result, dance teachers with higher-level teaching ability tend to have better teaching performance; on the contrary, dance teachers with lower-level teaching ability can hardly achieve the expected teaching effects. Therefore, to improve the teaching effect of dance courses, we need to lay emphasis on the cultivation of the teaching ability of dance teachers.

2.4 Formulation of teaching management system

The teaching content of dance courses is diverse, including many professional contents and fields, therefore, in the teaching process of dance courses, all kinds of teaching carriers, subjects and objects are involved, and how to effectively manage the manpower, material and financial resources related to these complex teaching carriers, subjects and objects is of very important significance. In this context, a good teaching management system can guarantee the order of dance teaching activities, and point out the right direction for formulating teaching tasks and plans of dance courses. Therefore, building a sound teaching management system of dance courses is very conducive to the implementation of the teaching activities of dance courses, and the system will play an indispensable role in promoting the teaching ability of dance courses. Formulating a sound teaching management system for dance courses needs to comprehensively consider relevant factors in the teaching process of dance courses, and investigate multiple aspects such the development of the dance major, the construction of dance courses, and the employment of dance major students, etc.; in this way, we can formulate a set of dance major teaching management system that fits the actual situations of dance teaching administrators, dance teachers and dance students.

2.5 Utilization of teaching methods and teaching tools

In student cultivation process, the dance major needs to not only impart dance knowledge, but also train their students from multiple aspects such as dance skills, dance movements, musical sense, body coordination, physical function, cultural knowledge, and cognitive ability, etc., which requires the dance major to balance all the above-mentioned teaching contents. It can be seen that the teaching content of dance courses is very rich and diversified, therefore the teaching process of dance major is a very complex knowledge imparting process; moreover, with the development and advancement of modern social science and technology, intelligent technologies are playing an increasingly important role in the teaching process, and new-type teaching modes and methods are constantly and updating. If intelligent teaching tools and methods can be effectively integrated into the teaching process of dance courses, and intelligent teaching modes can be promoted, it will be more conducive to improving the teaching effect of dance courses.

3 Influencing factors of the teaching ability of dance courses

The teaching ability of dance courses has many manifestations. To effectively improve the teaching ability of dance courses, it is necessary to comprehensively consider its essential problems and find out the right strategies and ways to deal with them. Judging from the current teaching process of dance courses, the authors of this paper hold that, the factors affecting the teaching ability of dance courses are mainly reflected in the following aspects:

3.1 Insufficient understanding and attention to the teaching goals of dance courses

In the context of modern education, the teaching goals of dance major in various schools are quite different, especially in the different implementation stages of quality education, the training plans formulated by different schools for dance major are quite different as well. From the perspective of school administrators and teachers, some schools may focus on the training of dance skills, some pay more attention to the professional quality of dance students, and some emphasize the integration of professional knowledge and technical skills. From the perspective of dance students, some students concentrate on the development of the dance profession and the improvement of their own professional abilities, some lay more emphasis on the employment. All these differences have resulted in that the teaching goals and learning objectives of dance major administrators, teachers and students are not clear enough, their emphasis on the development of the teaching of dance major is insufficient, which has greatly affected the teaching ability of dance courses.

3.2 Imperfect teaching management system and dance curriculum system

The current dance teaching management system addresses more attention on the teaching performance of teachers, while ignoring the management and organization of teaching activities, such as adopting expert supervision, teacher peer review, teaching effect evaluation by students, and other methods to evaluate the teaching ability of dance courses; as for aspects such as how to regulate the teaching activities of dance courses, how to optimize the dance curriculum system, how to build a dance major teaching organization framework, how to construct an incentive mechanism for the teaching of dance courses, how to formulate learning standards of dance major students, and how to form management standards of dance education administrators, there're much rooms for further improvement. At the same time, due to the imperfectness of the dance teaching management system, different education administrators often have different teaching goals and plans, which has resulted in that the teaching goals and plans of the dance major keep changing all the time, lacking of continuity, and thus affecting the sustainable development of the dance curriculum system and the teaching ability of dance courses.

