International Journal of Web-Based Learning and Teaching Technologies
Volume 19 • Issue 1

Design and Application of Dance Teaching and Evaluation System Based on Big Data

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ABSTRACT

In order to deeply analyze and evaluate the changes in the comprehensive quality of college students' sports dance, the overall idea of systematically evaluating the changes in the comprehensive quality of college students' sports dance was established. Firstly, this article uses the triangular fuzzy number method to measure the evaluation information of the evaluator's dance curriculum plan according to the evaluation indicators. Then, evaluation information from different groups and analytic hierarchy process (AHP) are used to determine the weight of each evaluation index. Finally, this article constructs a website system based on Python's Django framework. In the final system test and questionnaire survey, it was found that users were relatively satisfied with the accuracy of their evaluations and believed that the accurate performance of in-depth learning data analysis would help them save more time and effort in course selection.

KEYWORDS

Big Data, Constructivism, Dance Teaching Methods, Indicator Measurement

INTRODUCTION

"Big data" as a form of transformation and innovation in the era, like other technological forms, is bound to become a new type of social productivity and production relations inspired by new industrial thinking (Makrani et al., 2020). As the name suggests, "big data", as a storage form of data processing capability, is first and foremost a concept of resource concentration (Bamakan et al., 2021). This static category of the same attribute enters the practical field of social production and will inevitably bring about innovations in production methods (Sharma & Colonna, 2021). This kind of innovation has brought about a qualitative change in people's working thinking (Giampa & Dibitonto, 2020).

First of all, the massive amount of data has led to the reduction of information accuracy, and the change in the status and behavior of the relationship between things (Belov et al., 2021). The traditional accurate results are replaced by data that can be arranged (Nurnawati et al., 2020). That is to say, the information and data are different (Pratsri & Nilsook, 2020). The permutation and combination of categories can form different possible behaviors, which are enough to be examples of how we can change the phenomenon of things (Manan et al., 2022). Therefore, it is said that "big

DOI: 10.4018/IJWLTT.335114 *Corresponding Author

data", as an innovative productive force across the era, creates a premise of possibility, including all relevant and irrelevant information texts, and finally forms a new kind of material change through correlation docking and transformation (Wan Yan, 2020).

Therefore, in order to establish the "big data" thinking, the first thing to do is to establish a database concept, that is, the centralized behavior of human beings on the way of organizing information about things (Luo et al.,2016). This kind of relational thinking form, through the establishment of a fruitless information group, finally forms a value acquisition that constitutes relevance in the context of large-capacity, different structures and types of information, and concentrates this information (Gong, 2021). The media method "big data" summarizes four basic genes to illustrate the correlation between the productivity and production relations behind the concentration of data information and the social practice of dance continuing education and teaching thinking under the "big data" thinking (Singer et al., 2021).

Under the background of big data, students' autonomous learning ability and the development of innovative thinking have gradually received attention. However, in the traditional dance teaching mode in colleges and universities, teachers' educational activities are too single, students' main role in classroom learning is not fully demonstrated, students' learning thinking is also limited, and innovation ability cannot be effectively cultivated (Wen et al., 2018). It limits the dance ability of students and has a certain restraint effect on students' learning and development (Massalou et al., 2022).

With the in-depth development of education reform, dance education in colleges and universities has also received corresponding attention (Delgado-Maciel et al., 2020). The emergence of constructivism has promoted the reform of dance teaching in colleges and universities, providing an important driving force for the development of students' dance ability, students' autonomy, and the improvement of innovative thinking. Constructivism is a learning theory that transitions from students' behaviorism to cognitivism. Under constructivism, students need to give full play to their own subjective initiative according to their own learning experience, analyze and reshape objective things, so as to improve their own learning ability (Ismail et al., 2021). Constructivism theory realizes the pertinence and diversification of dance teaching. In dance teaching in colleges and universities, in order to improve the quality and effectiveness of teaching, teachers need to fully understand the learning characteristics of each student, and then formulate targeted teaching programs. In the design process of dance movements, we need to fully understand the age characteristics of students. Train students' innovative thinking constructivism emphasizes putting students in the active position of learning and training students' innovative spirit, that is, let students become active constructors. Therefore, this requires students to independently explore the skills of each dance action, and even innovate the dance action in the process of dance connection.

Different from the unilateral teaching of knowledge by teachers in traditional dance teaching classrooms in colleges and universities, students are the main body of classroom learning under constructivism, which can enhance the important role of students in combining their own theoretical knowledge (Us, 2021). Therefore, the application of constructivism in the dance teaching classroom in colleges and universities will help to improve the main body of students' classroom learning, give full play to the guiding role of teachers, and finally build a teaching model of teacher guidance and student body, which is conducive to the construction and development of teaching classrooms (Cladera, 2022). Firstly, based on the evaluation indicators, this paper uses the triangular fuzzy number method to measure the evaluation information of the evaluator's dance curriculum plan. Then, the weight of each evaluation index is determined using evaluation information from different groups and analytic hierarchy process. Finally, this article developed a comprehensive evaluation information investigation system for dance teaching projects and a comprehensive evaluation information management system for dance teaching projects.

