

Innovation of Precise and Intelligent Teaching Mode in Vocational Colleges from the Perspective of Big Data

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Abstract: In order to study the precise and intelligent teaching mode of Vocational Colleges from the perspective of big data, promote the effective reform and innovation of teaching mode, and improve the teaching quality and efficiency of vocational colleges, this paper first analyzes the characteristics of the precise and intelligent teaching mode from the perspective of big data, then summarizes the precise and intelligent teaching mode from the perspective of big data, and then analyzes the innovation principles of the precise and intelligent teaching mode from the perspective of big data. Finally, based on the perspective of big data, this paper puts forward several strategies for innovating the precise and intelligent teaching mode of vocational colleges, aiming to meet students' personality and diverse learning needs, promote the high-quality development of the teaching mode of vocational colleges, and provide reference for relevant personnel.

Keywords: Big data, Vocational colleges, Precise and intelligent teaching, Innovate.

1. Introduction

With the rapid development of the Internet, great changes have taken place in the way people live and work. When big data changes people's living environment and thinking perspective, it has become the core engine of innovative Internet technology. Under this situation, vocational colleges have also relied on big data to carry out smart campus construction. Teaching management is gradually developing towards intelligence, accuracy and visualization, which has greatly improved the teaching quality and teaching level. In 2018, the Ministry of education mentioned in the information education plan document that teaching activities should be based on big data mining, collection and analysis, effectively integrated into the Internet, and truly achieve the goal of teaching students according to their aptitude. Therefore, from the perspective of big data, innovating the precise and intelligent teaching mode of vocational colleges is not only the general trend, but also an effective way to promote the innovative development of vocational colleges.

2. Characteristics of Precise and Intelligent Teaching Mode

(1) Online and offline integration. The precise and intelligent teaching mode is a combination of online and offline teaching. In terms of online teaching, it is not only a supplement to offline teaching, but also a solid foundation for further offline teaching based on the evaluation and analysis of students' learning situation. At the same time, online teaching is an effective way for students to consolidate, feed back and expand offline teaching content. Therefore, precision wisdom teaching is characterized by the combination of online and offline. (2) Big data aided analysis. Under the precise and intelligent teaching mode, it can help teachers analyze students' learning level, learning status and effect in a more detailed way by analyzing the data of the network platform, accurately grasp students' personality characteristics, so as to build a real-time map of students' knowledge and ability, and provide an auxiliary role for teachers to effectively carry out teaching design and other

related work [1]. (3) It has the function of screening information and guiding teaching. In the process of carrying out precise and intelligent teaching, teachers can obtain a large amount of data and information from students' feedback on teaching activities. Through effective screening and timely screening, teachers can better understand students' needs, lay a solid foundation for providing a more targeted and more suitable teaching model for students' learning, so as to achieve the goal of accurately promoting learning resources and personalized serving students. (4) It has rich teaching resources. Since the precise and intelligent teaching mode resource library is built on the cloud of the Internet, it contains comprehensive and diverse resources and information, which not only covers video and audio resources of various disciplines, but also has materials and tools such as professional feedback sorting, courseware guidance, exercise consolidation, key and difficult point analysis, which can meet students' different learning needs. Under the background of information interaction and teaching research, both teachers and students can quickly find the necessary resources in precise and intelligent teaching. (5) The interaction between teachers and students is diversified. With the support of intelligent devices and the Internet, the precise and intelligent teaching mode can break the traditional space-time boundaries and barriers, which can not only make the communication between students more three-dimensional and diversified, but also make the communication and feedback between teachers and students more timely, effective and diverse. (6) It has the function of dynamic comprehensive evaluation. Under the precise and intelligent teaching mode, students' evaluation is more comprehensive and scientific, including pre class learning situation analysis, in class real-time monitoring, after-class review and consolidation and other related teaching activities. Then, students' academic situation is comprehensively analyzed according to the data of students' activities and the trajectory of students' activities, so as to achieve the dynamic and comprehensive evaluation goal.