3.3 Incompetent teaching ability of professional teachers and faculties

The rich and diverse teaching content of dance courses requires that the professional dance teachers should have high-level teaching ability, which is reflected in several aspects: dance teachers should have rich theoretical knowledge reserves, solid practical skills, and broad professional vision; moreover, they should have the ability to integrate multiple disciplines, and a keen insight to seize opportunities in the professional field; at the same time, dance teaching is often carried out in certain cultural background, besides requirements in body shape, temperament, and mental state, dancers are often required to have certain cultural literacy and social experience, so

that they can better express the essence of dance. In addition, the teaching ability of dance teachers is closely related to the faculty construction of dance major, and low-level teaching ability of dance teachers will have an impact on the construction of dance teaching faculty, the dance teaching works cannot be carried out effectively, and the introduction of professional dance talents will be compromised. Further, a low-level dance teaching faculty can hardly improve the teaching ability of dance courses, and thus forming a vicious circle.

3.4 Insufficient teaching reform innovativeness and non-ideal teaching atmosphere

The formulation of the teaching goals and the imparting of teaching content generally have obvious characteristics of the times, therefore, with the continuous development and progress of modern society, the teaching goals and contents of dance courses should be adjusted continuously in accordance with the requirements of social development and the characteristics of the times. However, with the changes in the teaching goals and contents of dance courses, the corresponding teaching schemes, plans, tasks, activities and progress should be adjusted accordingly. Especially with the rapid development of modern science and technology, modern education technologies have been extensively applied in dance teaching; the traditional teaching methods, tools and contents can no longer satisfy the requirements of modern education, which urges the teaching of dance major to reform and innovate continuously, so that the teaching contents, methods and goals could better fit the requirements of the times and the teaching tools could be more intelligent, and in this way, we could create a better teaching environment for dance courses and accelerate the improvement of the teaching ability of dance courses.

3.5 Scant basic investment in dance teaching and insufficient sustainable development

Although modern education policy has begun to vigorously promote the quality-oriented education and dance education is an important part of it, the dance major is still an unheeded major compared with other engineering majors, economic majors, and science majors. In the discipline building process, the basic investment obtained by dance major is quite limited, which has a great impact on the teaching of dance courses in all aspects such as construction of software and hardware facilities, introduction of senior talents, high-level academic exchanges, as well as teaching reform and innovation, etc., and it cannot make the dance profession to develop sustainably. Therefore, basic investment in dance teaching is an important guarantee for the improvement of the quality of dance courses, and increasing basic investment in dance teaching is an important condition for enhancing the teaching ability of dance courses.

3.6 Poor teaching effect of dance courses and inactive dance learning motivation of students

Another factor that affects the teaching ability of dance courses is the learning enthusiasm and interest of dance major students. A high-level learning initiative and interest of dance students will enhance their autonomous learning ability, which is more conducive to the absorption and digestion of dance knowledge; and a low-level learning initiative and interest of dance students can only form a mechanical indoctrination teaching method, in such case, students cannot absorb the knowledge effectively, and the teaching effect of dance courses will be weakened. In addition, the classroom atmosphere of dance courses also has a direct impact on the learning enthusiasm and interest of dance students, an energetic and active teaching atmosphere can make students better accept the teaching ideas of teachers, thus striking a chord in both teachers and students, forming a kind of benign teaching interaction, and achieving good teaching effect of dance courses. Therefore, how to create a good classroom teaching atmosphere and trigger students' learning motivation is also very important for the improvement of the teaching ability of dance courses.

4 Evaluation Index Systems for the Teaching Ability of Dance Courses

4.1 Principles for evaluation index selection

To accurately analyze the teaching ability of dance courses and evaluate the teaching ability levels, the specific teaching implementation situations of dance courses need to be taken into account to construct a set of scientific, reasonable and practical evaluation system. The key to the construction of EIS (evaluation index system) of the teaching ability of dance courses is the selection of appropriate evaluation indices. As mentioned above, the teaching ability of dance courses is affected by many influencing factors, therefore the selection of evaluation indices is a complex task, for this reason, this paper holds that the selection of evaluation indices must follow some selection principles, including the principles of scientific, objective, targeted, comprehensive, and easy-to-operate. The scientific principle means that the selected evaluation indices should have clear scientific meanings; the objective principle means that the selection of evaluation indices should be based on the actual conditions, not subjective assumptions; the targeted principle means that the selected evaluation indices should target at the essential issues of the teaching ability of dance courses; the comprehensive principle means that selected evaluation indices should be able to reflect all aspects of the evaluation; and the easy-to-operate principle means that the selected evaluation indices could be quantified easily.

