

# *Research on the Development Strategy of Smart Teaching under the Background of Informationization*

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**Abstract:** The development of intelligent teaching under the background of information technology has become a key concern of the state and education departments. Cultivating students' innovative ability and promoting students' personalized growth based on intelligent teaching can cultivate modern and comprehensive talents needed by the state. Starting with the overview of wisdom teaching, we can understand the core technologies commonly used in wisdom teaching under the background of information teaching, and expand the development channels and space of wisdom teaching, which can not only build the wisdom teaching mode that students like, but also turn digital teaching into intelligent teaching. In order to realize the rebirth of Chinese education and build a new teaching situation, the classroom form and teaching mode can be greatly changed, and the teaching strength of our country can be rapidly improved.

## 1. Introduction

With the increasing national demand for talents, Chinese colleges and universities have begun to actively improve the educational level and optimize the educational model, hoping to break the tradition of solidifying learning ideas, help students learn independently and enhance their inquiry ability. The emergence of wisdom teaching has brought a new development direction for teaching reform. Students can take advantage of the development opportunity of wisdom teaching to strengthen autonomous learning and effectively master information technology, so as to enhance their own innovation and creativity, and thus actively become the beneficiaries of wisdom teaching.

## 2. Overview of Wisdom Teaching

Under the background of information technology, smart teaching will create a smart learning environment with the help of information technology. Students can strengthen their knowledge of relevant educational content and information in the cloud, and also use advanced technology to overcome traditional teaching problems and improve the interactivity of teaching, so as to strengthen real-time feedback and real-time evaluation of teaching, build a three-dimensional teaching platform, realize personalized teaching and promote students' all-round development. Wisdom teaching is a new change in teaching, which can improve the informatization of teaching and cultivate more informatization talents, and make people truly change their learning mode with the change of information technology. Understanding the wisdom teaching mode is not difficult to

find that the educational resources are gradually expanded in the development of wisdom teaching, and the audio-visual materials and digital material database related to teaching are constantly being improved, which is not only beneficial to students to broaden their learning horizons, but also to realize the zero-distance communication between teachers and students, improve the communication frequency and quality between teachers and students, and ensure the common growth of educators and learners in one-to-one and one-to-many communication. Wisdom teaching can strengthen the application of big data technology, cloud computing technology, Internet of Things technology and other technologies [1]. It can not only realize the real-time interaction between teachers and students, but also break the time and space restrictions and guide teachers and students to strengthen their learning. Feeling the value and significance of wisdom teaching under the background of information teaching, knowing the advantages and characteristics of wisdom teaching, can optimize the wisdom teaching mode based on the needs of students' development, can promote the transformation of teaching information, build an ideal learning environment and promote the healthy growth of students.

### **3. The Core Technology of Intelligent Teaching under the Background of Information Teaching**

#### **3.1 Cloud Computing Technology**

Cloud computing technology is widely used in wisdom teaching. Cloud computing can store massive data resources, including virtual technology with strong scalability. Understanding the development status of smart teaching at this stage is not difficult to find that cloud computing technology is widely used in teaching and has achieved good results. For example, there are cloud computing technologies in online learning platforms, learning hardware and related learning resources. Using cloud computing technology to break the isolated island of educational information can avoid the problem of repeated investment. At the same time, cloud computing technology can also create an individualized environment for students, enabling them to break the time and space restrictions and enjoy diversified learning services. Students' data in the learning process will be automatically transmitted to the cloud, which is conducive to strengthening the preservation of learning records and improving learning efficiency [2]. To strengthen the understanding of cloud computing technology, it is not difficult to find that cloud computing technology, which is based on the Internet and has strong virtual characteristics, can not only realize data migration through virtual teaching platform, but also optimize teaching resources with the help of computing power and save computing cost. Feeling the value implication of cloud computing technology, and actively strengthening the effective application of cloud computing technology in the development of smart teaching can effectively break the limitations of traditional education and transform digital education into smart education.

#### **3.2 Big Data Technology**

Big data technology is also a popular technology used in smart teaching at present. Because of its wide data sources and strong data analysis and sharing ability, it not only provides huge data information for smart teaching, but also realizes cross-domain data crossing and expands information storage system together with cloud computing technology, so as to improve the teaching process and ensure strong support for the development of digital teaching. By strengthening the analysis of big data technology, it can be found that it has the characteristics of real-time monitoring, can know the problems existing in teaching in time, and can provide educators and learners with broader opportunities and platforms for speaking. Students and teachers

can communicate and interact with each other with the help of big data technology, and big data platform can strengthen the grasp of the communication trend between learners and educators, so as to predict the development direction of education. Updating the educational content in real time by big data technology and promoting the development of educational modernization can not only strengthen the accurate evaluation of the current situation of smart teaching, but also understand the weak points in teaching and strengthen targeted resolution, so as to formulate a more rational teaching model for students, improve the quality and efficiency of smart teaching and realize the rebirth of smart teaching<sup>[3]</sup>.

