Analysis on the improvement of Mathematics teaching effect in secondary vocational schools in the era of "Internet +"

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Abstract: With the continuous development of science and technology, the mathematics teaching model of secondary vocational schools has changed greatly. In this context, secondary vocational teachers should actively change the teaching concept, the "Internet +" education concept into teaching effectively, promote the innovation of teaching methods and teaching content, and promote the overall development of students' learning consciousness ability. With the support of Internet technology, teachers can carry out online teaching, micro-class teaching and other activities to effectively enrich students' learning experience, help students improve their comprehensive skills, and enhance the teaching effect. Based on this, this paper analyzes the strategies for improving the teaching effect of mathematics in secondary vocational schools in the "Internet +" era, in order to provide references for educators.

Key words: Internet +; Secondary vocational mathematics; Teaching effect; Teaching reform

Introduction: Under the background of "Internet +" era, mathematics teaching in secondary vocational schools should keep up with the development of The Times in time, apply new Internet tools to set up teaching, make teaching more convenient, colleges and universities, and promote the deep implementation of intelligent teaching and innovative teaching. In this process, teachers should set up teaching from a new development perspective, use Internet technology to stimulate students' interest in learning, build online courses to integrate teaching resources, help students learn efficiently, drive the interaction between students, and promote the improvement of students' independent learning ability and comprehensive level.

1. The influence of the development of "Internet +" era on mathematics teaching in secondary vocational schools

(1) Influence on teachers' teaching thinking

In the new era environment, Internet technology has realized the application of various fields, provides a new direction for the reform of mathematics teaching in secondary vocational schools, and promotes the development and change of teachers' teaching thinking. The arrival of the "Internet +" era has promoted innovation and breakthrough in various fields, but also put forward new requirements for mathematics teaching in secondary vocational schools, prompting teachers to change the traditional teaching mode, actively explore new teaching paths, and analyze how to better carry out teaching innovation, to help students develop in an all-round way. The emergence of micro-class teaching, MOOC teaching and other teaching models has provided a lot of impetus for teachers' teaching innovation, urging teachers to use various tools to establish in-depth communication with students, and helping students to better carry out independent learning. Traditional teaching mainly focuses on teachers' speaking and students' listening. Teaching tools are mainly blackboard and blackboard writing, on which students can demonstrate the process of mathematical problem solving and guide students to master the methods of mathematical problem solving. This teaching method is difficult, and gradually highlights the shortcoming of lag in the development of The Times, which is not conducive to students' comprehensive understanding and complete construction of knowledge points. The development of the Internet + era encourages teachers to actively change their teaching thinking and apply all kinds of advanced technologies to teaching, making teaching activities more diverse and colorful.

(2) Influence on the reform of teaching activities

Teaching reform is an important measure for secondary vocational teaching to achieve innovative development. The development of Internet technology has provided more possibilities for the reform of teaching activities, enabling teachers not only to use information technology to explain the content of textbook examples, but also to adopt more innovative teaching methods, stimulate students' enthusiasm for learning, effectively integrate digital resources, and promote the innovation of classroom teaching. The teaching mode based on Internet + technology can promote the mutual communication and positive expression between students, and create a good teaching atmosphere. In terms of teaching form, teachers can use digital resources and modern technology equipment to build a smart teaching platform, so that students can carry out independent learning and communication and exploration online. In terms of after-class practice, teachers can use the online platform to guide students to train and urge students to complete homework training by punching the clock, so as to realize the innovation of teaching activities. The Internet platform can promote teaching interaction, pull the relationship between teachers and students, and is of great help to the development of students' innovation awareness and comprehensive ability.

(3) The impact on teaching presentation

The way of presentation of teaching content affects students' enthusiasm for learning to a great extent. A good presentation way can catch students' eyes, let students pay attention to the course learning, and promote students to enter the state of learning faster. With the support of Internet technology, teachers can realize the innovation of teaching presentation way. On the one hand, teachers can use the Internet technology to innovate knowledge introduction methods, drive students to explore mathematical problems, so that students can effectively think, and lay a good foundation for the subsequent in-depth teaching. On the other hand, teachers can choose more diverse

teaching contents and push the extracurricular knowledge related to the course teaching to students through videos, animations and other ways to help students better grasp the course knowledge.

2. Strategies for improving the teaching effect of mathematics in secondary vocational schools in the "Internet +" era

(1) Optimize the course content design and promote students' innovative learning

Secondary vocational mathematics is very difficult, so teachers should use Internet technology to optimize the design of teaching content, promote students' innovative understanding of mathematics knowledge, promote students' innovative learning, and lay a good foundation for students' future development. In this process, teachers should adopt more innovative and flexible ways to display curriculum knowledge, so as to help students understand and absorb, and enrich students' learning experience. For example, in the course "set" teaching, in order to help students understand the characteristics of the set, the teacher can show the animation videos related to the set for students, so that students can understand the certainty, disorder and other characteristics of the set elements in combination with the dynamic display process. On this basis, teachers can also introduce specific application cases in life to help students distinguish the intersection operation and union operation of two sets through practical application, so as to better grasp the course knowledge. For example, teachers can introduce the contents of computer folders, so that students can understand who is included in whom and other concepts according to the folders, laying the foundation of students' mathematics learning. The study of basic knowledge is of great help to students' further learning of teaching content. Teachers should pay attention to the application of Internet technology to optimize the design of course content, so that it can be presented in a more interesting and vivid way, mobilize students' interest in learning, promote students to apply what they have learned, and effectively develop students' spatial thinking and learning transfer ability.

