

New Method of Intelligent Classroom Teaching Based on Campus Network and Application in Computer Basic Courses

Jianlan Ren^{1,a} and YanWan^{2,b}

¹Jiangxi Vocational and Technical College of Communication, Nanchang, China,

²Nanchang Institute Of Science And Techology, Nanchang, China

^a17248012@qq.com; ^b8229393@qq.com

Keywords: Wisdom Classroom; Information Environment; Teaching Methods; Basic Computer Courses

Abstract. With the development of the Internet, network technology has penetrated into every aspect of human life, the word "wisdom" has been given a new connotation of The Times, "smart city" has become a hot topic, "smart education" has also emerged. As an important part of wisdom education, wisdom teaching is a strong support to promote the development of wisdom education. Smart teaching makes full use of the advantages brought by online education, breaks the limitation of time and space, and makes students interested in learning content. Mobile learning is at any time, any place, and not subject to any restrictions, enable teachers to immediately grasp the learning situation of students in the classroom instruction, the fact that effectively track each student's learning situation, can do it according to their aptitude, to satisfy the students' individualized learning, can effectively promote students comprehensive development. Although there has been a lot of theoretical research on wisdom education, as a new subject, wisdom education is still in its infancy. The relevant research focuses more on theoretical interpretation and puts forward practical methods based on top-level design. The research on the actual situation of intelligent teaching is still insufficient, which provides space for this research. Based on the rapid development of information, the purpose of this study is to use qualitative research method, literature research method, case analysis method and interview method to sort out the status quo of classroom wisdom through typical cases of basic computer courses. In order to improve the wisdom classroom teaching, and further promote the wisdom classroom teaching of the new method. This paper will study the application of intelligent classroom network in computer basic course teaching. Explore new teaching methods.

1. Introduction

With the rapid development of cloud computing, big data, human-computer interaction and other new technologies, collecting and analyzing the data of learners and their activity scenarios has increasingly become one of the focus issues. Learning management system, social media, mooc, smart classroom and other online learning environments contain richer data, which makes it possible for us to have a deeper understanding of students' learning process [1]. Although it is relatively easy to collect data of learners and their behaviors, it is usually difficult for users to effectively process and interpret these rich data due to the lack of professional knowledge of data mining and processing technology [2]. The research of data analysis method and mechanism, the application of data visualization analysis technology, the realization of the system automatically provide graphical analysis results, is the current research focus in the field of learning analysis.

In recent years, wisdom classroom and education have been integrated into a relatively high degree. However, it can be seen from the white paper that a large amount of information transmission needs to connect with wired and wireless networks within the campus network [3]. The evolution of information technology has brought substantial changes to traditional teaching, promoted the two-way development of information and technology, and promoted the research trend of education [4]. The education and teaching report emphasizes the scientific influence of the development of information technology and forms a key strategic model in the development of the whole educational cause. Therefore, no matter focusing on the long-term goals of the country or

short-term goals of colleges and universities, the core educational content of informatization should be promoted, classroom teaching should be transformed into the main development area, information technology should be actively applied, and information technology should be reasonably applied in the construction model of intelligent classroom [5]. The innovation of education method and the implementation of wisdom classroom determine the great reform of education development. Through the statistical analysis of keywords, the research focus and entry point in this field can be indicated to some extent [6]. With "intelligent campus" for the keyword search, 547 were retrieved effective keywords, equal to a frequency higher than 10 keywords: wisdom campus, Internet of things, cloud computing, big data, information, RFID, digital campus, education informationization, the Internet of things technology, intelligence education, Internet +, cartoon, accounted for 54.7% [7]. Under the background of the era of big data, relying on the Internet of things, cloud computing and other information technologies as support, smart campus is the further deepening and development of digital campus and a higher form of university education informatization [8].

The information technology and the combination of the basic computer courses teaching in college and universities, guides the student to contact the new teaching form, the information can be better to let the students learn knowledge, is advantageous to the computer teaching in colleges and universities have new progress, further raises the student good habit of learning computer, also enables the student to have a further understanding of the modern information technology, make the students in the learning of kill two birds with one stone, is advantageous to the wisdom of classroom reasonable construction [9]. Computer courses are highly logical subject, university students need to pass the effective application of information technology improve their thinking ability and generalization ability, reasonable mobilize the enthusiasm of learning, promoted the wisdom classroom teaching mode of the new situation in colleges and universities, fundamentally improve the structure of the wisdom of classroom mode, comprehensively promote the development of the students [10].

