

The construction of University Chinese as a foreign language multimedia material and network resource base based on Big Data Analysis

Hui Liu

College of Chinese Language and Culture of Jinan University, Guangzhou, Guangdong, 510610,China

National Center for Oversea HUAYU Research, Guangzhou, Guangdong, 510610,China

Abstract: There are many problems in TCFL, such as relatively simple teaching resources, chaotic teaching system and so on, facing learners from different countries and regions, cultural background and needs all over the world, directly affects the quality of college Chinese as a foreign language. With the development and application of Internet technology, online intelligent teaching has triggered profound changes in educational system. As an important supplement to education, web-based resource banks are of great practical significance to the current innovation and optimization of Chinese as a foreign language systems. Therefore, in the current innovation of University Chinese as a foreign language, we should build a large-scale and knowledge-based network resource base based on Big Data Analysis to help university teaching.

Keywords: Big Data Analytics; universities; Chinese as a foreign language; multimedia materials; web resources

With the development of information-based and intelligent education, the importance of resources in the Chinese as a foreign language of higher education becomes more and more obvious. In the education ecosystem, teachers' practical knowledge, including teaching methods, strategies and skills, as well as teachers' metacognition can be found through teaching analysis and teaching calculation, thus, the map of teachers' knowledge and ability is constructed to provide standards and bases for the education and development of Chinese as a foreign language in colleges and universities, and for the management and evaluation of teachers.

1.BASED ON THE ANALYSIS OF BIG DATA, THE CONSTRUCTION REQUIREMENTS OF UNIVERSITY CHINESE AS A FOREIGN LANGUAGE MULTIMEDIA MATERIAL AND NETWORK RESOURCE BANK ARE INTRODUCED

The aim of empirical research based on teaching analysis is to build an application model that can describe the teaching system and its characteristics, which is the basis of teaching system portrait. The application model can be based on the theoretical model and obtained by supervised machine learning, or it can emerge in the teaching big data by unsupervised machine learning It can also combine supervised machine learning with unsupervised machine learning, i. e. semi-supervised learning.

1.1 The theoretical model is derived from the existing teaching cognition

In the Chinese as a foreign language of higher education, there are many speculative or empirical research results, which reflect the rational thinking or experience summary of the academic circles on the relevant issues, and these research results are often embodied in the form of papers or works. In the research of teaching analysis, the author uses the Content analysis theory and the grounded theory to calculate the teaching cognition through the detailed text content analysis of the existing research literature, theoretical models can be derived. Taking the existing

Chinese writing teaching research literature as the data source, this paper extracts the information about the component, structure and process from the subject concept, and then encodes and processes it, this paper establishes a database for the detailed explanation of the structure and process of Chinese writing teaching literature, and establishes the component system of Chinese writing teaching under the systematic framework of macro-level, middle-level and micro-level, and by calculating the characteristics of the structure and process, this paper reveals the cognitive tendency of the structure and process types of the basic teaching links in "Before writing", "During writing" and "After writing", it also visualizes the features and distribution of the teaching structure, the process pattern and the relationship, and deduces the theoretical model of the teaching structure and process of Chinese writing.

1.2 Construct the application model based on the teaching practice

It is beneficial to generalize the typical, representative and popularizing teaching cognition in the actual teaching from the positive side. Through the "Standardized comprehensive course teaching record database" to carry out empirical research and theoretical model comparison, it is found that the IG, GT, IVT, VTP structures and their corresponding processes are unique structural types and process types in the application model. This shows that in teaching practice, when the unit teaching time is limited, the teaching focus can be placed on new words, grammar, text of any teaching events, the introduction, the comprehensive exercise and so on. May carry on the simplification according to the actual situation. The understanding of big data will determine the methodology of teaching analysis and research. According to the viewpoint of big data, teaching analysis should pay attention not only to the whole sample big data, but also to the individual big data. The deep mining of individual big data helps us to make detailed and concrete research on teaching. On the one hand, we can use case analysis to express, calculate and extract the features of the teaching record samples, describe and deeply mine the individual big data; on the other hand, we can also use mathematical methods to deal with complex data efficiently, such as through teaching simulation to determine the effective and possible teaching model.

