In-depth Integration of Information Technology and Classroom Teaching

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Abstract

The deep integration of information technology and teaching is an important aspect of school informatization. With the deepening of curriculum reform, people are more and more dissatisfied with the closed and conservative traditional classroom. Thus, people are eager to find a new classroom model and a new classroom form to solve all kinds of contradictions and puzzles in the traditional classroom. The rapid development of information technology makes it possible to solve this contradiction and confusion, and it is also a new way and method to realize educational informatization. This paper expounds the characteristics of the integration of information technology and classroom teaching, the application of information technology in the classroom and what should be paid attention to in the classroom, in order to better explain the integration of information technology and classroom teaching.

Keywords

Information technology; Classroom teaching; Fuse.

1. Introduction

The deep integration of information technology and classroom teaching is not only an ideal teaching mode, but also the inevitable trend of the development of the times. It plays a positive role in promoting students' healthy development and active learning. Some experts pointed out that at this stage, China's educational informatization development is in the initial application and integration stage. In the process of continuous application and integration, we will strive to enter the comprehensive integration and innovation stage in ten years. In 2019, the state issued China's educational modernization 2035, which pointed out that "At present, major scientific and technological innovations are leading the transformation of social production, the development of new technologies such as the Internet is constantly reshaping the form of education, and profound changes are taking place in the way of knowledge acquisition and teaching, and the relationship between teaching and learning.

Therefore, the people's demand for education is more diverse, and their demand for higher quality, fairer and more personalized education is more urgent." However, in terms of the current teaching mode, the traditional classroom is still lack of personalization and innovation, and the reform and innovation of educational organization form and management mode seems to be difficult. Fortunately, the effective use of information technology can make up for the shortcomings of the traditional teaching mode to a great extent, and it is also widely praised by teachers and students (Kimmons et al., 2020). With the support of information technology, knowledge, theory and technology can be integrated cleverness and operation methods are integrated with each other, so as to be intuitively presented to students, which can form a strong attraction for students, so as to better guide them to integrate into tense and orderly teaching activities and make students grow up individually (Akramova, 2020).

2. Characteristics of Classroom in the Information Technology Era

The deep integration of information technology and teaching is to emphasize the necessity and effectiveness of the application of information technology in teaching. According to the education informatization 2.0 scheme, it has become a new direction of education reform to give full play to the advantages of information technology in the field of education, innovate the traditional teaching mode and promote the development of education towards informatization. More importantly, the classroom in the information technology era has the characteristics of intelligence, personalization and openness due to the blessing of information technology(Conner, 2018).

2.1. Intellectualization

Intelligence is the primary feature of intelligent classroom. The intellectualization of classroom teaching is mainly reflected in: first, the intellectualization of classroom configuration. Some intelligent devices are configured in the classroom, such as multi-screen partition design, remote cooperation system, wireless projector and other intelligent devices. The configuration of intelligent devices makes teaching more convenient and independent, and the communication between teachers and students in the classroom more free, open and diversified. The second is the intellectualization of teaching and learning methods. Teachers use intelligent devices in the classroom for intelligent teaching. For example, using intelligent analysis system to form targeted learning data for students through big data and visual analysis, and carry out purposeful teaching according to these data to promote students' development and progress.

2.2. Personalization

Whether traditional or modern teaching mode, teaching activities show three obvious stages in time series: before class, during class and after class. Personalization is mainly manifested in students' personalized geography, personalized teaching and personalized homework (Olakanmi, 2017). Before class, teachers push personalized preview requirements according to each student's learning situation, so that students can learn independently; In the classroom, teachers can use the intelligent equipment in the classroom to carry out key and difficult teaching vividly (Gilakjani, 2017), vividly and interestingly according to the students' learning situation, so as to help students better master the learning content; After class, teachers have a comprehensive understanding of students' learning situation according to the big data obtained(Liao et al., 2017), carry out one-to-one resource push and learning guidance, and arrange personalized homework in layers.