2. Methods

2.1 Concept of Wisdom Classroom

There are many definitions of wisdom classroom. The term "smart classroom" comes from IBM's "smart earth" in 2008. The concept of "intelligent earth" is to make things on the earth perceptual and interrelated with the support of new technologies such as information technology, so as to become an intelligent technology. The term "smart earth" expresses the desire of wisdom to change the world. The thought of "intelligent earth" has aroused the thought of "intelligent education" in the field of education. Under the ideological trend of "intelligent education", China's intelligent education is to promote students' creative thinking and personalized learning. Therefore, knowledge education has the characteristics of creative thinking and personalized learning. Intelligent education is to create a good learning environment for students, cultivate students unclear comprehensive ability, improve creative thinking, cultivate knowledge. Therefore, knowledge education is to provide an environment for students to grow up. The goal of wisdom education is to develop students' vague insights so that they can make correct judgments. Wisdom classroom originates from wisdom education and is suitable for specific classes. There are many views on the characteristics of intelligence classroom in academic circles. Some scholars believe that wisdom classroom needs to form an information environment. Therefore, in the specific classroom, combined with the actual situation of students, training students' undetermined wisdom. In educational practice, students can experience knowledge and feel the generation of knowledge. From this point of view, wisdom classroom is no longer a traditional classroom model, but the wisdom of the environment and conditions. The wisdom classroom takes the classroom as the starting point, through the interaction between teachers and students, realizes the cultivation of students' uncertainty and promotes students' uncertainty wisdom.

2.2 Characteristics of Smart Campus

The core features of smart campus are shown in the following aspects:

One is intelligent perception, which provides a comprehensive intelligent perception environment and comprehensive information service platform, including sensors' perception, capture and transmission of information and learner features and learning situations.

The second is interconnection and cooperation. The smart campus realizes seamless connection and interworking, realizes the interconnection and cooperation of various systems, and realizes the multi-dimensional information storage of people and things without blind spots.

Third, the service support platform. The core of smart campus is cloud computing platform with a powerful data processing system. According to the data mining and modeling technology, the trend analysis, outlook and prediction of the new information, through intelligent reasoning, rapid response, active response, to provide services for resource sharing, data security, education and teaching. Provide an interface between the school and the outside world for communication and perception.

Nowadays, the Internet comes into the classroom and brings great changes to students' classroom learning. A large amount of data and information resources can be obtained through the Internet of things technology, such as students' academic performance, teachers' scientific research overview, school management service data, etc. In-depth mining and analysis of these data will be of great benefit to the development of school teaching, scientific research, management, service and a series of activities. In such a new environment, it has become an important research goal for teachers to transform students' knowledge learning into wisdom learning and active learning. With the development of information technology, how to use information technology to train students to study intelligently is a very meaningful topic.

3. Experiments

With the rapid development of information technology and network education, the data of education platform, teachers and students in the field of education also proliferates day by day. How to make full use of these data, discover and dig the potential information, provide help for educators and learners, so as to improve the teaching effect and learning effect. At the same time, this problem has become a hot topic in the study of all sectors of society, which also promotes the application of data mining technology in the field of education more and more widely. This part firstly analyzes the current situation of the learning evaluation system of "university computer foundation" in our university. On this basis, it improves the current learning evaluation system by using the technology of educational data mining. This paper mainly discusses the establishment of evaluation objectives, selection of evaluation methods, construction of evaluation blueprints and feedback of learning evaluation.

The first step is to identify assessment objectives. According to the goal of computer basic course and teaching goal, the cognitive, emotional and motor skills goals of computer basic evaluation are determined.

The second step is to identify and evaluate participants. In 1952, the famous American psychologist Carl Rogers put forward the idea of "student-centered" education, which has been implemented in China. Therefore, the implementation process of evaluation should also take students as the center and establish the relationship between self-evaluation and mutual evaluation, so that students can participate in it. Therefore, the participants in the assessment are the teacher and all the students.

