A Study on the Teaching Practice of Chinese History in Universities Based on the Intelligent Education Platform

JianQiu Yu(✉)

School of History and Culture, Sichuan University, Chengdu, Sichuan, China
136374775@qq.com

Abstract. The integration of big data thinking into the teaching of Chinese history in colleges and universities is both a need of the times and in line with the characteristics of students. In this paper, on the basis of the analysis of the construction strategy of the wisdom classroom teaching mode of history in colleges and universities, further based on the construction strategy of the big data wisdom education platform, the education platform of Chinese history in colleges and universities is established in a targeted manner. The data obtained from the research is then used to conduct relevant teaching practice research using spss software, and the findings are validated and guided for the establishment of the wisdom platform. The study aims to change the teaching methods and use the new teaching methods characterised by big data to capture the essence of history education, the essential feature that history education focuses on cultivating "human beings", and to make efforts to better cultivate students' personality.

Keywords: Smart Education · Big Data · Chinese History · Teaching Practice

1 Introduction

With the promotion of China's major strategic initiatives such as "Internet +", big data and artificial intelligence, the construction and application of smart classrooms has gradually become a new direction and norm in the development of China's education informatization [10]. Compared with traditional classrooms, smart classrooms apply the concepts, technologies and methods of smart education to classroom teaching, making explicit the tacit knowledge that is difficult to describe and transmit in traditional classrooms, and promoting changes in teaching concepts and forms, classroom environments and structures, teaching models and methods, and evaluation systems and strategies [8]. History is an important subject that requires constant exploration of teaching models adapted to the new environment. The use of the smart classroom teaching mode in the teaching of Chinese history in colleges and universities meets the needs of educational reform in the new era, is in line with the requirements of the core literacy of the history discipline, and is conducive to the cultivation of talents of the new era. Based on the above considerations, the author believes that the study of this selected topic not only responds to the trend of changing teaching and learning styles in the information age, but

Z. Zhan et al. (Eds.): ICBDIE 2022, AHCS 5, pp. 332–340, 2023.
https://doi.org/10.2991/978-94-6463-034-3_34

also meets the current needs of national talent training. This paper combines the wisdom classroom with the teaching of Chinese history in colleges and universities, and studies the problem of "constructing a wisdom classroom teaching mode for history in colleges and universities", hoping to make a modest contribution to the theoretical research and practical exploration of Chinese history teaching in colleges and universities in this direction.

2 Strategies for the Construction of Teaching Models

2.1 Optimising the Design of Independent Learning Task Sheets

The independent learning task sheet is the main tool to help students master the basics and gain a general understanding of the content in advance. The design and use of independent learning task sheets is particularly important as they are the main task of students' pre-course study. Teachers can develop independent learning task sheets based on the teaching standards, teaching priorities and difficulties, as well as the learning situation, and send them to students' clients in advance, asking them to complete the independent learning task sheets based on micro-video-based learning resources.

In the History Smart Classroom model, the Independent Learning Task Sheet will be a very important resource [12]. After completing the independent learning task sheets, students should have a general grasp of the basics of the lesson. Instead of deliberately and individually teaching the basics, the teacher will provide targeted answers to students' confusions and in-depth discussions on the key points and difficulties of the lesson, provided that they have already learnt the basics.

2.2 Implementation of Personalised Counselling Based on an Information Technology Platform

Personalised counselling refers to counselling activities organised and implemented by teachers in the teaching process according to the individual differences and personal characteristics of students, with the help of an information technology platform. It enables each student to participate in the tutorials according to their own learning level and foundation, thus improving the efficiency and effectiveness of personalised tutorials. The Smart Classroom IT platform has a tracking function that allows students to track their learning behaviours such as homework submissions, discussion statements and resource browsing [6], so that they can grasp their individual characteristics and differences in knowledge acquisition, thus improving the efficiency and quality of personalised tutorials.

2.3 Implementing Big Data-Supported Tracking and Evaluation

Teaching evaluation is the process of measuring, analysing and evaluating teaching activities and results, based on teaching and learning objectives and through certain standards and means, to give value judgments on teaching activities and results. Teaching evaluation is the evaluation made on the overall function of teaching and learning work.