3. Overview of Accurate and Intelligent Teaching Mode Based on Big Data Perspective

From the perspective of big data, the precise wisdom teaching mode not only needs to design the common learning progress of all students, but also needs to take into account the development direction of different students' individual abilities. Therefore, when carrying out precise wisdom teaching, we should take students' individual abilities as the teaching core, master students' behaviors and characteristics through data analysis, and lay a foundation for giving full play to the precise wisdom teaching function. In the process of precise and intelligent teaching, teachers should first dynamically and accurately analyze the students' learning conditions such as pre class preview and after class review, and select the appropriate resource base to carry out the teaching work according to the analysis results. If the student groups are different, they can assist the teaching with the help of different teaching resources and learning paths, such as intelligent devices, exercises, class admiration, videos and graphics. After the plan and goal of precise and intelligent teaching are effectively formulated, students can choose learning resources from the main according to their own learning situation and needs, and can also use the tool library pushed by big data to learn and carry out teacher-student cooperation, communication and other activities. Under the precise and intelligent teaching mode based on big data perspective, teachers will monitor the whole process and adjust students' teaching and learning methods in real time. At the same time, in case of problems, both teachers and students can timely feed back and evaluate with the help of the big data platform, and effectively improve the quality of teaching while dynamically adjusting the teaching and learning methods [2].

4. Innovation Principle of Precise and Intelligent Teaching Mode Based on Big Data Perspective

Under the background of more and more mature, diversified and information-based education models, teachers' teaching ideas are also gradually changing, and they generally hope to achieve the goal of innovative and diversified teaching methods with the help of big data and modern equipment. However, when teachers apply big data and other modern technologies, they often have shallow use, superficial use and other phenomena, which makes the precise and intelligent teaching model unable to give full play to the functions of communication, intervention, adjustment and preset. Therefore, from the perspective of big data, when innovating the precise and intelligent teaching mode, we should take its operation characteristics as the basis, and carry out the innovation of the precise and intelligent teaching mode on the basis of following the innovative principles of flexible teaching objectives, open and interactive classes, and procedural teaching evaluation. (1) Pay attention to the flexibility of teaching objectives. Different from the traditional teaching mode, precision and wisdom teaching emphasizes exploratory, active and cooperative learning. Therefore, when setting teaching objectives, we should break the traditional thinking, and effectively cultivate students' abilities of practice, communication, reflection and information application on the basis of giving full play to

students' standard and initiative, so as to make them become all-round development talents. Therefore, based on the perspective of big data, we should innovate the precise and intelligent teaching mode. We should adjust the teaching objectives in real time according to the results of data analysis and evaluation to ensure that they are flexible. This can not only dynamically analyze the learning situation in different stages of the classroom, but also enhance the intelligence and timeliness of the classroom. (2) Pay attention to the openness and interactivity of the classroom. Compared with the traditional cramming class, the precision wisdom teaching class emphasizes the students' initiative, autonomy and subjectivity in learning. Therefore, based on the big data perspective, the precise and intelligent teaching mode is innovated. Teachers should ensure that students' learning rights are open, so that they can adjust and optimize their learning plans independently to meet the personalized needs of learning context. At the same time, teachers should guide students to carry out group learning, so that they can improve the experience effect and learning effect in open communication and interaction. (3) Pay attention to the process of teaching evaluation. Each student's personality and learning ability are different, and their learning progress and learning effectiveness are also different. Therefore, when carrying out accurate and intelligent teaching evaluation based on big data perspective, vocational colleges should change the single evaluation mode in which test scores are the main evaluation indicators, and conduct more accurate and comprehensive evaluation based on the analysis of students' knowledge mastery map and learning curve, so as to enhance students' learning motivation Improve learning effect and provide guarantee [3].

5. Strategies for Innovating the Precise and Intelligent Teaching Mode of Vocational Colleges from The Perspective of Big Data

From the perspective of big data, in order to effectively innovate the accurate and intelligent teaching mode, vocational colleges must change the traditional teaching thinking, reform the existing teaching mode, teaching content and teaching strategy, and carry out teaching based on materials on the basis of paying attention to the characteristics of students' differentiation and personalization. Specifically, vocational colleges can carry out the innovation of precision wisdom teaching mode from six aspects: collecting learning behavior related data, mining and analyzing teaching data, formulating precision wisdom teaching objectives, intelligently pushing course content and teaching strategies, carrying out precision wisdom teaching evaluation and diagnosis, and promoting precision wisdom control and intervention, so as to achieve the innovation objectives of precision wisdom teaching mode To improve the teaching quality and level of vocational colleges.