The third step is to determine the evaluation strategy. After identifying the assessment objectives and participants, the next step for the teacher is to identify the assessment strategies and methods. Learning evaluation can be roughly divided into two types: one is teachers' uncertainty about students' value and the other is students' self-evaluation and mutual evaluation. According to the basic principles of development evaluation and the student-centered educational concept, students' self-evaluation and mutual evaluation should be promoted during the implementation of learning evaluation.

4. Discussion

4.1 Basic Practice Analysis

At present, most universities adopt the comprehensive evaluation method combining process evaluation and summative evaluation. The purpose of adopting process evaluation is to encourage students to strengthen the learning of each module. The evaluation table of students' learning of university computer foundation is shown in table 1 below. Among them, the average score and the final score account for 50% of the final score respectively. Your usual score is summed up by 30% of your homework, 30% of your stage test, 20% of your attendance, and 20% of your MOOC performance.

Table 1 Evaluation table of college students' study on computer basics

Studentid	Name	Test1	Test2	Test3	Attendance	Practice	Gredes
		100	100	100	100	100	100

In the past, in our teaching activities, we could only use observation method to evaluate students' learning attitude, or manually collect some learning behavior data of students. This traditional method would be at a loss when faced with massive data. Therefore, this paper applies data mining technology to statistics and analysis of students' learning behavior data, in order to reduce the workload of evaluation, improve the evaluation efficiency and improve the process evaluation method. Based on the practice of word teaching, the development of the evaluation blueprint belongs to the "short-term evaluation blueprint". Combined with the teaching objectives, learning evaluation objectives and basic principles of developmental learning evaluation of Word advanced application module, the blueprint of learning evaluation of teaching experiment is planned. By issuing the questionnaire on the importance of the evaluation index of "Word electronic works", the teachers of computer science courses (including three professors) and the students of the teaching experimental class were asked to rank the importance of the five evaluation indexes of "Word electronic works". After a week, a total of 82 people filled in the questionnaire, including 10 teachers, 71 students and the author. The statistical results are shown in figure 1. Evaluation index ranking survey results are shown. The one with the highest score is the one with the highest comprehensive ranking. The calculation method of the comprehensive score of each option is shown in the formula. The weight is determined by the position in which the options are arranged. In this paper, the five evaluation indexes of "Word electronic works" are sorted, so the weight in the first place is 5, and the weight in the second place is 4, and the weight in the last place is 1. "Creativity", for example, has a combined average score of 3.54.

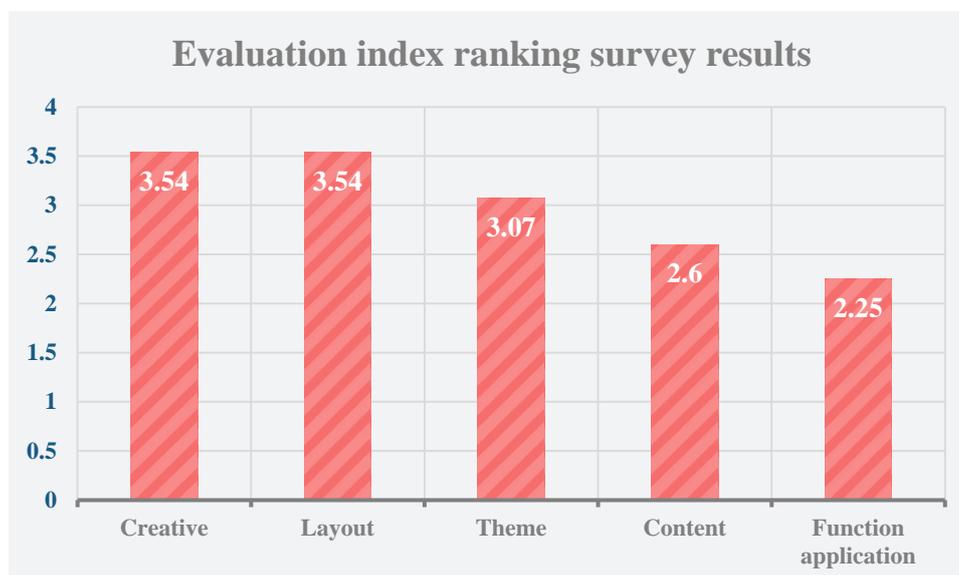


Figure 1. Evaluation index ranking survey results

If the total weight of the five evaluation indicators is set as 10 points, the weight calculation method of the evaluation indicators is: $(3.54/15)*10=2.4$. The weights of the above five evaluation indexes are calculated as shown in table 2 below.