### **3.3 Internet of Things Technology**

The technology of Internet of Things refers to the real-time connection between things and the Internet by means of positioning systems and sensors. At present, the Internet of Things technology can realize the effective connection between objects and people, objects and objects. Strengthening the connection is conducive to systematic control, strengthening the storage of relevant data, and providing a good environment for the development of intelligent teaching, so as to save the cost of teaching management and strengthen the understanding of the characteristics of the Internet of Things technology<sup>[3]</sup>. It is found that the Internet of Things can effectively monitor the students' state, not only know their physical condition based on their heart rate and body temperature, but also form a student health database, ensure the continuous optimization of teaching and help the dream of strengthening the country through sports. At the same time, the Internet of Things technology can also strengthen the collection of learning situations. It can collect relevant information regularly by means of sensors to help students develop individually. The organic integration of the Internet of Things technology and teaching ideas can expand the proportion of extracurricular teaching, help students build virtual teaching practice activities and cultivate students' inquiry ability and innovation ability. Strengthen the understanding of Internet of Things technology, and find that it is mostly used in teaching equipment. For example, teachers' equipment, laboratory equipment and other equipment use the Internet of Things technology frequently, and managers can use the Internet of Things technology to strengthen equipment detection, so as to improve teaching-related software and hardware to protect the development of intelligent teaching.

## **4. The Development Strategy of Intelligent Teaching under the Background of Information Teaching**

### **4.1 Optimize the Structure of Educational Content**

Promoting the development of smart teaching and optimizing the educational content structure to meet the diverse needs of students under the background of information technology can not only improve students' practical ability, but also enable students to make effective use of the Internet under the background of information technology, so as to expand the teaching mode and teaching pattern and realize new teaching. Schools should actively build smart campuses to lay the foundation for the optimization of educational content structure. Traditional teaching mode belongs to single linear thinking, which will guide students to understand the relationship between different knowledge points and gradually guide students to further grasp and understand knowledge<sup>[4]</sup>. After learning the basic knowledge, students also need to know the application mode of theoretical knowledge in order to improve their practical ability. Wisdom teaching is different from traditional teaching. Wisdom teaching pays more attention to guiding students to feel the wisdom value of knowledge. Therefore, the teaching content should have the characteristics of sociality and authenticity. On the one hand, the school should strengthen the research and deconstruction of the

existing educational content, not only clarify the educational content and knowledge on the basis of natural science, but also enhance the rigor of knowledge transmission, so as to improve students' knowledge structure to guide students to form personalized knowledge system, and deepen their knowledge of subjects; On the other hand, schools will explore the cultural system behind knowledge based on traditional customs and regional culture, which also endows subject knowledge with social characteristics. Students can actively improve their understanding by learning social knowledge, which is conducive to enhancing their cultural self-confidence and becoming socialist successors. For example, teachers can use smart technology to construct multiple scenarios, and guide students to think deeply about problems in the scenarios, so as to improve students' ability to solve problems. Wisdom teaching content itself has the characteristics of informationization and digitalization. Keeping its wisdom features can help students understand the wisdom contained in the subject, which is beneficial to their growth. Teachers need to optimize the design of teaching scheme based on the needs of students' development, not only to help students change their knowledge structure, but also to promote their wisdom upgrade, and to strengthen students' in-depth understanding of problems in inquiry teaching, so as to improve their problem-solving ability and practical problems. Students have strong learning ability, and can find and solve problems in the learning process, while wisdom teaching can provide students with more comprehensive learning resources by means of information technology, so as to help students get in touch with the truth in constant verification, thus enhancing their learning ability and innovation ability.