Under the guidance of the above evaluation index selection principles, from the four perspectives of teaching ability, teaching implementation, student learning ability cultivation and teaching effect, a few corresponding EISs have been constructed in the paper as follows:

4.2 EIS based on teaching ability

Based on the teaching ability of dance courses, an EIS was constructed to evaluate the comprehensive abilities of dance teachers during the teaching of dance courses, including three aspects: basic professional ability, teaching reform and innovation ability, and teaching integration ability. The specific content is shown in Table 1.

Table 1. EIS based on teaching ability

Sub-system	Primary index	Secondary index
EIS based on teaching ability	Basic professional ability	Profession knowledge reserve and level
		Professional reputation
		Academic expansion ability
		Teaching organization ability
	Teaching reform and innovation ability	Teaching planning ability
		Teaching innovation ability
		Teaching practicalness
		Teaching systematicness
	Teaching integration ability	Ability to integrate knowledge of multiple disciplines
		Ability to integrate theory with practice
		Ability to integrate teaching with scientific research

4.3 EIS based on teaching implementation

Based on the teaching implementation of dance courses, an EIS was constructed to evaluate the specific performance of dance teachers during the teaching implementation process of dance courses, including three aspects of teaching method, teaching process, and classroom performance. The specific content is shown in Table 2.

Table 2. EIS based on teaching implementation

Sub-system	Primary index	Secondary index
EIS based on teaching implementation	Teaching method	Richness of teaching content
		Advancement of teaching method
		Intelligence of teaching method
	Teaching process	Teaching scheme formulation
		Syllabus planning
		Implementation of teaching tasks
		Completion of teaching tasks
	Classroom performance	Teaching attitude
		Teaching interactivity
		Classroom teaching atmosphere

4.4 EIS based on student learning ability cultivation

Based on the student learning ability cultivation, an EIS was constructed to evaluate students' performance during the learning process of dance courses, including two

aspects of innovation ability cultivation and autonomous learning ability cultivation. The specific content is shown in Table 3.

Table 3. EIS based on student learning ability cultivation

Sub-system	Primary index	Secondary index
EIS based on teaching student learning ability cultivation	Innovation ability cultivation	Ability to innovate independently
		Ability to expand the profession
		Ability to think innovatively
	Autonomous learning ability cultivation	Ability to discover problems
		Ability to summarize problems
		Ability to solve problems

4.5   EIS based on teaching effect

Based on the teaching effect, an EIS was constructed to evaluate the teaching and learning results obtained by dance teachers and students, including two aspects of student performance and teacher performance. The specific content is shown in Table 4.

Table 4. EIS based on teaching effect

Sub-system	Primary index	Secondary index
EIS based on teaching effect	Student performance	Dance skills
		Dance movements
		Musical sense
		Body coordination
		Physical functions
		Pass rate of professional courses
		Excellent rate of professional courses
		Participation in professional competitions
		Winning rate of professional competitions
		Participation in social practice
		Social satisfaction
	Teacher performance	Number of education reform projects responsible
		Number of award-winning education reform projects responsible
		Professional textbook compilation
		Excellent course creation
		Number of published high-level papers concerning teaching reforms
		Number of scientific research programs responsible
		Student satisfaction
		Supervisor satisfaction
		Construction of key professional research office
		Construction of professional faculty team

5 Evaluation model of the Teaching Ability of Dance Courses

5.1 Standardization of evaluation indices

According to above analysis, there are many types of evaluation indices for the teaching ability of dance courses. To improve the accuracy and reliability of the evaluation results of the teaching ability of dance courses, these evaluation indices need to be normalized. Roughly, the evaluation indices can be divided into two categories, qualitative evaluation indices and quantitative evaluation indices, and evaluation indices of each category often include positive indices, negative indices and other forms. Through investigation and survey, statistical analysis, expert judgement and other methods, initial data of the qualitative and quantitative evaluation indices were obtained; for the convenience of discussion, it's assumed that there're n evaluation indices, the initial data of evaluation object O with respect to the j-th evaluation index is $V_j(O) = \left[v_j^a(O), v_j^b(O) \right]$, $v_j^a(O) \leq v_j^b(O)$. If the threshold interval of the j-th evaluation index is $V_j(\Omega) = \left[v_j^a(\Omega), v_j^b(\Omega) \right]$, then $v_j^a(\Omega) \leq v_j^b(\Omega)$.