Evaluation of teaching and learning in the smart classroom refers to the process and results of teaching and learning in the smart classroom teaching mode [11]. In evaluation, information processing techniques and tools are used to increase the objectivity and validity of the evaluation. Smart classroom teaching evaluation can use big data analysis technology to give teachers rapid and immediate assessment information, enabling teachers to provide real-time feedback and evaluation of students' learning processes and results, and facilitating the reconstruction of a teaching evaluation system with formative assessment as its core [9]. The wisdom of intelligent classroom assessment lies in the use of emerging intelligent information processing technologies to make scientific and accurate assessments and provide intelligent learning decisions. It is characterised by a shift from traditional result-oriented evaluation to process-oriented evaluation, relying on big data analysis to make evaluation and diagnosis more accurate and objective.

3 A Study on the Design and Teaching Practices Based on the Smart Education Platform

3.1 Intelligent Education Information Platform Design

A new platform is implemented with a long design and development cycle. A series of processes should be followed during the implementation of the platform to optimise the design and development process and achieve an overall optimum while improving the design and development efficiency of the platform [7]. The platform consists of analysis, design, implementation, testing, go-live and later iterative maintenance, each of which is carried out by professionals who complete their work before proceeding to the next.

3.2 Intelligent Education Information Platform Design

Education information resource function design. The information resource function provides users with personalised, accurate and intelligent information services, optimising all aspects of education information access, retrieval and push, creating a platform environment with intelligence and improving the shortcomings of existing education information platforms. The main functions are personalised information recommendation, accurate information search, person column and question and answer management [5].

Social function design. In order to provide users with quick and easy access to highly credible information, and to meet their needs for answering questions and sharing, it is necessary to provide a social section in the intelligent education information platform [4], so that users can think and learn from each other in communication with others, help each other in answering questions and grow together in sharing [2]. The main functions are registration and login, dynamic release and personal centre.

Information management function design. The information management function is the backstage management system of the Smart Education Information APP, which has certain management rights for platform users to ensure the immediate delivery and storage of information. It mainly means that users with system management rights, i.e. system administrators, can manage and adjust information resources according to the actual situation and needs when the external environment changes. The main functions are user management, information management and dynamic management.

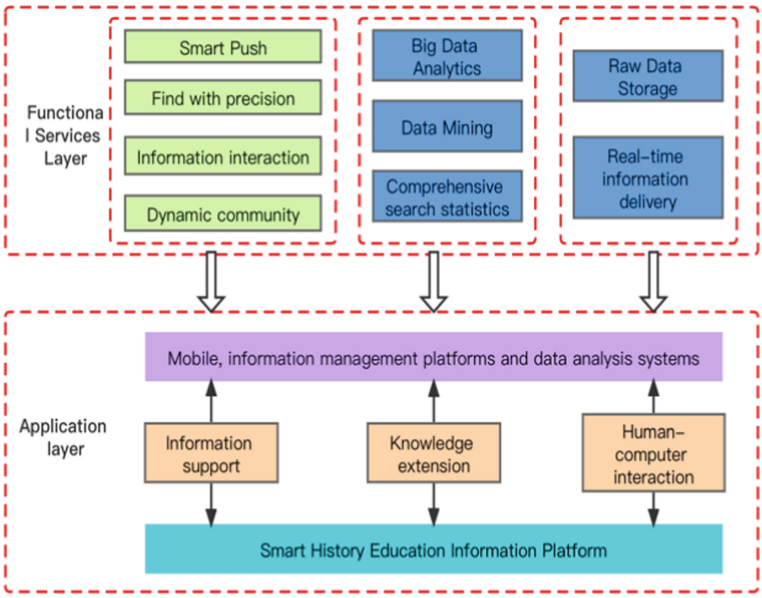

Fig. 1. System functional architecture diagram.

Data analysis function design. The data analysis function is to collect data information generated by users in the process of using the wisdom education information platform under the premise of user authorisation, to provide data support for the realisation of personalised services and other functions, and is the basis for improving user satisfaction with the use of the wisdom education information platform. The main functions are user analysis, dynamic analysis, theme analysis, information dissemination analysis, dynamic classification statistics, etc. (Fig. 1).

3.3 Research in Teaching Practice

Before conducting the experiment, a comparison was first made for the results of the two classes in order to ensure the accuracy and credibility of the experiment. The pre-test results of the experiment were based on the geography results of the final examinations in the second semester of the first year as the reference data [3]. The same test content, the same test time, and the same grading scale. The pre-experimental scores are laid out in Appendix IV. The analysis of the results of the experimental and control classes Table 1 shows that the number of students in both the experimental and control classes was 30. The mean score for the experimental class was 60.17 and the mean score for the control class was 60.9, with a difference in mean of 0.71. The highest score in the experimental class was 91 and the highest value in the control class was 89, which is not a big difference. In terms of the number of outstanding students, there were 6 students in the experimental class and 6 students in the control class. In terms of the number of passes, there were 15 students in the experimental class and 17 in the control class.