STATE OF THE ART

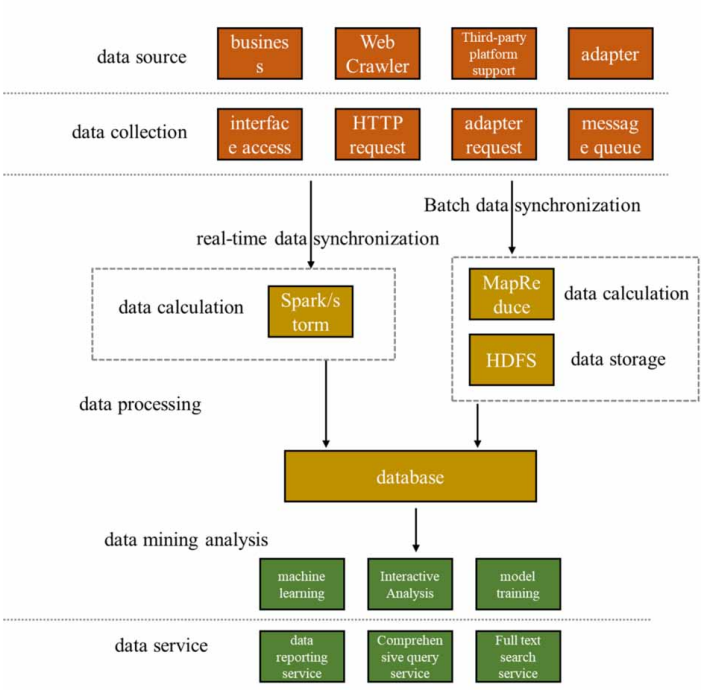
Big Data Platform

Big data platform is a network platform that provides services through content sharing, resource sharing, channel co-construction and data sharing. Big data platforms can make full use of big data resources to support innovation and development. In the era of digital economy, big data has not only become a new key production factor, but also a strong engine for economic and social development (Ko, 2020). With the development of big data technology, dance performances show a variety of styles. It shows the trend of diversification and entertainment, enriches the spiritual and cultural life of the people, and shows the social spiritual culture. The development of new media has made dance an art form widely popularized and recognized by the public. The article expounds the important role of network platforms and TV media in dance communication, as well as the entertainment and health value of dance activities, and analyzes the diversified development of dance resources in the context of big data.

There are many big data technology platforms. We can classify them from the process of big data processing, the data types of big data processing, the way of big data processing, and the way the platform deploys data (Rodionov et al., 2020). It can be divided into batch processing, real-time processing, and comprehensive processing platforms (Ma et al., 2020). Divided from the processing process-it can be divided into data storage, data mining analysis, and computing platforms designed for efficient analysis and mining. Divided from processing data types-it can be divided into technology platforms for relational data, non-relational data, semi-structured data, and mixed data processing (Liu, 2021). Divide from data deployment - can be divided into memory-based, disk-based platforms (Wu, 2021). Other division methods - cloud environment and non-cloud environment, distributed and centralized, etc.

The basic architecture diagram of the big data platform is shown in Figure 1.

Figure 1. Basic architecture diagram of big data platform



1. **Data source:** Third-party platforms, web crawlers, adapters (intermediate keys), own business data (for example, in the field of e-commerce, add-on purchases, orders, payments, etc.).
2. **Data characteristics:** Massive, complex, high-speed.

Many data from third-party platforms or web crawlers have different data types, such as: word, excel, picture, pdf, scan, video, etc. This unstructured information will enter this big data in real time platform (Shi, 2021).

3. **Data access** (data collection)

Common data collection scenarios:

Scenario 1: Obtain data from data sources that support FTP, SFTP, HTTP and other protocols.
Scenario 2: Obtain data from a business database, and support the business system after data collection and entry.
Scenario 3: The data source is transmitted through message queues such as Kafka, and data needs to be collected in real time.
Scenario 4: Adapter.

Data collection part design requirements:

Data source management and status monitoring: Timed, real-time, full, incremental and other multi-mode data collection and task monitoring.

Support offline access to data.

4. **Data processing:** Real-time processing: In the process of data synchronization, some algorithms are used to complete data calculation.

Batch processing: In the process of data synchronization, the calculation results are written into HDFS by the batch algorithm to complete the data preprocessing.

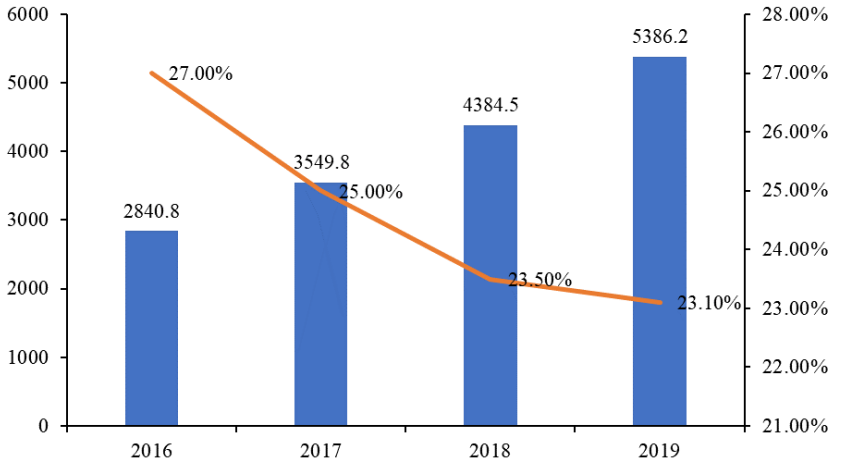
Whether it is data generated by big data accounting or written to HDFS, applications cannot read data from HDFS, so all data needs to be imported into the database.

Sometimes, enterprises will further analyze and mine data through machine learning, interactive analysis, model training, etc. This is the final data generated will be used as a valuable asset of the organization in business, management, and strategic decision-making, and give full play to the commercial value of data assets. Dance teaching will further analyze and mine data through machine learning, interactive analysis, model training, etc. This is the final data generated, which will be a valuable asset for the organization in business, management and strategic decision-making, and give full play to the value of dance teaching.