Table 2 Weights of each index

Creative	Layout	Theme	Content	Function application
2.4	2.4	2	1.7	1.5

As can be seen from the statistical results, the traditional computer teaching is usually demonstrated by the teacher first, and then simulated by the students. In the long run, students will naturally feel boring and boring. Therefore, to improve the teaching quality, teachers must change the traditional teaching methods and adopt diversified teaching models.

4.2 Evaluation of Teaching Model Improvement

In the course of computer basic course teaching, students can achieve the best learning effect through previewing or reviewing by using the method of wisdom classroom teaching. In the pre-class preview stage, students can effectively improve their understanding through cloud class. After class, teachers can fully solve students' doubts by collecting some questions and preparing for class. Wisdom classroom teaching has a strong auxiliary function, through the wisdom classroom to guide the classroom teaching content, thus improving the efficiency and quality of teaching. At the same time, students put forward their doubts through the online classroom platform, which can be relatively complete recovery and solution. The teacher can present the content of the course to the students by the way of on-site demonstration. And according to the different growth experience and learning ability of students to achieve a good teaching effect, through micro classroom learning to fully grasp the scientific content. Thirdly, interactive communication between teachers and students is realized through online classroom teaching, which makes students' learning time more free and targeted.

5. Conclusions

In order to verify the feasibility of the learning experience design in the intelligent classroom environment proposed in this study, the uncertainty of students' academic performance was firstly analyzed and independent sample tests of different test results were completed. The results show that the application of the design of this study improves students' uncertainty score, indicating that the design of learning experience in this study has a positive effect on improving academic performance. Secondly, a questionnaire survey was conducted among the whole class.

The results show that the overwhelming majority of students hold a positive and positive attitude towards the problems they are studying, which indicates that they have gained better experience in the learning process. Few students have a different view on this, which also provides guidance for them. Improve future learning experience design.

In general, the design of learning experience in the intelligent classroom environment proposed in this study can be applied, which plays a positive role in enabling students to obtain all-round experience in the process of personalized learning.

Acknowledgment

2018 Jiangxi Provincial Department of Education Science and Technology Project, project number: GJJ181549, project name: VR cloud integrated intelligent teaching system based on Internet of Things

References

- [1] Bruya B, Ardelt M. Wisdom can be taught: A proof-of-concept study for fostering wisdom in the classroom[J]. Learning & Instruction, 2018, 58:106-114.

- [2] Bryson M, Castell S D. Queer Pedagogy: Praxis Makes Im/Perfect[J]. Canadian Journal of Education, 2017, 18(3)(18):285-305.
- [3] Chao L F, Huang H P, Ni L F, et al. [Construction and Application of Innovative Education Technology Strategies in Nursing].[J]. Hu LI Za Zhi, 2017, 64(6):26-33.
- [4] Haiyan Y. Application of Vlan and HSRP Technology in the Dual Core Campus Network[J]. 2018:332-333.
- [5] Fattahi M, Govindan K, Keyvanshokoh E. Responsive and resilient supply chain network design under operational and disruption risks with delivery lead-time sensitive customers[J]. Transportation Research Part E Logistics & Transportation Review, 2017, 101:176-200.
- [6] Dang T L, Huynh T H H, Nguyen M T, et al. The firm information environment and capital structure: international evidence[J]. Applied Economics, 2017, 49:1-19.
- [7] Kase S E, Bowman E K. Operating in the New Information Environment: An Army Vision of Social Sensing?[J]. 2018:1-1.
- [8] Gainous J, Abbott J P, Wagner K M. Traditional Versus Internet Media in a Restricted Information Environment: How Trust in the Medium Matters[J]. Political Behavior, 2018(3):1-22.
- [9] Styer M I, Anderson L B, Nichols A L. Ally, Advocate, Activist: Semester-long civic engagement in the basic communication course[J]. Communication Teacher, 2017, 32(4):1-5.
- [10] Liu Z, Zhang S. Self-organizing Community Learning Based on P2P Network in a University Computer Foundation Course[J]. International Journal of Emerging Technologies in Learning (iJET), 2018, 13(07).