## 5. Building a Dynamic Evaluation Mechanism

Teaching evaluation is the core means to promote the optimization of smart teaching. To promote the development of smart teaching, we should strengthen the application of multiple technologies, build a dynamic evaluation model, and strengthen the multiple evaluation of teachers, students and teaching models, so that we can not only understand the problems existing in smart teaching, but also improve the evaluation system. Based on wisdom means, we can help the integration of process evaluation and formative evaluation, strengthen the in-depth analysis and understanding of students' knowledge, learning ability, inquiry ability and learning attitude, promote the optimization of wisdom teaching with the help of students' personality characteristics, build a hierarchical training mode, and promote the common growth of students at different levels, so as to truly realize the fairness and justice of education<sup>[5]</sup>. At the same time, in order to enhance the evaluation value, the evaluation subject should be transformed into students. We should not only know the students' learning situation, but also strengthen the collection of students' dynamic data. We can collect students' relevant dynamic data with the help of big data, cloud computing, Internet of Things and other technologies, and learn about students' pre-class preparation and interaction in class. Collecting students' relevant data can cultivate students' inquiry ability based on students' learning patterns, better understand their knowledge and comprehensively evaluate them. In this way, the weak points in teaching can be found in time, and targeted solutions can be strengthened. The emergence of diversified information technology has brought infinite possibilities for smart teaching. The optimization of smart teaching under the background of information teaching needs the joint efforts of teachers, schools, society and families. Schools should actively build smart campuses and improve teaching-related software and hardware facilities to lay a good foundation for the optimization of evaluation mechanism. With the development of wisdom teaching, the school is actively building a smart campus, hoping to provide assistance for the development of wisdom teaching. In the construction of smart campus, strengthening the analysis of traditional teaching mode can find that smart teaching puts forward higher requirements for teaching software and hardware. The government should appropriately innovate teaching investment according to

students' development needs, and strengthen smart teaching settings to promote traditional teaching to digital teaching and realize new upgrading of teaching in the intelligent era. At the same time, in order to ensure the effective construction of dynamic evaluation mechanism, in the process of intelligent teaching evaluation, we can actively attract multiple subjects, further strengthen self-discovery, and promote the humanization of evaluation with the help of teachers' self-assessment and students' self-assessment, so as to improve the scientificity and rationality of dynamic data collection, ensure that relevant evaluation data can promote the development of intelligent teaching, and form a brand-new educational development pattern to realize the innovation of intelligent teaching<sup>[6]</sup>.

## 6. Improve the Educational Organization Form

The development of wisdom teaching can help schools break the traditional classroom dependence, strengthen the cultivation of students' creativity and stimulate students' desire to explore and learn. In the development of wisdom teaching, academic research and learning can be organically integrated, and students can strengthen knowledge research and independent innovation through intelligent technology. On the one hand, students need to actively strengthen the use of cyberspace, break the time and space restrictions by means of the Internet to carry out autonomous learning, strengthen interaction and communication when mastering basic knowledge, and strengthen all-round cognition of theoretical content by means of demonstration operation, so as to enhance practical ability. Wisdom teaching not only puts higher demands on teachers, but also on students. Students need to have strong autonomous learning ability in order to strengthen all-round analysis of theoretical content. Different students have different personality characteristics. In order to strengthen targeted training for students with poor self-learning ability, teachers can set up relevant learning templates for them, clarify their learning ideas and learning progress, help them strengthen targeted learning, and provide all-round support for students' autonomous learning. Taking autonomous learning cyberspace as an example, when autonomous learning space is running, it can strengthen the collection of students' dynamic data, understand students' learning state and knowledge absorption mode, and make targeted training plans for them. Strengthening the analysis of students' dynamic data is more conducive to building a humanized training scheme for students, and can also enhance students' learning confidence in the development of intelligent teaching. In the development of teaching wisdom, we should strengthen the use of diversified teaching resources, not only to guide students to explore related issues through the Internet, but also to set up diversified issues, to help students strengthen the excavation of hidden knowledge behind explicit knowledge, to help expand disciplines, and to make students truly feel the logic among knowledge points. Students can solve related problems through the Internet, which can lay a good foundation for the construction of a lifelong learning society<sup>[7]</sup>. Intelligent learning space provides unlimited possibilities for students, and students can share resources and communicate with classmates through it. Strengthening the effective cognition and utilization of wisdom teaching value will help students to strengthen their reflection in communication and cooperation. For example, teachers can divide students into different groups. Members in the group can expand their learning ideas and learning space when they cooperate, and they can also strengthen supervision and share learning experience when they cooperate in group learning, so as to improve their learning ability and ensure the effective improvement of intelligent teaching efficiency. Students must strengthen their systematic mastery of the technology of the new era, so as to cope with the complicated learning situation, enhance their wisdom ability and wisdom literacy, and promote the optimization of the industry, which is conducive to students to a new stage of development, and enable students to feel the charm of wisdom teaching in the process of development, thus becoming advocates of wisdom

teaching.

## 7. Conclusion

The development of diversified technologies has laid a good foundation for the development of educational informatization. With the gradual popularization of cloud computing technology and big data technology, education is moving towards the era of intelligent development. Smart teaching has become not only the development trend of education, but also the direction of students' learning. Students can strengthen autonomous learning through diversified technologies, as well as learn about learning efficiency and learning quality through diversified technologies, so as to strengthen learning reflection, enable students to grow into compound talents, build modern educational concepts in modern society, meet the development needs of diversified students, and realize the rebirth of quality education.

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