5. **Data Services:** With the development of big data, big data has been integrated into all walks of life. The main application fields are: government, medical care, e-commerce, retail, media, telecommunications, education, transportation, finance, security, insurance, weather forecasting, etc., specifically, as shown in Figure 2.

Our common data products are divided into three categories:

Figure 2. Application trends of data products



- Data products used within the enterprise.
- Commercial data products launched by enterprises for companies.
- Data products launched for C-end users.

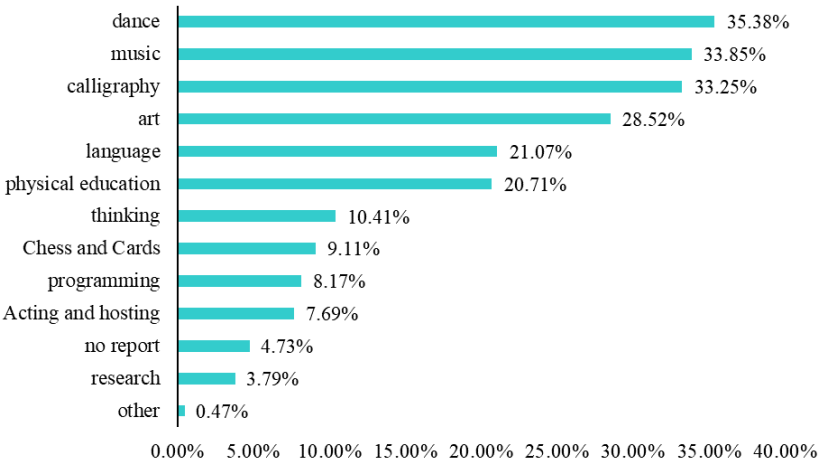
College Dance Teaching Methods Under the Background of Big Data

Teaching Mode of Situation Creation

Under the background of "Internet +", dance teaching process is more optimized, teaching content is richer, teaching methods are more scientific and diverse, and teaching structure is more reasonable. Nowadays, many links in the dance learning process need to rely on Internet technology to continuously optimize and innovate. The teaching efficiency and quality will be further improved, and the teaching advantages will be more obvious. First, there are various ways to acquire dance knowledge, that is, in the process of dance teaching, both teachers and students can acquire knowledge through a variety of Internet ways. Second, the content of dance knowledge acquisition is diversified, that is, dance types, dance movements, dance skills, etc. can be learned through the Internet, and the knowledge application function is the first. The application of dance knowledge is networked. That is, students can arrange the learned dance knowledge (actions and skills) into dance, and make videos and publish them on the Internet. Third, the application of dance knowledge is diversified, that is, students combine the dance moves they learned online with the dance moves they learned. In the process of dance teaching in traditional colleges and universities, teachers always instill dance knowledge unilaterally to students. Although students have mastered the content of dance knowledge, they cannot do dance activities independently, so students' interest in learning will be significantly reduced. For non-dance students, it is easy to choose dance projects due to their lack of knowledge of dance or their own love for dance. Most of these students do not have dance experience. Only focusing on the instillation of dance knowledge and ignoring the education of students' dance movements is likely to cause students to learn nothing in dance courses, waste students' learning time, and reduce students' interest in learning. Figure 3 shows the questionnaire of students' interest in dance in a university.

The reform of dance teaching based on constructivism under the background of big data requires college teachers to use the teaching method created by the situation to carry out educational reform,

Figure 3. A survey of students' interest in dance in a college



which can stimulate students' interest in learning and guide students to participate in the learning classroom independently. This teaching method can effectively improve the quality and efficiency of classroom teaching.

Under constructivism, teachers in colleges and universities use the teaching mode created by the situation to carry out educational classrooms. Teachers need to take the actual content of dance teaching as the basis of teaching activities, and combine the actual situation of students to formulate teaching content that is in line with students' learning conditions, so that students can easily Experience the charm of dance learning in the teaching atmosphere, which will help to enhance students' interest in learning and stimulate students' enthusiasm for participating in the classroom.

Moreover, college dance teachers need to pay attention to the important role of situational creation of teaching methods in the teaching process. Constructivism believes that teaching should make learning happen in situations similar to real situations, with the goal of solving problems encountered in real life, that is, the content of learning should choose authentic tasks. In the teaching process, teachers do not give the prepared content to students, but show the exploration process similar to the real expert solution process in class, provide the prototype of problem-solving, and guide students to explore. Dance itself has a certain complexity. Students need to master a wealth of dance skills, they need to have a strong sense of rhythm, and they need to cooperate perfectly with their partners in the performance process to show the beauty of dance.

Finally, under the teaching background of the Internet, teachers can use the teaching mode of micro-class to create a positive teaching situation for students. Through the teaching method of micro-class, students can preview the dance teaching knowledge of this class before class, so that in the actual classroom During the drill, students' movements can be more standard. After class, teachers can use the teaching mode of micro-class to guide students to review, so that students can independently consolidate the dance movements and other dance knowledge they have learned in class. Classes repeatedly watch and contact the bad dance moves mastered in the classroom, and long-term exercise will help to promote the development of students' dance moves in the direction of standardization, and to a certain extent, it can improve the students' dance level. In the context of the development of network technology, if we want to carry out dance teaching activities based on constructivism, teachers need to learn to use Internet information to create teaching methods for students that are in line with the development of the times.

