Pisco Med Publishing

Original Research Article

Innovation and Exploration of Chinese Teaching in Primary Schools in the Era of Big Data

Mingqi Chen

Shenzhen Shekou Yucai Education Group Yucai School, Shenzhen, Guangdong, 518000

Abstract: Information-oriented has arrived solemnly, the big data appears in people's daily life, which has brought significant changes in people's production and life style. "Good rain knows the season, when spring is coming". For Chinese teaching in the primary school, the application of big data is actually appropriate, the analysis mode of quantitative and qualitative combination is adopted to reasonably diagnose the teaching behavior of teachers and students through big data application. It can not only improve the Chinese teaching pattern, but also improve the quality of Chinese teaching.

Keywords: Big data; Chinese in primary school; Informationizational teaching

In view of the current social development and progress, "big data", "Internet" and "new media" have become the weight of the development of the times , which is playing a vital role in promoting the soaring of various industries. As a basic course, Chinese is deeply influenced by various educational opportunities and challenges by big data environment. Chinese teachers should keep up with the pulse of the development of the times, to strengthen the deepening reform of Chinese teaching in the classroom, reasonably introduce big data and other teaching form to analyze the behaviors of the teachers and students, innovate the content of education and teaching methods in the classroom, and then attract more primary school students to focus their attention on Chinese learning in the classroom, which can enhance the students' humanistic quality and comprehensive ability. This paper discusses the deepening reform in the classroom of primary schools in the era of big data.

1. Innovation changes of Chinese teaching in primary schools in the era of big data

1.1 Big data promotes teaching resources more serialized

Respond to the current teaching changes and the informatization pattern in Chinese teaching, in order to meet the requirements of the current big data teaching environment and professional practice transformation, and also the actual requirements of Chinese teaching in primary school. Hence, Chinese teachers of primary school should reasonably apply big data technology to obtain more information databases, analyze data information, sort out relevant data resources to make Chinese teaching resources more orderly and easily to inquiry and use. Which can effectively coordinate the relationship between big data and Chinese teaching, to ensure the accuracy and flexibility in the scientific application of big data technology in Chinese teaching.

1.2 Big data makes teaching behavior more data-oriented

Big data technology changes rapidly, which has changed the original application way,we can use the data observation and analysis methods to collect the data and sort of the teaching behavior of teachers and students, analyze and improve teachers' teaching behaviors to ensure the stable and efficient development of Chinese teaching, and create an intelligent teaching pattern in primary schools of Chinese teaching.

For example, through the data indicators in the classroom teaching, the teacher's selection way to select students to answer questions can be respectively by five dimensions to observe and collect the data, which include "asking students to answer together, those who raise their hand to answer first after questions proposed, asking those who do not raise their hand to answer the question after questions proposed, and encouraging students to ask questions". In this way we can clearly understand the teacher's teaching behaviors, and based on the comparison of the proportion of students' selected to answer questions in the whole class with the national data pattern to analyze the pros and disadvantages of teachers' teaching behavior.

1.3 Big data promotes teaching improvement to be more targeted

The arrival of the era of big data has improved the informationizational practical ability, it is necessary to combine the application of big data to promote the effective transformation of teaching technology in practical teaching, lid foundation for the application of big data technology in Chinese teaching, and create the relevant content of Chinese teaching in primary schools to establish a dense Chinese learning atmosphere.

For instance, teachers can determine to make a targeted evaluation of different students' performance in big data teaching through the form of data analysis, which can meet the specific requirements of personalized education under quality-oriented education, after that by pushing the relevant Microlecture learning or practices to ensure the students to get the greatest progress in classroom, and to

doi: 10.18282/l-e.v10i4.2509

establish a more harmonious relationship between teachers and students.

2. Observation and research methods in the era of big data

According to the definition of professor Wang Lu of the capital normal university of China, the observation research thoughts are "discovery-summary", which means through observation method to collect the data of observation index, and then we can get the teaching behavior big data to form the big data analysis chart for teaching behaviors and found the teaching phenomenon, then summarize the teaching phenomenon to get thorough understanding of the teaching rules. The research process is: "quantitative-qualitative", which means to carry out quantitative research on big data of teaching behavior first, and then analyze and summarize the findings and results of quantitative research.

At present, there are many teaching observation methods, this paper mainly discusses two types of collection research methods for the classroom big data.

First, the coding system analysis method: S-T analysis method, Flanders interactive analysis method, VICS, etc. The S-T coding system analysis method is an analysis method that can intuitively show the teaching pattern. The main idea is to encode the two dimensions of the teacher behavior (called T behavior) and the student behavior (called S behavior) during the teaching process, and to observe and analyze the quality and characteristics of classroom teaching through describing the basic structure of the classroom and the events that occur in real time. Teaching pattern analysis is distinguished in a graphical way by four typical teaching types: practice type, teaching type, dialogue type and mixed type. The teaching pattern is determined by the location of the Rt value (indicating the T behavior rate, the proportion of teacher behaviors in the teaching process) and the Ch value (indicating the conversion rate of teacher and student behaviors, which is the ratio of the number of transformations between teacher behaviors and student behaviors of the total sampling). If Ch value is less than 0.4, Rt value is between 0.3-0.7, which is mixed teaching pattern; If Rt value 0.3, which is practice pattern; If Rt value ≥0.7, which is teaching pattern; if Ch value≥ 0.4, which is dialogue pattern.