Table 1. Statistics of pre-test scores of experimental and control classes.

	Number of people	Mean	Highest score	Number of outstanding	Number of Passes
Experimental Classes	30	66	95	10	19
Control Classes	30	63	94	8	17

Table 2. Statistics of pre-test scores of experimental and control classes.

	One-sample Kolmogorov-Smirnov test	
	Test Statistics	Asymptotic significance (two-tailed)
Control class pre-test scores	0.13	0.20*
Experimental class pre-test scores		0.20*

*is the lower limit of true significance

Using spss software, the pre-test scores were analysed for significance and an independent samples t-test was conducted on the pre-test scores of both classes. This test is a relatively large test, so the difficulty coefficient of the questions is reasonable. In order to ensure the accuracy of the data, the results of this test were first verified using spss to see if they conformed to a normal distribution before the independent samples t-test was conducted. All students took this test, 30 in the control class and 30 in the experimental class.

By analysing graph 2, it can be seen that the p-value of the significance test for the pre-test scores of both the control and experimental classes is 0.200, $p > 0.05$, and it can be assumed that the pre-test scores conform to a normal distribution (Table 2).

Independent samples t-tests were then conducted for the pre-test scores. Significance analysis was conducted to test for significant differences in pretest scores. The results of the test are shown in Table 3. The results of the independent sample t-test for the pretest scores of the control and experimental classes were analysed and the Levene's test of equivalence of variances F-value was 0.000, corresponding to a significance of 0.982. In this study a significance level alpha value of 0.05 was set and the significance was greater than 0.05, reflecting that there was no significant difference between the variance of the pretest scores of the control and experimental classes and that the chi-squaredness was satisfied. In the mean equivalence t-test, the significance (two-tailed) p-value was 0.887 and setting the significance level at 0.05 shows that the p-value is greater than 0.05, therefore there is no significant difference between the means of both the control and experimental classes.

The analysis of the results showed that the difference between the results of the control class and the experimental class was not too great. The overall analysis shows that the average score of the control class is higher than that of the experimental class, the number of passes is higher than that of the experimental class, and the performance of

Table 3. Independent sample t-test for pre-test scores of control and experimental classes.

		Levin Equivalence of Variance Test		Equivalence of means t-test						
		F	Significance	t	Degree of freedom	Significance (two-tailed)	Mean difference	Standard error value	Difference 95% confidence interval	
									Lower limit	Upper limit
Achievement	Assuming equal variance	0.08	0.77	0.35	58.0	0.73	-1.83	5.27	-12.4	8.9
	No equal variance assumed	-	-	0.35	57.9	0.73	-1.83	5.27	-12.4	8.9

the control class is slightly better than that of the experimental class. Overall the results of the control class and the experimental class were basically at the same level, which provided reasonable conditions for conducting the teaching experiment.

After a period of practical teaching, combined with the results of the preliminary questionnaire survey, and compared with the results of the later questionnaire survey and student interviews, it can be seen that students generally agree with the application of the "3 + 2" teaching mode. Compared with the previous teaching, students' learning interest, learning attitude and learning ability have all improved. The results of the post-test also showed that after a period of implementation, the students' performance had improved relatively, and there were significant changes compared with the results of the pre-test. The average score, the number of students who passed, and the number of students who excelled were all a little better than the control class. This shows that the "3 + 2" teaching model is effective in practice. After a period of practice, some shortcomings were also revealed, which need to be improved in time to help the next step of teaching.

Problems encountered in the implementation process: (1) The amount of pre-study before class was obviously increased, and students' lack of pre-study led to inefficiency in class, which made it difficult to implement the teaching model. (2) During the initial classroom discussion stage, the evaluation was not very effective, which led to the lack of interest of individual "advanced students" and did not achieve the goals of the teaching model. (3) Due to the lack of teachers, the quantity of micro-video production increased, and the quality of individual micro-video production was not high.

