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# Analysis of the Application of Modern Educational Technology in Middle School Mathematics Teaching

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***Abstract*** **– With the rapid development and wide application of information technology, modern education technology has entered the middle school mathematics teaching classroom more and more, and the teachers' educational concepts, teaching methods and teaching organization forms have undergone profound changes. With the continuous introduction of new curriculum reform and informatization teaching, the application of modern educational technology has also aroused widespread concern in the education sector. This paper starts from the application status of modern educational technology in middle school mathematics teaching, analyzes the problems that need to be solved in the application process of modern educational technology, and puts forward practical suggestions, which makes the application of modern educational technology in middle school mathematics teaching perfect.**

***Keywords*** **– Modern Educational Technology, Middle School Mathematics Teaching, All Media Means.**

## I. THE INTRODUCTION

Compared with traditional educational methods, modern educational technology has a strong advantage that can not be ignored in improving the efficiency of mathematics classroom teaching and increasing the capacity of the curriculum. Along with the development of modern educational technology and the wide application in the field of education, modern educational technology with the whole media, network and artificial intelligence as the core has emerged[1]. But gradually, the advantages of modern educational technology have been magnified to be deified. Many teachers will think that as long as the application of modern educational technology can greatly improve the teaching effect. What's more, I think that a class must use all media. If there is no computer, there is no way to do mathematics classes; even if it is a good class, if you do not apply modern educational technology, it is not a good demonstration class. Therefore, if you can rationally and correctly view modern educational technology in the process of mathematics teaching, and combine mathematics knowledge with modern educational technology, mathematics classroom will become more relaxed and efficient.

## II. THE APPLICATION STATUS OF MODERN EDUCATION TECHNOLOGY IN MIDDLE SCHOOLS

### A. *Social Environment*

As we all know, the degree of development of education cannot be separated from the environment of society. The development of the application of modern educational technology in mathematics teaching is also based on the progress of social informationization and the development of a smart learning environment. The degree of informatization in China has risen significantly in the global ranking since 2011, and it has developed rapidly. In 2017, the global information society index reached 0.5748, an increase of 16.8 percentage points compared with 2011. Undoubtedly, the full development of mobile Internet technology has also enabled more and more modern

educational technology to be applied to the field of education, and the development of education modernization is imminent. At the same time, the reform of the government education supply side, the comprehensive reform of regional education and the construction of regional education informationization will link the classroom, the school and the society, and make unremitting efforts to achieve high-quality sharing of high-quality resources. However, due to the constraints of economic and social development, the application of modern educational technology is different in different regions. At the Education Conference in 2018, Comrade Xi Jinping also said in his speech that it is necessary to deepen the reform of the education system, adhere to reform and innovation and education equity, and develop "Internet + education."

### B. *Infrastructure Construction*

With the continuous promotion of modern educational technology, the internal infrastructure of the school is constantly updated in the modern teaching needs. In terms of the number of all-media classrooms, the number of computers per capita, and other campus information hardware equipment, the school's teaching facilities can meet the teachers' use of modern educational technology to teach. All classrooms are equipped with all-media teaching equipment, each teacher is equipped with a computer, and the network system covers the entire school. In terms of software facilities, the school also provides access to teaching resources such as the subject network and other websites[2].

### C. *Teachers' use of Modern Educational Technology*

Incomplete use of infrastructure functions can affect the normal teaching level of teachers. In general, in the daily mathematics teaching process, teachers use the whole media courseware for the use of modern educational technology, and the form is relatively simple. And the use of infrastructure is also very limited. For example, the electronic whiteboard only appears as a projector. In the actual teaching process, the interactive function of the electronic whiteboard cannot be displayed. Therefore, the student cannot use the electronic whiteboard to use the knowledge during the use process. Conduct a deeper inquiry. In the teaching process, compared to the traditional teaching mode, teachers will be limited to the platform because they need to play micro video or demonstrate full media courseware, which reduces the opportunities for communication and communication with students.

In the study of modern educational technology, teachers do not have the opportunity to study in a holistic and systematic way. They can only use exploratory applications in the teaching process. Although teachers can consciously enhance the awareness of applying modern educational technology in mathematics teaching, they do not apply the concept of system into mathematics teaching, so they can not be significantly improved at the original application level, which also leads to modern education. The main reason for the lack of technical application[3].

## III. THE MAIN DEFECTS OF MODERN EDUCATIONAL TECHNOLOGY APPLICATION AT THE PRESENT STAGE

### A. *Information is Excessive, Students Understand Difficulties*

Computers can store a large amount of information, which is also a major advantage in the application of modern educational technology. However, in the process of making courseware, teachers display the materials related to the teaching content one by one in the courseware. The content is large and the types are complicated.

In addition to the time limit, teachers can only speed up the output of information in the courseware. As a result, the math class has become a showcase of all-media courseware to some extent. The colorful media information directly affects the students' understanding and acceptance of the content they learn, and the phenomenon of information “blocking” [4].

B. *Programmatic Courseware Limits Student Thinking*

In the process of mathematics teaching, it is crucial to cultivate students' thinking ability. In the traditional teaching mode, experienced teachers will increase the teaching time in the incomprehensible part for students to think and digest, and then develop the thinking ability according to the unforeseen interactive process. The application of modern educational technology based on all-media courseware is often procedural. When students think deeply according to the pre-set mode and time of thinking of the teacher, they can only do some simple responses in accordance with the teacher's way of thinking[5]. At the same time, when teachers use the page-turning courseware instead of the blackboard to teach the mathematical theorem or to demonstrate the mathematical formula derivation process, students will not be able to link the front and back knowledge well. In this way, it will greatly limit the role of the student's main body and curb the development of students' thinking ability, which is not conducive to the progress of mathematics teaching.