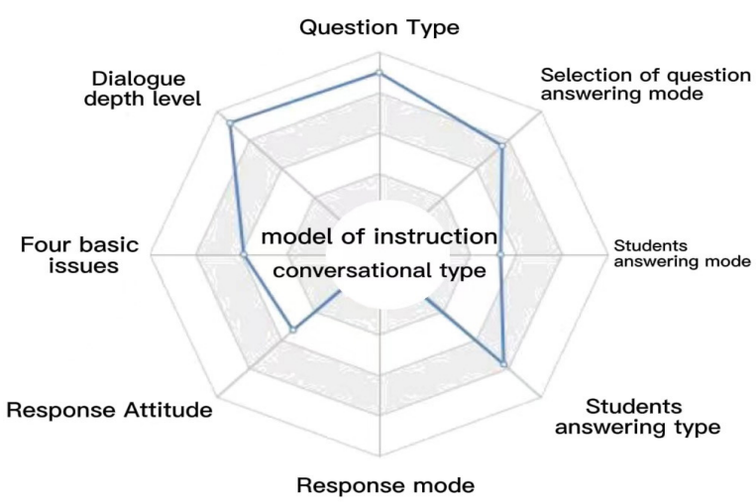
The second is the method of marking system analysis. Marking system analysis refers to list some behaviors need to be observed and which may occur in advance, and usually the planned observation behaviors will be included in a marking system table which is compiled in advance. Marking system index like validity question analysis, teacher response analysis, 4 basic issues analysis, dialogue thorough analysis, etc.

The observer will make a mark for each event or behavior which planned to observe, and to count the number of marks and the frequency of the observed behavior after observation, to establish the data chain of the various dimensions when analyzing and diagnosing, and then conduct the thorough analysis.

Effective strategy of Chinese teaching innovation in classroom of primary schools in the era of big data

3.1 Collect teaching behaviors to form dimensional data

The observation and collection methods of teaching data collection is with different attributes and variety kinds. Each classroom observation method has its own advantages and limitations. Hence, in practical classroom observation, researchers should staggered a variety of observation methods, and collect rich and detailed data to form big data normal patterns, then in this way we can solve the problems in practical teaching. According to data demonstration, Wang Lu's teacher team of Capital Normal University has carried out big data research on classroom teaching behavior since 2009, which has formed a large database over 500 of classroom teaching behavior for more than 10,000 teachers in the mainland, which has analyzed and sorted out the normal pattern and standard deviation including teaching pattern, effectiveness questions, teachers' answer methods, four basic issues, and dialogue thorough analysis, etc. Through the big data overview table of classroom teaching behavior in each class, we can clearly get the comparative analysis of the dimensions of big data for classroom teaching behavior of different types classes to the national normal pattern data. Take a teacher's



lesson case analysis as an example as follow.

The scoring grade figure of classroom observation from a teacher in each dimension According to the above analysis of Figure 1 , we can know that between the teacher and the national normal pattern data, we can give the teacher a comprehensive evaluation of

this class, the question evaluation scoring grade is A which showed in the figure,,

The scoring grade of selection of answering method is A

The scoring grade of students answering method is B,

The scoring grade of students answering type is A

the response method scoring grade for the teacher response is D

The response attitude scoring grade is B,

The scoring grade for the four basic issues is B.

The scoring grade for dialogue depth level is A.

Based on the scoring grade of the above classroom observation dimensions, the comprehensive scoring grade of this class is A, which score exceeds 92% of the same type class score of China. The highlights of this class are: questions type, selection pattern of answering, student answering type, and dialogue depth level. We suggest that this teacher to combine the classroom behavior data of this class, and to focus his attention on the improvement of the following aspects in the future class:

The response pattern in strengthening the non-verbal response to improve the response efficiency.

Through the objective, comprehensive diagnosis and analysis for the teacher's classroom based on classroom teaching behavior big data, we can find the characteristics and problems of the teacher, which can help teachers to improve classroom teaching with a target, and constantly explore the innovative teaching and research pattern based on the big data of classroom teaching behavior, and constantly improve the teachers' professional development level.

3.2 Digitization the student homework to improve teaching focalization

In the background of "double reduction" plus big data era, the arrangement of Chinese homework for primary school students should be improved, which in the past is through writing and recitation forms, but now we should arrange Chinese homework with modern technology to enrich the homework content and improve the completion form for Chinese homework, which can satisfy the study requirements and demands of the students.

The teachers can understand the opinions and ideas of the students and parents on the homework arrangement through the Wenjuanxing data collection app, and then conduct the quantitative analysis according to the completion level of the students' homework, and regularly perform the learning analysis etc.

When analyzing and evaluating unit test paper of the students, students can personally sort out the right and error rate of each question through Aizuoye APP to analyze the gain and loss points in learning to form a database for wrong questions. The APP has established a database of students' 'homework, which clearly shows the difficult points in students' learning. At the same time, it is easy to understand the teaching situation, to grasp the characteristics of students' thoughts in advance, to perform the targeted teaching which is twice the result with half the effort and to promote the improvement of the overall teaching efficiency through the APP database.

4. Conclusion

In the era of big data, Chinese teaching of primary school have variety resources and forms to choose. Therefore, Chinese teachers should reasonably dig out the intrinsic value of big data and apply informational technological means to develop the intelligent teaching. Adopt the rich teaching content, flexible and diverse teaching forms to add the interests, broaden the vision of students in Chinese teaching of primary school, exert an imperceptible influence on the primary school students, improve the effect of Chinese school, moisten the hearts of primary school students and promote the healthy growth for the students of primary school.

References:

[1] Yu Mingyue. Analysis of differential evaluation path for Chinese teaching in primary schools in the era of big data [J].Information Technology Education in Primary and secondary Schools, 2021.

[2] Cho fung-won. An analysis of the transformation of Chinese reading teaching in primary schools in the era of big data. Fujian Commerce and Trade Association. South China Educational Informatization Research Experience Exchange Conference 2021 Papers Collection (I)[C] . Fujian Commerce and Trade Association: Fujian Commerce and Trade Association, 2021:4.