1.3 Contrast the theoretical model with the applied model to promote teaching reflection

Teaching theory needs to be tested and developed in practice, and teaching practice is a reliable standard to test the hypothesis of the existing theory, furthermore, the innovative teaching ideas need to be put forward further by the researchers to enrich the existing theoretical understanding. Through the further empirical research on the theoretical model and the comparative analysis between the applied model and the theoretical model, we can find the common features of teaching theory and teaching practice, we can also find the differences among them. From the perspective of logic, we can confirm the existing cognition in the commonness and falsify or supplement and revise the relevant cognition in the difference, which is helpful to the discussion of the relationship between theory and practice from the perspective of teaching research, it is also helpful to discover teaching rules, innovate teaching methods and carry out teaching reflection. On the basis of theoretical and applied modeling of the structure and process of Chinese grammar teaching, through comparative analysis, the "Summary" of the high-frequency component in the application model is likely to be an important parameter affecting the effect of grammar teaching, which needs to be verified by experiments, many process types in the application model can be regarded as variants of related process types in the theoretical model, and their application background or conditions should be further explored and brought into the perspective of teaching cognition.

2.THE CONSTRUCTION OF UNIVERSITY CHINESE AS A FOREIGN LANGUAGE MULTIMEDIA MATERIAL AND NETWORK RESOURCE BASE BASED ON BIG DATA ANALYSIS

Through teaching analysis, we can understand the form of the resources from the micro-perspective, establish the high-quality teaching resources database marked with multi-attributes, push the suitable teaching resources in time for the teachers and ask them to provide suggestions on the use of the resources, in order to improve the level of resources service, teachers can sometimes exist in the form of resources, and can establish the model of teachers and teaching, which lays the foundation for the dynamic diagnosis, prediction, intervention and evaluation of teaching situation, then it guides the development of intelligent teaching system and platform, and creates the ecological environment of intelligent teaching and learning.

2.1 Expand the sources of Chinese as a foreign language resources for universities

At present, many universities have set up recording and broadcasting platforms to record the complete attendance of teachers, which is the first-hand resource for teachers to attend classes. However, at present, these recording and broadcasting videos only serve as credentials for educational administration departments to assess teachers and supervise students, due to limited storage, the original video over a certain time will be later video coverage, which is a great waste of educational resources. Therefore, through the technical means to open the channel between the recording platform and the Teaching Resource Database, the video of the recording platform can be automatically synchronized to the teaching resource database, which can greatly enrich the content of the resource database.

2.2 To establish the multimedia teaching resource bank of Chinese international education materials

With the development of modern educational technology, multimedia resources are used more and more by the educational circle and have produced positive teaching effects. Modern educational technology has changed the traditional teaching concepts and methods, the use of appropriate multimedia resources for teaching is an inevitable choice of modern education. In the field of Chinese international education, the exploration of using modern teaching resources and making multimedia teaching resources has been carried on, and some achievements have been made, but there are also some problems, such as, many teachers spend a lot of time and energy to process and make multimedia courseware, but the effect is not satisfactory, it is not convenient for secondary development and utilization; in addition, there are many low-level repeated construction, repeated investment and serious waste of funds. This shows that the integration of scattered resources and the establishment of a professional multimedia teaching resources database is an important issue in the field of Chinese international education must be studied. The multimedia resource bank should be based on the modern teaching and learning theory, in the computer-supported teaching environment, which is coordinated and interactive by teachers and students, the integration of multimedia resources can make the teaching content, teaching control and feedback information transfer efficiently and achieve the teaching goal. According to the classification of the construction of Multimedia Resource Bank, the multimedia resources for classroom teaching can be divided into three types: material type, material type and curriculum type, among them, the material resource storehouse stores the necessary multimedia courseware or the teaching picture, the sound, the video clip and so on in the modern teaching, the teacher may choose any material according to the need, compiled into personalized electronic teaching plans or courseware, as part of the teaching content into the teaching design, and can be used in any link of teaching. Material-based teaching resources have been widely welcomed by front-line teachers because of their moderate granularity and user-friendly combination.