C. *Smashing the Lord, Breaking the Rules of Cognition*

Undoubtedly, the current courseware production is more and more refined. However, as an all-media courseware for assisted instruction, if there are too many inappropriate media presentations, it will overwhelm the audience and cover up the information that teachers really want to convey. For example, a background that is not matched, a button that is too conspicuous or a background music that is not suitable will affect the information transmission. This kind of inappropriate media information added to enhance the so-called "exquisite sense" of the courseware violates the cognitive rules that students can only accept the main information in a certain period of time when they recognize things, diluting the students' difficulties in learning content. Concerns, ultimately affecting the actual effect of teaching, but half the effort. Of course, when making courseware, I always pursue "high-tech" and set up a lot of hyperlinks. Once in class, because of nervousness or inexperience, teachers can not fully display the prepared content, or teach the content does not match the animation or the picture displayed, it will also reduce the attention of the students, and the teaching effect will plummet[6].

## IV. THOUGHTS AND SUGGESTIONS ON THE APPLICATION OF MODERN EDUCATIONAL TECHNOLOGY IN MIDDLE SCHOOL MATHEMATICS TEACHING

A. *Correct the Modern Educational Technology Attitude and Correctly Treat Modern Educational Technology*

In the process of applying modern education in the middle school mathematics teaching process, the first thing that should be done is that teachers should have a correct understanding of modern educational technology. In middle school mathematics teaching, what is important is the mining of knowledge itself. Teachers can pass on the most essential parts of mathematics to students in an easy-to-understand way, so that students can maximize their knowledge capacity in a limited number of classes. This requires teachers to proceed from the student and learning level, in the need to use modern educational technology, appropriate to join the modern educational technology means, the abstract content of mathematics into the imaginary content passed to the students, or will

be difficult to understand Mathematical definitions use micro-video and other teaching methods to deepen the impression of students, so that students can get the main content. Feel the charm of mathematics on the basis of mastering mathematics, which is the effect that modern educational means should achieve[7].

At the same time, we must pay attention to the combination of mathematics and improve practicality. Take the all-media courseware as an example. The purpose of the all-media courseware is to optimize the structure of the course and improve the efficiency of classroom teaching. When using all-media courseware, it is beneficial to both the teacher's teaching and the student's learning. Therefore, when designing all-media courseware, teachers should first consider whether it is necessary to use courseware for teaching; whether it is possible to turn abstractions in mathematics into images and simplify them; whether it can help students break through the weight of learning content, Difficulties to maximize the effectiveness of teaching[8].

### B. *Strengthen Teachers' Modern Education Technology Training and Improve the Quality of Modern Educational Technology Application*

Although the teachers involved in the training involved in the use of computers, but did not systematically learn modern educational technology. Because of the importance attached to the teaching method of mathematics teaching at this stage, modern educational technology is only in the scope of understanding. Most of the teachers are still only at the simple level of computer operation, which makes it impossible to develop and produce excellent courseware and micro-video teaching methods. Each teacher has his own teaching ideas, teaching ideas and teaching methods. If teachers can master modern educational technology, the teaching ability of teachers will be more displayed. At the same time, it can also increase communication and communication with other teachers to achieve common progress. Therefore, it is necessary to strengthen the ability of teachers to produce all-media teaching methods, cultivate the ability of independent production, and tap the potential of teachers. Only by mastering modern educational technology can mathematics knowledge be combined with modern educational technology, and the teacher's deep understanding of mathematics content can be imparted to students through the medium of modern educational technology, which achieves the teaching effect expected by teachers. Create an efficient modern math class.

### C. *Focus on Team Strength and Increase the Accumulation of Modern Educational Technology Such as Courseware.*

In the long-term teaching work setting, collective lesson preparation is indispensable. Mathematics is a systematic project, and the team spirit of teachers should be fully utilized. In teaching, the power of one person is far from enough. In the eyes of a thousand people, there are a thousand Hamlet. The same is true for mathematics teaching. For the same mathematics topic, the values behind the topics that different teachers can see are different, and thus there are different teaching methods. In the teaching process, you can use the preparation group or the grade group as the unit to carry out the exchange activities of modern educational technology application, share the original mathematics courseware of the teacher or the modern educational technology such as mathematics micro video, and share the curriculum design ideas with you. In this process, the sharing teacher can obtain the affirmation or suggestion of other teachers. Not only can the teaching content such as the courseware be perfected, but also other teachers can combine their own thinking in the sharing process to obtain further improvement. To achieve a win-win situation. Teachers should also make full use of the mathematics teaching resources provided by the school in daily life, and use the Internet and LAN channels to learn more about the content of mathematics

teaching in the high-quality demonstration class that stands out in the teaching competition. Of course, this is not limited to the subject of mathematics. It should also find common points from other disciplines. As long as it can enhance the teaching effect of mathematics classrooms, it can be applied to the actual teaching process. For a long time, the improvement of teaching quality is also visible to the naked eye.

## V. CONCLUSION

The application of modern educational technology in middle school mathematics teaching not only guarantees the advantages of traditional teaching mode, but also closely combines modern educational technology with mathematics and students, and achieves the greatest balance in the application of middle school mathematics teaching. Thereby improving the level and ability of teachers in mathematics teaching. Modern educational technology is constantly expanding and updating under the new teaching background, and the operation of mathematics teaching and the need to expand its channels are increasing. Therefore, teachers should take the whole media courseware as the starting point, apply modern educational technology innovation and appropriate application to mathematics teaching, thus promote the development process of middle school mathematics teaching, and create an easy and efficient mathematics teaching classroom, thus realizing modern educational technology. The application of advantages in middle school mathematics teaching.

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