2.3. Openness

Openness is mainly reflected in three aspects: first, the openness of time. Students can set the learning time according to the actual situation and study anytime and anywhere; Second, spatial openness. The classroom expands the learning space. Students are no longer confined to the classroom environment to accept learning (Waititu & Mugo, 2021). Students can study online anywhere, and students in different regions can study and discuss at the same time; Third, the openness of teaching content. In the information age, the classroom is not limited to teachers, teaching materials and courses, but can be personalized, three-dimensional and dynamic. Students can obtain the required learning materials anytime and anywhere, so as to promote the reform of classroom teaching practice, promote the innovation of learning methods and promote the construction of open schools (Balami et al., 2020).

3. Application of Information Technology in Classroom Teaching

The application of information technology means to basic teaching not only meets the requirements of the new curriculum standards for curriculum teaching, but also meets the trend of the development of the times, which is of great development significance to promote the reform of traditional teaching mode. However, in some classrooms, although there are some modern teaching facilities, there are still some problems such as low efficiency and ineffectiveness in the classroom. Through the deep integration of information technology and classroom teaching, we can achieve efficient classroom teaching by aggregating and pushing high-quality curriculum resources, promoting personalized learning, improving students' high-level thinking development, providing technical support for evaluation, and providing environmental support for the effective development of teaching and learning (Khlaif, 2018).

3.1. Aggregate and Push High-quality Curriculum Resources

The lack and monotony of curriculum resources and the boring and boring of traditional teaching methods lead to inefficient classroom teaching and cannot arouse students' interest. With the development of information technology, all this can be easily solved. Information technology is changing the field of teaching (Dinc, 2019). People use it to collect and analyze data, and then extract all kinds of valuable information for teaching from massive data. At the same time, information technology uses its characteristics of fast transmission speed, wide range of resource sharing and strong information processing ability to aggregate and push these valuable data resources (such as high-quality curriculum resources). In this way, teachers and students across the country can enjoy high-quality resources and provide digital and intelligent services for teachers' teaching and students' learning (Çoklar & Yurdakul, 2017).

3.2. Promote Students' Personalized Learning

Paying attention to individual differences, respecting students' individual choices and encouraging personality development are the mission of education. Students' personalized learning is the ideal state of learning, and promoting students' personalized learning is also the core task of efficient classroom. The traditional classroom, due to the limitations of conditions, cannot realize personalized learning, but the emergence of information technology makes these possible. Information technology uses cloud computing and cloud services, big data analysis, human-computer interaction and other technologies to provide guidance and help for students' learning by recording the learning process, identifying the learning situation, perceiving the learning state, and making real-time statistics and analysis. According to these intelligent information, teachers guide and help students, improve and adjust their learning in time, and then realize personalized learning (Perienen, 2020).

3.3. Improve Students' High-level Thinking Development

According to Bloom's classification of educational objectives, many teachers devote their main energy to the achievement of students' low-stage teaching objectives such as memory, understanding and simple application, and pay insufficient attention to the training of students' high-order thinking ability such as analysis, evaluation and creation. The reason for this situation is that the teaching conditions cannot help teachers achieve high-level teaching and learning objectives (Gilakjani, 2017). The development and intervention of information technology has provided help for the development of high-level teaching. It can guide teachers to solve teaching problems and answer questions, guide and work creatively, and promote the development of students' high-order thinking ability.

3.4. Provide Technical Support for Evaluation

Classroom teaching evaluation is an important part of classroom teaching. It is related to the smooth implementation and overall effect of classroom teaching. The traditional education

evaluation is single and one-sided. In the aspect of teaching evaluation, it lacks the scientificity and integrity of data collection and basis. It is mainly completed through examinations, homework and exercises. Generally, there is a lack of quantitative evaluation basis for systematically, comprehensively and accurately measuring students' knowledge and ability level, literacy formation and so on (Khlaif, 2018).

However, with the development of information technology, educational evaluation is also changing day by day, from traditional evaluation to digital evaluation. With its timeliness, continuity, complexity and universality, digital evaluation makes classroom teaching evaluation more timely, pays attention to process, highlights intelligence and pays attention to comprehensiveness. It can carry out dynamic tracking evaluation and establish a data sharing platform. These accurate analyses provide tracks and parameters for teachers' teaching and students' learning, and provide basic basis and technical support for improving classroom teaching quality and learning efficiency.