5.1. Collect Data Related to Learning Behavior

Based on the big data perspective, when innovating the precise and intelligent teaching mode, vocational colleges can first collect and analyze learning behavior and other related data with the help of online vocational education and other cloud platforms. Among them, learning behaviors include learning preferences, enthusiasm, interests, habits, etc. relevant data include discussion participation, login platform

frequency, homework completion, browsing learning materials, learning duration, etc. By collecting and analyzing these relevant data, teachers can help them grasp students' learning status dynamically and timely. By recording the collected and analyzed data, they can lay a solid foundation for subsequent data mining.

Mining and Analyzing Teaching Data

From the perspective of big data, vocational colleges can mine the collected information and data through online vocational education and other cloud platforms, and build a big data teaching center to compare, test and analyze students' behavior, performance and results, so as to accurately and intelligently predict the future performance trend of students. In addition, vocational colleges can use SPSS software to mine and analyze students' motivation, tendency, style, preference, etc. on the basis of the analysis results, they can intelligently diagnose the data, obtain the learning results of each class and student, and push them to each teacher to effectively promote accurate and intelligent teaching.

5.2. Develop Precise and Intelligent Teaching Objectives

On the basis of mining and analyzing the learning situation, potential, trend and other results, vocational colleges should combine these data to quantify the internalized learning behavior into the external precise and intelligent teaching goal, so as to make it measurable and clear. When formulating precise and intelligent teaching objectives, vocational colleges should fully consider the actual situation such as the characteristics of students, establish sub objectives at each stage on the basis of precise and intelligent decomposition, conduct in-depth analysis and continuous optimization of sub objectives, and finally develop a decision-making database for precise and intelligent teaching objectives, so as to lay a foundation for intelligent promotion of course content.

5.3. Intelligent Push Course Content and Teaching Strategy

After formulating the decision-making database of accurate and intelligent teaching objectives, vocational colleges should design matching course contents and teaching strategies based on the perspective of big data. Vocational colleges can intelligently push course content and teaching strategies by combining big data analysis results and accurate and intelligent teaching goal decision-making database. If some students fail to achieve the goal of accurate and intelligent teaching, vocational colleges should make cyclic adjustments to the course content and teaching strategies, so as to achieve the goal of a virtuous cycle of accurate and intelligent teaching mode [4].

5.4. Carry Out Accurate and Intelligent Teaching Evaluation and Diagnosis

From the perspective of big data, vocational colleges should accurately and intelligently assess and diagnose the behavior characteristics of students in the whole learning cycle, fairly and objectively assess whether students' enthusiasm, preferences and abilities at all stages of learning have reached the expected precise and intelligent goals, and make multidimensional and authentic diagnosis of learning results. Through the application of cloud platform related data such as vocational education, it can ensure that vocational colleges can more accurately master the effect of learning on the basis of students' personalization and differentiation.

While improving the feasibility and accuracy of accurate intelligent teaching evaluation and diagnosis, it can achieve the goal of transforming traditional single evaluation, summary evaluation to comprehensive evaluation and process evaluation.

5.5. Promote Precise and Intelligent Control and Intervention

Based on the big data perspective, in order to effectively innovate the precision wisdom teaching mode, vocational colleges should start from the individual needs of students and take teaching students according to their aptitude as the core to promote the precision wisdom control and intervention. Precise intelligent control and intervention is to use big data to record and diagnose students' behaviors, judge whether they have achieved the sub goals of this stage, and take appropriate control and intervention actions. If the student has achieved the sub goal of this stage, he can start the sub goal of the next stage; If students fail to complete the sub goal of this stage, they will take control and intervention measures for teachers' teaching and students' learning. Generally speaking, the three stages of teaching class, discussion group and students can be controlled accurately and intelligently. By promoting precise wisdom control and intervention, the goal of precise wisdom teaching can be achieved while continuously optimizing teachers' teaching and students' learning methods.

6. Conclusion

In a word, the innovation of precise and intelligent teaching mode in vocational colleges is not only an effective way to implement the student-centered education concept, but also a necessary way to promote the modern development of vocational colleges. Therefore, vocational colleges should, from the perspective of big data and on the basis of giving full play to information technology and data drive, effectively innovate teaching and learning methods, and achieve personalization through collecting data related to learning behavior, mining and analyzing teaching data, formulating accurate and intelligent teaching objectives, intelligently pushing course content and teaching strategies, developing accurate and intelligent teaching evaluation and diagnosis, and promoting accurate and intelligent control and intervention Differentiated teaching, while achieving the effective innovation goal of the precise and intelligent teaching mode in vocational colleges, will provide the society with comprehensive, developmental and innovative talents.

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