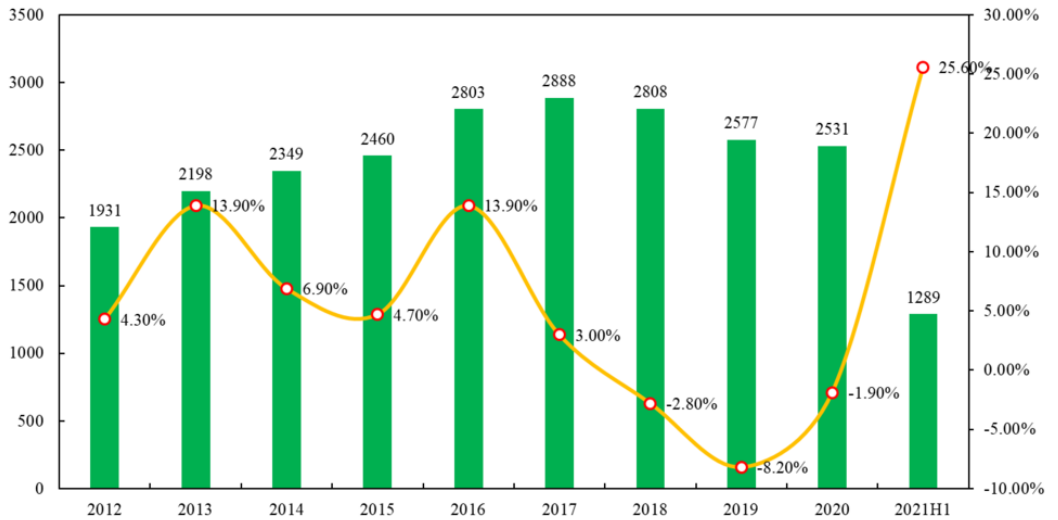
Cultivate Students' Innovative Thinking

Under the traditional dance teaching mode in colleges and universities, teachers are the center of classroom teaching, occupying the main position of the classroom, and the main position of students cannot be effectively exerted. The students passively receive the dance content and dance movements of the teacher's education, and the dance movements are also designed by the teacher and then copied by the students as they are. However, this teaching method is not conducive to the students' learning and development. In the process of dance teaching in colleges and universities, students copy the teacher's dance movements in the classroom, which makes the dance movements of all students the same, lacking new ideas, and lack of highlights in the dance performance that attract the audience, which is not conducive to the development of students' dance and is not conducive to the cultivation of students' innovative thinking.

In the teaching process, college dance teachers need to give full play to the guiding role of students, so that students can design beautiful dance moves that are more in line with their own conditions through independent exploration and combined with their own dance experience. In the teaching process, dance teachers in colleges and universities need to give full play to the dominant position of students in classroom learning, guide students to learn, give the classroom to students with confidence and boldness, and allow students to design independently (Shang, 2021). This kind of teaching method can effectively improve students' ability of self-exploration, and play an important role in promoting the cultivation of students' innovative thinking.

In the teaching process, college dance teachers need to give full play to their guiding role, guide students to master the connotation of dance movements, fully understand the feelings that each dance movement wants to express, and promote students to understand dance knowledge through their own. According to CNNIC's 18th Internet Report, there are more than 123 million netizens in China, and there are more than 788,400 websites, among which there are more than 1,000 dance-related websites. In 2000, a professional dance website was established in my country, and dozens of dance websites were built in the following years, as shown in Figure 4. In the context of big data, teachers need to learn to use the Internet to find relevant dance teaching content for students, guide students to watch and give their own opinions, guide students to carry out innovative teaching activities based on their opinions, and gradually improve students' creative thinking through practical methods.

Figure 4. Number of dance-related websites



METHODOLOGY

Currently, there are nearly a hundred evaluation methods proposed and applied by domestic and foreign scholars. The information represented by fuzzy numbers will be more consistent with the evaluator's psychological measurement. Common fuzzy numbers include binary interval fuzzy numbers, triangular fuzzy numbers, trapezoidal fuzzy numbers, and so on. Among them, triangular fuzzy number is one of the commonly used fuzzy metrics, which reflects that an attribute takes a certain value as its center of gravity and takes a value near it.

Construction of Fuzzy Evaluation Method

The concept of triangular fuzzy number was proposed by L.A. Zade, an American engineering control and system theory expert, in 1965, a professor at the University of California. If the fuzzy number a% can be determined by aL, aM, aU, and the membership function (or characteristic function) is:

$$\mu_{\tilde{a}}(x)=\begin{cases}0 & x<a^{L}\\ \dfrac{x-a^{L}}{a^{M}-a^{L}} & a^{L}<x<a^{M}\\ \dfrac{a^{U}-x}{a^{U}-a^{M}} & a^{M}<x<a^{U}\\ 0 & x\geq a^{U}\end{cases} \tag{1}$$

Then a is called a triangular fuzzy number:

$$\tilde{a}=\left(a^{L},a^{M},a^{U}\right) \tag{2}$$

a is an exact number. In the scheme evaluation, aL is the most conservative evaluation value for evaluating users, aM is the most likely evaluation value, and aU is the most optimistic evaluation value. Compared with the traditional scoring method, the advantage of this method is that triangular fuzzy numbers are introduced in the evaluator's scoring process, which makes the evaluator's scoring more reasonable and accurate.

Multi-attribute decision making using triangular fuzzy numbers to represent attribute weights and attribute values is a hot spot in fuzzy decision-making research in recent years. Accurate representation of evaluation information. In the evaluation of product design schemes, the following triangular fuzzy number algorithm is commonly used:

1. Addition:

$$\tilde{a}+\tilde{b}=\left(a^{L}+b^{L},a^{M}+b^{M},a^{U}+b^{U}\right) \tag{3}$$

2. Reciprocal:

$$\frac{1}{\tilde{a}}=\left(\frac{1}{a^{L}}+\frac{1}{a^{M}}+\frac{1}{a^{U}}\right) \tag{4}$$

3. Expected value:

$$E(\tilde{a}) = \left[(1-\lambda)a^L + a^M + \lambda a^U\right] / 2 \tag{5}$$

λThe value of λ depends on the risk attitude of the decision maker. When λ>0.5, the decision maker is said to be risk-seeking; when λ=0.5, it indicates that the decision maker is risk-neutral; when λ<0.5, it indicates that the decision maker is risk-averse.