3.5. Provide Environmental Support for the Effective Development of Teaching and Learning

Teaching environment is the guarantee for the smooth development of teaching and learning. The in-depth integration of information technology and classroom provides a good teaching environment for teaching and learning. Put "human development" in the first place in the structure of teaching, create an information environment suitable for teaching and learning, and improve the quality of life of students and teachers in teaching activities. So that teachers can better explain the difficult points clearly, and students can better realize the quality of learning, so as to help teachers "teach" more effectively and students realize personalized "learning". It provides environmental support for the effective development of pedagogy, creates a new digital teaching environment, innovates the mode of teaching and learning, and provides support for promoting the development of teaching and learning.

4. Matters Needing Attention in the Integration of Information Technology and Curriculum

At the beginning of the application of information technology, technology was exaggerated, and teachers almost walked into the shackles of "technology for technology". With the passage of time, people have increasingly realized that to create an efficient classroom, we should not only pay attention to the technology itself, but also pay attention to the rational use of technology, integrate technology as a means and tool into classroom teaching, innovate the way of subject teaching and promote the development of students.

In the process of the deep integration of information technology and classroom teaching, while enjoying the convenience brought by technology, we must pay attention to respecting the main position of the curriculum and the subjective needs of students, so as to make the traditional "teacher-centered" teaching structure evolve into a "combination of leadership and subject".

4.1. Respect the Main Status of the Course

In the early stage of technology utilization, technology integration into curriculum is often a thing that teachers enjoy. The use of powerpoint, multimedia and network teaching resources, teachers think this is the integration of technology and curriculum. In fact, this phenomenon of technology for technology puts a technical coat on traditional teaching, which is still the idea of traditional teaching.

Additionally, the real integration should start from the curriculum itself and make an in-depth analysis according to the curriculum concept, curriculum structure, curriculum objectives, curriculum content, key and difficult points of the curriculum, teaching methods, discipline

characteristics and students' situation. Then, from the perspective of the purpose of the course, explore the application of technology and what technology to complete an efficient classroom. The real integration is to start from the curriculum itself and use technology to complete efficient teaching activities. In short, the curriculum is not the curriculum of technology, but how to use technology to explain the curriculum itself.

4.2. Respect Students' Subjective Needs

For a long time, the traditional classroom takes teachers as the center and imparts exam oriented knowledge, ignoring people's experience and students' autonomy in the classroom. Under the oppression of the two mountains of "examination oriented" and "entering a higher school", students become "examination oriented" tools and become numb, resulting in the continuous loss of people's sense of self, autonomy and personality, and classroom teaching forgets people's development for the sake of technology. For a long time, the traditional curriculum focuses on knowledge transmission and students' cognitive development, but ignores people's experience and students' autonomy in the classroom (Conner, 2018). Therefore, classroom teaching in the information technology era should respect students' subjective needs. Students are to learn knowledge, not technology. The relationship among technology, curriculum and students should be "students > curriculum > technology".

5. Conclusion

The development of modern information technology has not only greatly helped to improve the traditional teaching mode, but also had a significant impact on the value, objectives, contents and ways of learning and teaching of education. The use of computer-aided instruction can provide students with a teaching environment with synchronous sound and image, static and dynamic, vivid and lifelike, make students more willing and have more energy to invest in practical and exploratory teaching activities, give full play to students' main role, and make different students gain, so as to promote them to actively participate in teaching practice and improve their ability and literacy in all aspects.

The starting point and destination of education is human development, and cultivating people is the true appeal of education. Therefore, the development of technology should also pay attention to human development, people-oriented, create and construct a meaningful world. Education is to cultivate people with comprehensive and personality development. The use of technology is an inevitable trend of social development. We should comply with the trend of the times, not against the wind. We should look at the in-depth integration of information technology classroom and teaching from a comprehensive and developmental perspective. The deep integration of information technology and curriculum is not to abandon the traditional classroom, but to endow education with new connotation with the development of society.

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