4 Suggestions for Smart Education in the Teaching Practice of Chinese History in Universitiess

4.1 Enhancing Information Literacy of Teachers and Students

In the 21st century, mankind has fully entered the information society, and information and knowledge have profoundly influenced the development of society, so information

literacy has become an important survival ability for modern people. With the quiet advent of the era of big data, information literacy is even more urgent for the survival and development of individuals. Only by learning to effectively use digital resources to create information can we gain a foothold in the fierce competition. Information literacy is the ability of individuals to recognise when they need information and to retrieve, evaluate and use it effectively [1]. The development of information literacy therefore enables students to identify their information needs and to have the ability to access, evaluate and use information, adapting to the needs of the times as well as the needs of lifelong learning.

4.2 Innovative New Teaching Methods with a Smart Twist

In the era of big data, teachers need to take advantage of the teaching methods generated based on big data and explore the construction of more applicable teaching methods. New teaching methods are emerging in the context of big data, and the teaching resources platform built with the power of the Internet not only expands the scope of benefits, but also deepens students' understanding of knowledge and expands the breadth and depth of their cognition due to its unique intuitiveness. Therefore, in the context of big data, teachers' teaching should also be improved accordingly, based on which teaching methods are improved, interactive teaching platforms are built, highlighting the main body of students and turning from passive learning to active learning.

4.3 Returning to the True Nature of History Education

The emergence of big data has promoted the integration of traditional history education with modern educational technology, and the emergence of big data thinking has provided a new direction for thinking about changes to traditional teaching concepts and teaching methods. History is in fact a human discipline, so the essence of history education lies in cultivating students' logical thinking and sense of evidence in various ways, and then tapping into students' individual characteristics, and on this basis using historical events as role models to inspire students' patriotism, national upward mobility and enhance their national self-confidence and pride. This is the humanistic nature of history education.

5 Conclusions

From the perspective of the prospect of the development of intelligent education, the application of big data thinking in the teaching of Chinese history in colleges and universities is in line with the cognitive characteristics and needs of students, whose development inevitably requires the infiltration of new thinking, and likewise the development of the times inevitably requires students of the new era to have this way of thinking. Although the smart classroom has emerged in recent years, its teaching model is not perfect and there are still many problems that have not been solved, but it follows the national trend of calling for the informatization of education and the requirements of talent training, which makes the author firmly believe that the smart classroom will

have great room for development in the future and its application in the teaching of various disciplines in colleges and universities will become more and more popular. Therefore, the Community is committed to helping universities and colleges combine to jointly research and discuss the subject teaching mode of the Smart Classroom, which is becoming larger and larger, and the system is becoming more and more perfect, gradually forming a distinctive and constantly upgraded Smart Classroom application mode, which makes the author look forward to the increasingly better and brighter development prospect of the Smart Classroom.

References

1. Huang Ronghuai. The triple realm of smart education: from environment, model to system [J]. Modern distance education research, 2014 (06).
2. Ke Qingchao. Big data and intelligent education [J]. China Education Informatization, 2013 (24).
3. Liu Bangqi, Li Xinyi, Yuan Tingting, Dong Jingjing. Research on the innovation and application of subject teaching mode based on smart classroom [J]. Curriculum and Instruction, 2019 (04).
4. Liu Bangqi. When wisdom classroom meets big data [J]. China Education Network, 2015 (07).
5. Liu W. Wisdom education: the integration of value guidance and practical operation [J]. Theoretical discussion, 2017(06).
6. Wang Yulong and Jiang Jiafu. Smart education: conceptual features, theoretical research and applica-tion practice [J]. China Education Informatization. 2014(01).
7. Yang Xianmin, Liu Yongqian, Zhong Xiaoliu, Song Shuqiang. Development strategy and path selection of wisdom education in China [J]. Modern Education Technology, 2014 (01).
8. Yang Xianmin. The connotation and characteristics of wisdom education in the information age [J]. Theory and Controversy, 2014 (01).
9. Yu Ying and Chen Wenwen. Exploring the progressive development of the wisdom classroom teaching model [J]. Chinese electrification education, 2018 (11).
10. Zhang Jinbao, Huang Ronghuai, Zhang Liangang. Wisdom education cloud service: a new model of education informatization service [J]. Open Education Research, 2012(03).
11. Zhu Zhiting and He Bin. Smart Education: A New Realm of Education Informatization [J]. Theoretical discussion, 2012 (12).
12. Zhu Zhiting. New Development of Smart Education: From Flipped Classroom to Smart Classroom and Smart Learning Space [J]. Open Education Research. 2016 (22).