4. Multiples:

$$\lambda \cdot \tilde{a} = \left(\lambda \cdot a^L, \lambda \cdot a^M, \lambda \cdot a^U\right) \tag{6}$$

5. Distance:

$$d(\tilde{a},\tilde{b}) = \frac{1}{3}\left[\left(a^L - b^L\right)^2 + \left(a^M - b^M\right)^2 + \left(a^U - b^U\right)^2\right]^{\frac{1}{2}} \tag{7}$$

6. Similarity:

$$s(\tilde{a},\tilde{b}) = 1 - \frac{1}{3}\left[\left|a^L - b^L\right| + \left|a^M - b^M\right| + \left|a^U - b^U\right|\right] \tag{8}$$

Normalization of Decision Matrix Sets

So far, the original triangular fuzzy number group multi-index decision-making problem has been transformed into a general multi-index decision-making problem, which can be solved by using the traditional ideal point method. That is to find the proximity of the solution iX to the ideal solution, then write:

$$T_j^* = \max_{1\le i\le m} \mu_j^t E\left(\tilde{b}_{ij}\right) \tag{9}$$

$$P_j^* = \min_{1\le i\le m} \mu_j^t E\left(\tilde{b}_{ij}\right) \tag{10}$$

Comprehensive evaluation index iL X (the proximity of the solution iX to the ideal solution):

$$L\left(X_{\mathrm{i}}\right) = \frac{d_i^-}{d_i^- + d_i^+} \tag{11}$$

in:

$$d_i^+ = \sqrt{\sum_{j=1}^{n}\left[\mu_j^t E\left(\tilde{b}_{ij}\right) - T_j^*\right]^2} \tag{12}$$

The value of L(Xi) is between 0 and 1, and the closer to 1, the better the solution. From formula (12), it is not difficult to see that what the ideal point method obtains is actually the arrangement order of several schemes. When a new scheme participates in the selection, the overall calculation needs to be re-calculated. This method is only suitable for the comparative evaluation between cases, and the comprehensive evaluation system to be constructed in this paper is to establish a case base that can be continuously expanded, and try to obtain the evaluation value of each case, that is, the independent evaluation of each case and the ideal solution. Therefore, the following calculation method is used to obtain the evaluation results of the iXth case by the c-th secondary evaluation population in the t-th primary evaluation population:

$$H_{tc}\left(X_i\right) = \sum_{j=1}^{n} \mu_j^t E\left(\tilde{b}_{ij}\right) \tag{13}$$

The evaluation index of product design scheme has the characteristics of ambiguity. In this chapter, the triangular fuzzy number method is used to process the evaluation information, and the fuzzy evaluation model of the product design scheme is constructed, and a decision-making method based on the triangular fuzzy number for the aggregation of multi-indicator evaluation opinions within and between groups is proposed. And process is a big data group decision-making method. It lays a method and technical foundation for the subsequent development of "web-based product design scheme comprehensive evaluation survey system" and "group-based product design scheme comprehensive evaluation information management system":

$$\omega_{ij}\left(e_{tc}^k\right) = \alpha w_k^j + (1-\alpha)\cdot RS_{ij}\left(e_{tc}^k\right) \tag{14}$$

This is a comprehensive coefficient that includes index weight information and scheme evaluation information, where jkw has been obtained from formula (14), α is the weight coefficient, and 0<α<1. The size of α reflects the preference of the final decision maker. The larger the α, the more the final decision-maker is inclined to the authority of the individuals in the group; the smaller the α is, the more the final decision-maker is inclined to the opinion of the whole group.

From formula (14), the evaluation opinion weights V= [v1, v2, v3, v4, v5] T of the five first-level evaluation groups can be obtained. The scoring results of each first-level evaluation group for scheme iX are as follows:

$$HHH\left(X_i\right) = \sum_{t=1}^{5} v_t HH_t\left(X_i\right) \tag{15}$$

With the development of Internet technology, Web-based information investigation has been widely used. Therefore, it is one of the hotspots of current product design method and technology research to realize large sample or even full sample information survey, improve the comprehensiveness and effectiveness of survey information, and apply it to product design scheme evaluation and decision-making.

This chapter builds a Web-based product design scheme evaluation information survey system, and applies evaluation theory, database technology, statistical analysis, and Asp technology to automatically collect and process product design scheme evaluation information.

