

The effective integration of modern educational technology and traditional educational technology in high school mathematics teaching

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Abstract: *For high school mathematics teaching, modern education technology plays a great role, in the present stage of the epidemic, we seem to be more inseparable from modern education technology. However, it is not objective to blindly advocate modern educational technology, and its contribution to traditional educational technology should not be abandoned. According to the advantages and disadvantages of modern educational technology and traditional educational technology, and the effective integration in high school mathematics teaching, the following discussion is carried out in this paper.*

Key Word: *modern educational technology; Traditional educational techniques; Mathematics teaching in senior high school.*

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I. Introduction

With the development of science and technology, information technology has been widely used in various fields, and modern educational technology is playing an increasingly important role in education, especially school education. Error! Reference source not found. Error! Reference source not found.. "Modern" becomes "traditional" after a few years, so the term "modern educational technology" has a different definition over time. At present, traditional educational technology should include oral technology of dictation, text printing technology, slide, projection, film, television, audio recording composed of electronic audio-visual technology; At present, modern educational technology includes not only materialized multimedia technology, but also intelligent teaching rules, teaching design, teaching strategies, teaching information dissemination, teaching management and teaching evaluation. Error! Reference source not found..

II. Advantages of Traditional Education Technology and Modern Education Technology in High School Mathematics Teaching

Although traditional educational technology has many problems and shortcomings, it is impossible to replace the basic lecture class. To be is to be reasonable, and its being must have its meaning. And the modern educational technology has not replaced the traditional educational technology, more confirmed the position of the traditional educational technology. In the traditional high school mathematics classroom, one person, one book and one piece of chalk can hold the students' train of thought tightly, let the students deduce layer upon layer along with the steps, and catch the students' attention one by one. Its advantages are as follows:

(i) The pace of the class is moderate. The pace of traditional high school math classes is moderate, and most students can keep up with the pace of learning without falling behind. The teacher will each knowledge point and each mathematical problem solving thinking complete present in front of the students, demonstrate in person, let the students understand to get a mathematical problem where to start, find the eye, explore the answer, experience the mathematical continuity and make a confident sense of a problem.

(ii) Teachers pay more attention to the design of blackboard writing. The classroom of high school mathematics teaching cannot leave blackboard-writing. Students' memory is the basis of thinking, 80% of the memorization information comes from vision, and blackboard writing directly ACTS on vision. In addition, students' thinking needs a kind of dependent schema, and blackboard writing is an intuitive manifestation of thinking. In addition, blackboard writing can always let students see the key points of the class. Compared with the teacher putting the key points into the PowerPoint(PPT) in class, and the content of the PPT is also real-time, the handwritten blackboard writing will always be presented on the blackboard, so that students will not find the key points if they are slightly distracted. Error! Reference source not found..

Modern educational technology has a large capacity, many changes, high efficiency and intuitive image, which can make up for the shortage of traditional teaching. Modern educational technology has

improved the subjective initiative of students. The classroom is no longer full of students, but focuses on the discussion and cooperation between teachers and students. **Error! Reference source not found.** It breaks the shackles of traditional teaching. Its advantages are as follows:

(i) Stimulate students' interest in learning. High school math formulas and concepts are complex and difficult to understand, resulting in a steep decline in math scores for many students entering high school. The high school mathematics classroom under the modern education technology, USES the picture, the animation, the music, the video to present it intuitively vividly in front of the student. It is convenient for students to understand and accept mathematical knowledge, stimulate their interest in learning, improve their subjective initiative in learning, and effectively cultivate their thinking ability. For example, abstract knowledge can be visualized through modern technology. When teaching ellipse, students can understand the relationship of ellipse intuitively through dynamic demonstration of ellipse with geometric sketching board.

(ii) Increase the capacity of classroom knowledge. Compared with traditional handwriting, the reasonable use of PPT to show mathematical problems and problem-solving steps can effectively shorten the class time. In the limited time, the classroom content can be enriched. The time saved, teachers can expand the teaching content, have time to add extracurricular content, open up students' thinking. At the same time can use the network to download information, the limited content of textbooks to expand, improve the quality of teaching.

(iii) Create an efficient learning environment. High school mathematics knowledge is mostly abstract combination of number and shape, let the students read alone, or the teacher is simply speaking the condition, most of the students are difficult to understand, so they lose interest in mathematics learning, thus giving up the idea of learning mathematics. Moreover, the teacher wants the student to learn such abstract knowledge, using the traditional teaching method. One draws the picture on the blackboard or then explains through the body. It takes a lot of time and effort, and has not achieved the effect. By this time, the emergence of modern education technology has greatly reduced the difficulty. Teachers can demonstrate some abstract knowledge using geometric sketchpad software, such as the Geometry Sketchpad and other software, and then the image or graph are presented intuitively in front of the students. This not only retrieves the confidence of students who want to give up mathematics because of the abstraction and difficulty, but also saves the time. Therefore, modern teaching technology has the advantage of high efficiency.