If the j-th evaluation index is a positive index, the normalized data of evaluation object O with respect to the j-th evaluation index is Uj(O), namely:

$$U_j(O) = \left[u_j^a(O), u_j^b(O) \right] = \left[\frac{v_j^a(O) - v_j^a(\Omega)}{v_j^b(\Omega) - v_j^a(\Omega)}, \frac{v_j^b(O) - v_j^a(\Omega)}{v_j^b(\Omega) - v_j^a(\Omega)} \right]$$

(1)

$$u_j^a(O) \leq u_j^b(O), \ 1 \leq j \leq n$$

(2)

If the j-th evaluation index is a negative index, the normalized data of evaluation object O with respect to the j-th evaluation index is Uj(O), namely:

$$U_j(O) = \left[u_j^a(O), u_j^b(O) \right] = \left[\frac{v_j^b(\Omega) - v_j^a(O)}{v_j^b(\Omega) - v_j^a(\Omega)}, \frac{v_j^b(\Omega) - v_j^b(O)}{v_j^b(\Omega) - v_j^a(\Omega)} \right]$$

(3)

After normalization, all the evaluation indices of the teaching ability of dance courses had the same evaluation scale, therefore, the evaluation of the teaching ability of dance courses had a unified analysis standard, and the evaluation results could be more accurate and reliable.

5.2 Weights of evaluation indices

According to the information theory, the size of the information entropy value of complex system indices indicates the stability of the system, that is, it reflects the degree of the effect of system indices on the stability of the complex system [21-23]. Therefore, based on relevant principles of information theory, the evaluation of the teaching ability of dance courses can be regarded as a complex decision-making system, and the information entropy value of each evaluation index can reflect the im-

portance of this evaluation index. Then, by calculating the information entropy values of the evaluation indices, the weights of these indices could be obtained.

If there are m evaluation objects, through the above-mentioned normalization processing, the normalized data of the j-th evaluation index of the i-th evaluation object is Uij(O), that is:

$$U_{ij}(O) = \left[u_{ij}^a(O), u_{ij}^b(O) \right], \ u_{ij}^a(O) \leq u_{ij}^b(O), \ 1 \leq i \leq m, \ 1 \leq j \leq n \tag{4}$$

Then, there are:

$$P_{ij} = U_{ij}(O) / \sum_{i=1}^{m} U_{ij}(O) \tag{5}$$

$$E_j = -\frac{1}{\ln m} \sum_{i=1}^{m} \left(P_{ij} * \ln(P_{ij}) \right) \tag{6}$$

If there is Pij=0, it's defined that:

$$\lim_{P_{ij} \to 0} \left(P_{ij} * \ln P_{ij} \right) = 0 \tag{7}$$

Then, the relative weight of the j-th evaluation index of the teaching ability of dance courses is wj, namely:

$$w_j = \frac{1 - E_j}{\sum_{j=1}^{n} (1 - E_j)} \tag{8}$$

5.3 Evaluation model based on grey cluster analysis

According to the actual situations of dance course teaching ability evaluation, based on the teaching management rules and regulations of dance major, the opinions and suggestion of experts, dance education administrators and professional dance teachers were consulted to determine the evaluation levels of the teaching ability of dance courses. In view of the universality of the discussion, this paper assumed that there're K evaluation levels for the teaching ability of dance courses, and smaller K values indicate stronger teaching ability of dance courses.

Based on the grey system theory [24-26], for the j-th evaluation index of the teaching ability of dance courses, its grey-number Whitening Weight Function (WWF) with respect to the k-th k($1 \leq k \leq K$) evaluation level generally has four forms; assume the turning point of the corresponding gray-number WWFs was r_{jk}^a, r_{jk}^b, r_{jk}^c and r_{jk}^d, respectively, then the typical WWF $\vartheta_{jk}\left(\overline{U}_j(O) \right)$ of the j-th evaluation index with respect to the k-th evaluation level can be expressed as:

$$\vartheta_{jk}\left(\overline{U}_j(O)\right) = \begin{cases} 0 & \overline{U}_j(O) \le r_{jk}^a \cup \overline{U}_j(O) \ge r_{jk}^d \\ \dfrac{\overline{U}_j(O) - r_{jk}^a}{r_{jk}^b - r_{jk}^a} & \overline{U}_j(O) \subset \left[r_{jk}^a, r_{jk}^b\right] \\ \dfrac{r_{jk}^d - \overline{U}_j(O)}{r_{jk}^d - r_{jk}^c} & \overline{U}_j(O) \subset \left[r_{jk}^c, r_{jk}^d\right] \\ 1 & \overline{U}_j(O) \subset \left[r_{jk}^b, r_{jk}^c\right] \end{cases} \tag{9}$$

where, $\overline{U}_j(O) = \left(u_j^a(O) + u_j^b(O)\right)/2$.