RESULT ANALYSIS AND DISCUSSION

Overall Design Ideas

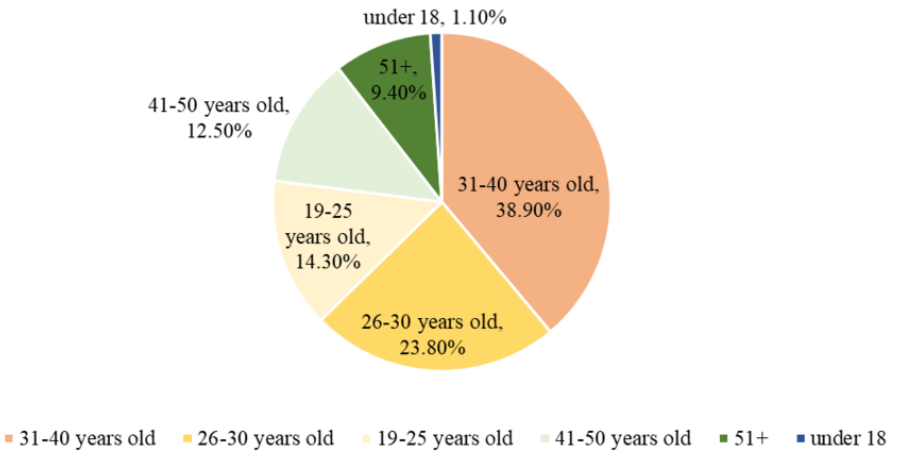
The system design meets the following principles:

1. Compatibility principle. In terms of application platform, operating environment, system connection and data format, careful scheme design and strong compatibility planning should be carried out;
2. The principle of safety. Provide systematic information security solutions.
3. The principle of openness. Provide open solutions, including resources and interfaces, as well as standardized software and hardware technologies.
4. The principle of standardization. Support SCROM, QTI and other standard systems and related design specifications.
5. The principle of reliability. The whole system (including the database and each service component) adopts the cluster architecture, and the internal load balancing mechanism is realized through the optimized algorithm to avoid single point of failure. After a large number of preliminary tests, the system can guarantee trouble-free operation for 24*7 hours. If a problem occurs, the system is guaranteed to be back up and running within two hours. Database resources are regularly (at least daily) mirrored backups.
6. The principle of ease of use. The platform fully considers the use characteristics of learners, and maintains relative cohesion when the function jumps. For student users, fully consider their learning needs and reduce their operational complexity for completing learning. For some function buttons (such as join a course, start learning), the design is eye-catching and easy for users to click. The styles of various browsing modes (PC, mobile phone) are roughly the same, the layout is roughly the same, and the operation and usage are consistent, ensuring smooth switching of users when using the same function on different terminals.

Preliminary Investigation and Analysis

Many scholars point out that there are still a series of problems in the domestic MOOC platform, such as low student participation, poor learning outcomes, high dropout rates, and some room for improvement in teacher strength and teaching methods, as shown in Figure 5. How to evaluate the

Figure 5. Data analysis of online dance learning industry



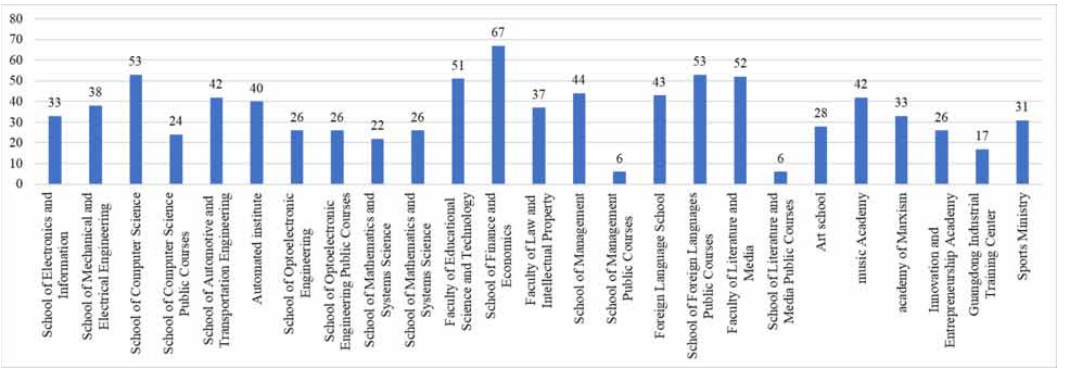
effectiveness of curriculum implementation and the quality of online courses is also a major challenge at present.

In addition, at present, there are three main methods to evaluate the quality of MOOC courses in dance teaching: (1) evaluate the teaching quality of MOOC through questionnaires, interviews with teachers and students of the course, feedback from colleges and universities, etc.; (2) Through the cooperation of experts, dance teachers and even students, build the MOOC teaching quality evaluation system, and evaluate the MOOC teaching quality by setting different evaluation indicators and assigning corresponding scores; (3) Teachers directly obtain the real scores of students' tests and online tests to evaluate the teaching effect. It can be seen that the quantitative method of the current curriculum standard is relatively subjective. Compared with questionnaires / interviews / proficiency tests, perhaps thousands of comment data on the Internet can better reflect students' real learning feelings.

Finally, at present, the homogeneity of courses on different platforms and even within the same platform is serious. Learners often do not know how to search for specific courses. They tend to mention the five-star rating of dance courses and some comments that need to be judged, which takes a long time and may waste a lot of energy. This research will eventually form a preliminary application. It is hoped that the test results can provide help and reference for learners to choose dance courses and teachers in the future, without having to spend a lot of time and energy looking for suitable courses before school.

Ordinary users of Chinese University Dance Teaching MOOC can log in to view all course comment areas. In addition, only students who sign up for the course are eligible to comment on the course, which ensures the reliability of the data source and lays the foundation for the feasibility of this study. In order to study these courses in detail, python crawler technology was used to obtain all 592 English / computer / Advanced Mathematics / ideological and political courses in Chinese University MOOC. As can be seen from Figure 6, the average number of dance course participants is between 6000-80000. Select dance courses that are highly professional / have too few students / have just started a week, such as "software engineering English", and find that the number of comments is concentrated at about 600. Take 310000 comments for analysis. These user comments contain rich learner feedback information, which needs to be mined and analyzed. This also laid the foundation of data sources for the feasibility of this study.