2.3 Upgrading and upgrading of infrastructure

Learning behavior can improve the prediction performance of learning results by adding the rule dimension, and the hybrid prediction model based on propensity and behavior performance indexes constructed by CART algorithm has better prediction performance, and it shows good dynamic adaptability in the learning process. With the increasing performance of behavior data, the prediction model has a certain early warning ability. In order to attract users to visit and apply, web-based education platforms have two key factors-content and speed, the number of visits,

the amount of data will be more and more, the traditional single-server model of the teaching resource repository will inevitably result in slow download, long response time, online playback of teaching videos and animation Cottonwood, etc. , there is even the possibility of a single server down, causing the entire resource pool to collapse serious teaching accidents. Therefore, it is necessary to reform the original resource base infrastructure to promote its future development. The single server is replaced by the distributed server, which has the characteristics of high availability, high expansibility and modularization. As information technology is often combined with the use of intelligent devices, in the process of Chinese as a foreign language interaction, it is necessary to actively adapt to new teaching equipment, simultaneous mastery of information equipment.

2.4 Add a data visualization analysis module

The teaching resource database is a data warehouse, which stores all kinds of teaching-related“Source data”, but these“Source data” before collation, classification is relatively messy. If these huge, complicated and disordered“Source data” can be sorted and presented in real time and dynamically, it will undoubtedly play a great role in promoting the development of the resource pool, big data technology makes this possible.

2.4.1 Visualization of management and teaching

Through the big data statistical analysis of the teaching resource database to show the results of the data analysis of the resource database to the managers, teachers and students in the form of charts, etc. , the formation of managers, teachers, students and the mutual promotion of the community. Managers can directly see the construction and application of the entire resource base, to understand the total number of construction resources of each professional teacher, as well as the access to resources. Based on this, we can quantify the assessment goal, establish the reward and punishment mechanism, and the establishment of the mechanism is an important guarantee for the long-term effectiveness of the construction of the resource bank, so as to urge teachers to upload high-quality teaching resources and encourage teachers to carry out online teaching practice. Teachers can directly see the students in their own classes to upload the learning of course resources, the progress of backward students to urge, to encourage the progress of students ahead of the pace, students can also improve their own teaching level through learning feedback on their own courses, teachers can also feedback to the manager of the resource library to improve suggestions.

2.4.2 Facilitate teaching and learning

Expanding the source of resources and developing the mobile end of the resource bank provide convenience for teachers' teaching and students' learning. Interfacing platforms allow teachers to access their own teaching primary source, improve the quality of teaching by reviewing the state of their own classes and students' classroom feedback, and promote mutual learning and teaching, the same knowledge is repeated constantly, which inevitably makes people feel a little boring. Teachers can send the video of the first class lecture recorded to the space of the students they teach, so that students can study hard after class, in the classroom to answer their questions, really do turn over the classroom, the classroom to the students.

3.CONCLUSION

The network of teaching resources is the inexorable trend and new increasing point of the development of education at home and abroad, which will have a far-reaching influence on the educational thought, mode and means in the future. Adapting to modern educational technology, applying pedagogy theory, language teaching theory, language learning theory and multimedia teaching theory will promote the establishment of teaching model based on multimedia resources. The establishment of multi-media teaching resource bank can make teachers lighten their burden and put more energy into creative teaching and scientific research activities, so as to improve the quality of

teaching. At the same time can also be scattered resources together to truly achieve resource sharing.

REFERENCES

- [1] Chen Li, Wang Zhijun. The principle of teaching interaction in three-generation distance learning [J]. China Distance Education, 2016, (10): 30-37+79-80.
- [2] Wang Yan. The overall architecture model and typical application analysis of smart campus construction [J]. China Electrochemical Education, 2014 (09): 88-92+99.
- [3] Zhang Fangfang. Construction and application of vocational education teaching resource library under the background of "Internet +" [J]. Vocational and Technical Education, 2017, 38(08): 63-66.
- [4] Zhang Zhe, Chen Xiaohui, etc. Research on the evaluation of teachers' informatization teaching ability based on TPACK model [J]. Modern Distance Education, 2017, (6): 66-73.
- [5] Xu Peng, Wang Yining. Research on the knowledge and ability structure of excellent teachers integrating technology [J]. China Electronic Education, 2020, (2): 89-93+101.