In particular, when there are only two turning points r_{jk}^c and r_{jk}^d, $\vartheta_{jk}\left(\overline{U}_j(O)\right)$ is the lower-limit measure WWF, its calculation model is:

$$\vartheta_{jk}\left(\overline{U}_j(O)\right) = \begin{cases} 0 & \overline{U}_j(O) \ge r_{jk}^d \\ \dfrac{r_{jk}^d - \overline{U}_j(O)}{r_{jk}^d - r_{jk}^c} & \overline{U}_j(O) \subset \left[r_{jk}^c, r_{jk}^d\right] \\ 1 & \overline{U}_j(O) \le r_{jk}^c \end{cases} \tag{10}$$

When there are only three turning points r_{jk}^a, r_{jk}^b and r_{jk}^d, $\vartheta_{jk}\left(\overline{U}_j(O)\right)$ is the triangle measure WWF, and its calculation model is:

$$\vartheta_{jk}\left(\overline{U}_j(O)\right) = \begin{cases} 0 & \overline{U}_j(O) \le r_{jk}^a \cup \overline{U}_j(O) \ge r_{jk}^d \\ \dfrac{\overline{U}_j(O) - r_{jk}^a}{r_{jk}^b - r_{jk}^a} & \overline{U}_j(O) \subset \left[r_{jk}^a, r_{jk}^b\right] \\ \dfrac{r_{jk}^d - \overline{U}_j(O)}{r_{jk}^d - r_{jk}^b} & \overline{U}_j(O) \subset \left[r_{jk}^b, r_{jk}^d\right] \end{cases} \tag{11}$$

When there are only two turning points r_{jk}^a and r_{jk}^b, $\vartheta_{jk}\left(\overline{U}_j(O)\right)$ is the upper-limit measure WWF, its calculation model is:

$$\vartheta_{jk}\left(\overline{U}_j(O)\right) = \begin{cases} 0 & \overline{U}_j(O) \le r_{jk}^a \\ \dfrac{\overline{U}_j(O) - r_{jk}^a}{r_{jk}^b - r_{jk}^a} & \overline{U}_j(O) \subset \left[r_{jk}^a, r_{jk}^b\right] \\ 1 & \overline{U}_j(O) \ge r_{jk}^b \end{cases} \tag{12}$$

According to the construction process of the grey-number WWF and the divided evaluation levels of the teaching ability of dance courses, the WWF of the first evalu-

ation level should adopt the lower-limit measure WWF, and the WWF of the K-th evaluation level should adopt the upper-limit measure WWF, and the WWFs of all evaluation levels in the middle should adopt the triangle measure WWF. As a result, according to the established WWF calculation model of each evaluation level, the gray clustering coefficient $\vartheta_{jk}\left(\overline{U}_j(O)\right)$ between the j-th evaluation index and the k-th evaluation level of evaluation object O can be obtained.

According to the entropy method, the weight wj of the j-th evaluation index can be obtained, then for evaluation object O, the grey weighted correlation degree $\varphi_k\left(\overline{U}_j(O)\right)$ between all evaluation indices and the k-th evaluation level is:

$$\varphi_k\left(\overline{U}_j(O)\right) = \sum_{j=1}^{n}\left(w_j * \vartheta_{jk}\left(\overline{U}_j(O)\right)\right)$$

(13)

If there is:

$$\varphi_s\left(\overline{U}_j(O)\right) = \max_{1\leq k\leq K}\left(\varphi_k\left(\overline{U}_j(O)\right)\right), \ 1\leq s,k\leq K$$

(14)

It means that the evaluation level of evaluation object O is Level s.

6   Conclusion

This paper discussed the improvement of the teaching ability of dance courses, analyzed the connotation and essential features of the teaching ability of dance major courses, and explored factors that can influence the improvement of the teaching ability of dance courses. Then on this basis, this paper established a series of EISs and an improved model for the evaluation of the teaching ability of dance courses, which not only pointed out the direction for improving the teaching ability of dance courses, but also gave specific models for the quantitative analysis of the teaching ability of dance courses. The research of this paper provided a good reference for the analysis of the teaching ability of dance courses and the courses of other similar disciplines.

7   Acknowledgement

8   References

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