Figure 6. Number of students participating in dance courses for college students



Demand Analysis

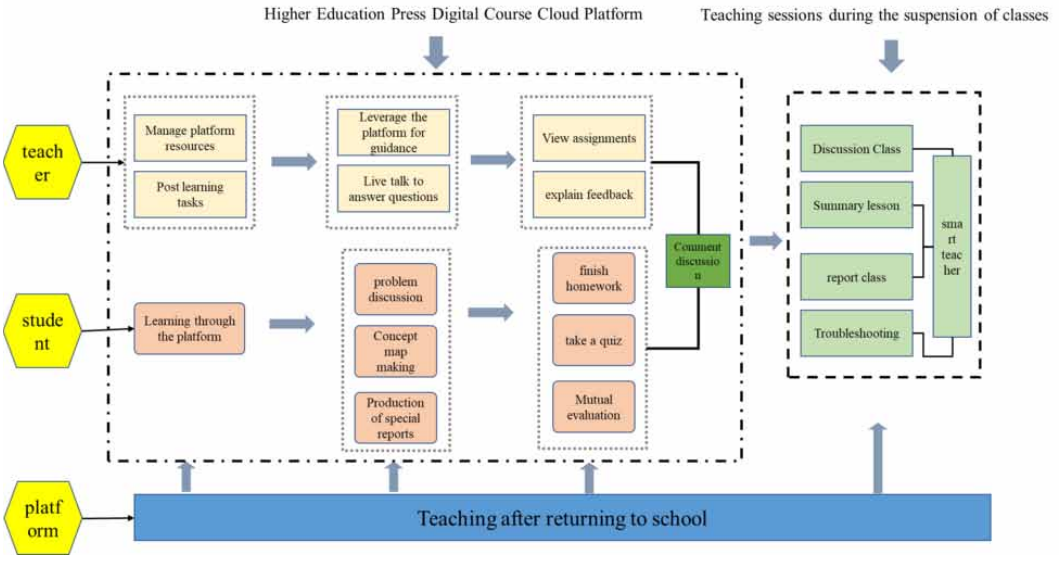
Figure 7 shows the concept of online course design.

1. Fully demonstrate the construction of the school dance curriculum. On the platform, the school's dance curriculum construction resources are displayed in an all-round way, promoting the co-construction and sharing of high-quality curriculum resources, helping the school to build a high-quality dance teaching team, providing schools with effective dance curriculum production tools, and accelerating the transformation of dance teaching concepts.
2. Establish a large-scale dance teaching open and sharing platform. The sharing of course resources between teachers in the school allows students to enjoy more high-quality teaching resources. The sharing of possible content between teachers and students, including problem discussions, mid-term and final exams, and mutual assessment of homework, is integrated with course learning. It is beneficial for students to develop the potential of autonomous learning, and also provides a shortcut for the exchange and sharing of curriculum resources between schools.

The knowledge agent and the interaction agent constitute the MOOCS-oriented learning and management system architecture. The main function of the interactive agent element is to create a unified platform for learners to participate in MOOCS subject discussion and course activities, and to promote the majority of learners to join the theoretical learning of the course by means of the interactive agent element.

In this framework, the learner transmits the behavior to the evaluation element, and at the same time submits the learning parameters to the teaching agent; the evaluation element is mainly based on the historical information of the learner saved in the learner's record data to effectively carry out the learning parameters provided by the learner; the teaching agent finds the resources needed by learners in the learning resource database according to the historical information and evaluation information, and provides learning resources for learners by means of the delivery of components and the platform of multimedia. Specifically, the dance theory "MOOC" teaching platform includes

Figure 7. Design concept of online dance courses



modules for course data management, course management, learning management, video playback management, system management, and open interactive communication. The function list of each part is shown in Figure 8.

Interface Design and Implementation of Evaluation Information Management System

Enter the evaluation information management system, first enter the dance curriculum design crowd evaluation data processing interface (as shown in Figure 9). This interface includes the preprocessing of data tables 0101~0105, the calculation of the weights of the second-level evaluation groups, the use of fuzzy evaluation method to solve the opinion aggregation within the second-level evaluation group, and the opinion aggregation between the second-level evaluation groups. Obtain the evaluation results of the product design crowd on the five schemes.