(iv) Improve the teaching quality of teachers. In the context of modern educational technology, teachers are no longer able to prepare a lesson once and for all. In traditional education, teachers only have textbooks and supporting books for teachers, which are not conducive to teaching and learning. Although teaching methods are constantly improving, the scope of knowledge expansion is narrow. With the development of modern technology, the Internet stores a large amount of rich information and is not limited by space and time. It provides a large number of learning resources for educators, making teaching materials jump out of the scope of reference books and increasing teaching methods. Among them, electronic reference books and excellent online teaching courseware enable teachers to learn from each other, learn from each other, reform and innovate, improve teaching quality by learning new things, and thus create new teaching methods.

III. Shortcomings of Traditional Education Technology and Modern Education Technology in High School Mathematics Teaching

Traditional educational technology, small capacity, step, content is the same, the evaluation standard is the same, lack of creativity. It is not conducive to the cultivation of students' creative thinking to ignore the development of students' personality and fail to give consideration to their personality differences. The higher the grade, the less attention the students pay to the traditional class. This leads to the problems at the bottom:

(i) The class is less interesting. Traditional teaching in various forms, the content is single, the pace is slow, the lack of interest, easy to make students in the classroom many times, leading to students' resistance to math learning. So that teachers and students only see the things in front of the lack of understanding of the changing world and the increasingly updated knowledge.

(ii) Low learning efficiency. In traditional teaching, many teaching contents that need to be demonstrated or tested on the spot cannot be carried out. The teacher has no way to let the students see or hear what he needs. The integrity of teaching contents cannot be guaranteed.

(iii) Reduce the subjective initiative of students in learning. Traditional teaching is based on knowledge transfer. Teachers do not pay enough attention to the formation of students' learning ability, learning methods and values. Teachers strictly control the teaching objectives, contents, methods, process, results and quality evaluation.

(iv) It is not conducive to improving the comprehensive quality of teachers. The traditional teaching method is single, rarely involves the modern teaching equipment, to the teacher's quality is relatively low, to improve the comprehensive quality of teachers is unfavorable. Teachers can only learn from each other in their own schools, but they can't learn the teaching ideas and methods of famous teachers in China and the world.

Also can let the teacher produce lazy thought, no longer enrich their own knowledge, satisfied with the status quo.

The advantages of modern educational technology cannot be ignored^[6], but excessive reliance on modern educational technology will make teachers "mechanized", fail to pay attention to students' attention and psychological process, ignore the process of knowledge presentation and students' thinking process, and make it difficult for students to accept the fast pace. Therefore, the improper use of modern educational technology will also bring the following problems:

(i) The students were distracted. There are some teachers in order to cater to the interest of students, on the surface of the multimedia courseware often blindly pursue novel, move feeling, excessive use of strong colors, images, and animation, to reflect the content of the rich, the powerful, expression of the ordinary, the students in the class to put more attention to the form of multimedia courseware, while ignoring the teaching content of learning and memory. The students were excited about the excellent audio-visual courseware, but the actual effect was not satisfactory. And teaching content is not fresh enough, while most students are in a glance.

(ii) Teachers rely too much on courseware. With the platform of modern educational technology, most courseware contents can be copied and pasted on the network, which leads some teachers to stop making courseware by themselves. In addition, some teachers rely too much on courseware, and when they encounter sudden phenomenon such as power failure, there is no courseware, resulting in the embarrassing scene of unable to teach the class.

(iii) The pace of class is too fast. The study of mathematics is about the expansion of thinking, and clear steps are very important. The modern mathematics classroom USES the PPT to carry on the teaching, can reduce the time to waste, but the pace is too fast, once the slide turns over, has the feeling that misses "one hundred million", may let some students fall behind.

(iv) It is not conducive to the emotional communication between teachers and students. Teachers play a leading role in teaching activities and students are the main body of cognitive activities. The process of classroom teaching itself is the mutual communication and mutual influence between teachers and students, thus forming a process conducive to the development of cognitive activities. The process of teacher's explanation and blackboard writing is actually the process of students' inspiration and ideas colliding and forming. The student feels the teacher's thought is not deep.

IV. Organic integration of traditional education technology and modern education technology

Traditional teaching methods have an indispensable part. Although modern educational technology can present knowledge to learners in a vivid and intuitive way, it is only an auxiliary means. Especially in high school mathematics classroom teaching, the traditional teaching must not abandon. In traditional teaching, every movement, expression, eye contact and tone of the teacher can convey emotional information to the students and enable them to better accept and understand knowledge, which cannot be achieved by modern educational technology. In every math class, we should not only present science and technology to make math easier to understand, but also combine the layers of traditional teaching, so that students understand the origin, not just a result, the process is more important. Therefore, it is an inevitable process to combine traditional education technology with modern education technology.

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