Figure 8. Analysis of dance theory online teaching platform

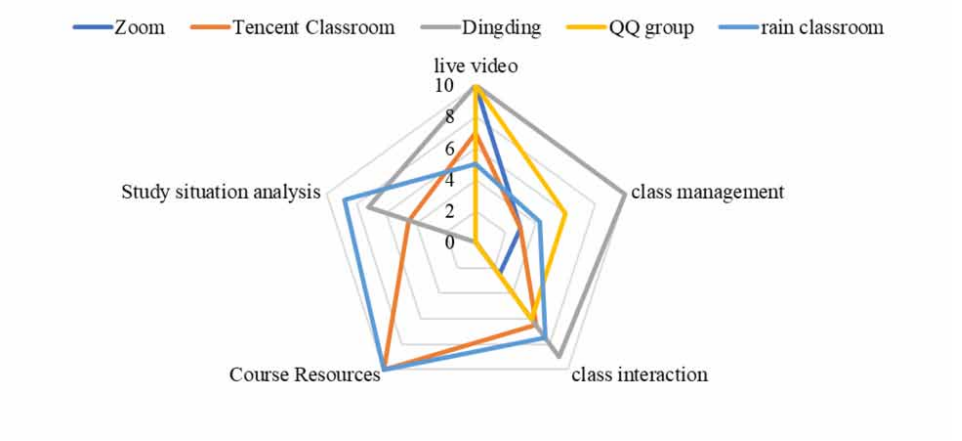
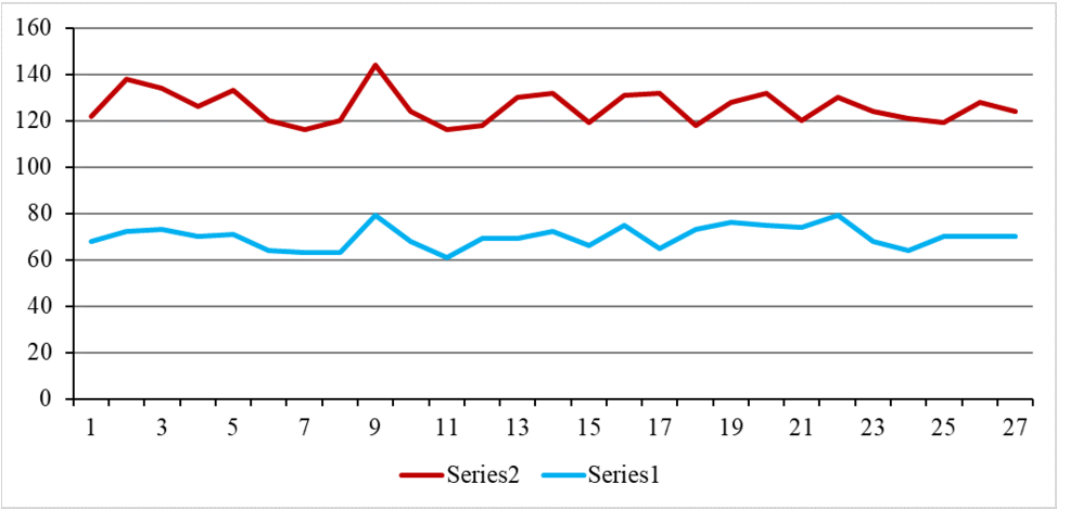


Figure 9. Line chart of crowd evaluation data for dance curriculum design



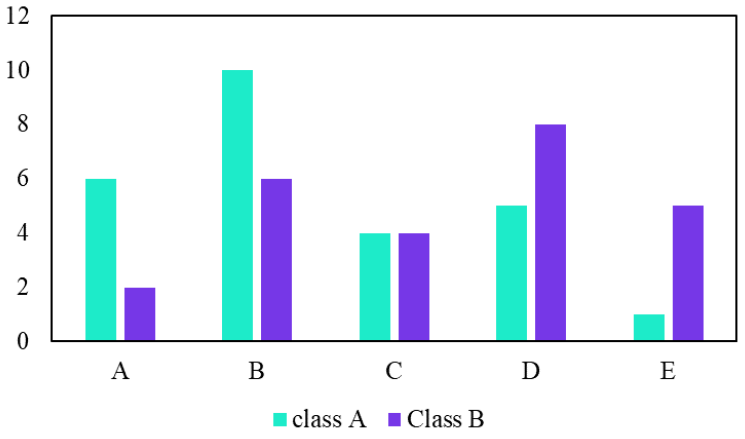
After the dance teaching evaluation system design crowd has finished evaluating the five programs, click "Next" to enter the dance teaching evaluation crowd data processing interface one after another. The interface of the first three groups of people is the same as the dance teaching evaluation system design crowd evaluation data interface, no longer Repeat. The evaluation system is different because there is no second-level evaluation group, and its evaluation data processing interface is shown in Figure 10.

This chapter conducts intelligent scoring of the review data. Based on the construction of the evaluation dimension, it is found that learners have significantly higher evaluations on the quality of teachers, teaching quality, and platform system support, but the evaluation score in terms of learning effect has dropped significantly., taking the emotional attitude level as a typical representative, many learners gave learning feedback such as being unable to keep up with the course, boring, or the course was difficult to understand, understand, or grasp. It is concluded that in the future distance education, teachers should strive to strengthen the interaction with students, rather than only pay attention to curriculum design, development, implementation and optimization of teachers and teachers, and ignore the quality of teaching effects. Try to avoid the textbook, which will cause students to gradually lose their enthusiasm for learning because they can't keep up with the curriculum. Although Django provides a lot of security measures, it is also very important to properly develop their own applications and use the usefulness of web servers, operating systems and other components. The research lacks this content innovation, so there are still some limitations.

CONCLUSION

All in all, under the background of big data, dance teachers in colleges and universities need to pay attention to the important role of constructivism in the teaching process. With the help of scenario creation, self-guidance, teaching innovation, and the cultivation of students' awareness of collaboration, they can effectively carry out dance teaching activities, which can improve to a certain extent. Students' interest in learning, cultivating students' innovative thinking, improving students' learning level, and strengthening students' sense of group collaboration play an important role in promoting students' dance development. At the data analysis level, the results of the initial word frequency statistics and TF-IDF keyword weight calculation of this research show that learners have a high overall satisfaction with the MOOC platform, and can obtain greater gains through the platform, but at the same time there are Negative words with higher weights such as "scripted according to the script" and "boring"

Figure 10. The evaluation data processing diagram of the dance teaching evaluation system



indicate that they still have certain deficiencies in teachers, teaching, platforms and other levels. In terms of website development, this paper builds a website system based on the Django framework of Python. In the final system test and questionnaire survey, it is found that users are relatively satisfied with the accuracy of its evaluation and believe that the accurate performance of deep learning data analysis helps them Saving more time and energy in course selection has certain practical value.

DATA AVAILABILITY

The figures used to support the findings of this study are included in the article.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

FUNDING STATEMENT

This work was not supported by any funds.

ACKNOWLEDGMENT

The authors would like to show sincere thanks to those techniques who have contributed to this research.

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