(2) Build a mixed teaching mode of online and offline, and cultivate students' good learning habits

Online and offline hybrid teaching refers to the effective integration of online teaching and traditional teaching methods, teaching through two ways, which can promote the interaction between teachers and students in the classroom, and promote the advantages of the two teaching methods to complement each other. Online resources are an important basis for the construction of blended teaching mode. Teachers should focus on integrating online resources with reference to mathematics standard textbooks, develop online courses suitable for students' learning, provide more resource support for students, encourage students to use online courses for independent learning, extract their own doubts and difficulties in learning, and bring them to class for discussion with teachers. To improve the pertinence of teaching, reduce the time for teachers to explain the basic content, and have more time to lead students to study the difficult points of the course. In this process, students master the basic knowledge of the course through online learning, the teacher reviews the overall learning content of students, helps students find out the gaps and fill in the gaps, and leads students to break through the teaching difficulties in the remaining time, so as to enhance the teaching effect. The role of teachers has changed from teaching to solving puzzles, solving problems encountered by students, greatly improving the efficiency of classroom teaching and mobilizing students' enthusiasm for learning. Online, teachers can not only provide students with rich teaching resources, but also strengthen the management of students by using the online platform functions, such as checking students' class attendance by using the punch card function, recording students' interaction data in class by using the online data function, so as to provide the basis for teachers' follow-up teaching evaluation and promote students' better learning. Offline, teachers can apply information technology to update traditional classroom teaching methods and enhance interaction with students.

(3) Setting flipped classroom teaching mode to enhance the effect of students' independent learning

Flipped classroom emphasizes the learning time inside and outside flipped classroom, puts students' learning focus on the pre-class, and puts student-teacher inquiry and students' independent inquiry in class, so as to realize the flip of teaching activities. Taking the teaching of "Practical application of function" as an example, the main teaching links can be set up as follows: First, the pre-class link. The teacher will upload the function related materials to the learning platform, and set the corresponding preview task list according to the teaching needs. The list includes reviewing the concept of function, the definition domain of function and other knowledge points, and watching the MOOC video of the new knowledge of this course. After learning new knowledge, complete the platform test to check the effect of review and preview; Share practical cases about function application in life in the discussion area. After the students complete the list task, the teacher will obtain the learning data of the students at the teacher side to understand the students' mastery of the new knowledge, so as to prepare the classroom teaching courseware and arrange the classroom teaching activities. Second, the classroom link. Most activities in daily life, such as water charges and express charges, have stepped characteristics and are closely related to function segmentation calculation. Teachers create life-oriented teaching situations around this content to help students understand and apply function knowledge. For example, to provide students with life electricity cases, for students to show specific examples and problems of electricity use, so that students combined with the course of calculation, so that students understand the close connection between mathematical knowledge and real life. In order to deepen students' grasp of function knowledge, teachers can guide students to build models based on what they have learned and master mathematical modeling methods: First, guide students to extract corresponding data information based on electricity consumption standards, that is, the range of electricity consumption of different stalls and the unit price of electricity; Then, guide students to analyze the relationship between electricity consumption and electricity fee payable, so that students can feel the functional relationship between the two variables; Then, students are asked to fill in the functional analytical formula of different electricity consumption gear, and communicate with each other after writing. Teachers find out students' mistakes, help students find the correct analytical formula, and rearrange the functional formula. The characteristics of the piecewise function are obvious, and there are different analytic formulas for different ranges of

independent variables. Finally, the information in the topic is put into the analytical expression to obtain the final answer. This process can fully reflect the student-oriented teaching concept, let students actively participate in knowledge exploration, through the use of knowledge to truly feel the concept and practical application of piecewise function, learn specific methods of modeling. Third, the practice link. In order to test the students' mastery of the course knowledge, the teacher uploads the exercises for the students on the online platform, the students complete the exercises online, and the system automatically calculates the students' completion of the homework. Through the analysis of students' completion, teachers can understand students' mastery of the concept of function and the calculation method of piecewise function value, so as to make targeted explanation and solve the problem of students' weak knowledge.

(4) Introduce micro-class teaching resources to enhance students' awareness of independent learning

Micro-class is a new teaching method based on modern technology, which can make full use of students' fragmented time and help students master course knowledge in a relatively short time. In this regard, teachers should pay attention to the application of micro-class means to guide students to learn independently, help students to solve difficult problems one by one, and effectively mobilize students' learning enthusiasm. In this process, teachers need to decompose teaching knowledge, explain some important and difficult points of teaching with micro-class videos, and promote students' efficient learning through reasonable control of micro-class video time. For example, in the geometry course teaching, the teacher can use the micro-class video to explain the course knowledge for the students, so that the students can master the specific application methods, effectively cultivate the mathematical thinking consciousness of the blood God, and promote the students to apply the geometry knowledge to solve practical problems. Micro-class learning will not occupy students' too much time, and at the same time, it can keep students' enthusiasm for learning. Teachers can combine basic knowledge and expanded knowledge to record diversified micro-class videos to help students absorb and understand knowledge and enhance their learning effect.

Epilogue

To sum up, mathematics knowledge in secondary vocational schools is relatively complex, which brings some difficulty to students' learning and mastering. Under the background of the Internet + era, mathematics teachers should actively change their own teaching concept, make use of modern technology to innovate teaching, build blended teaching and flipped classroom teaching mode, enrich students' experience, integrate micro-class teaching resources to help students learn independently, promote students' thinking ability to achieve good development, and cultivate students' good learning habits. To achieve continuous breakthroughs and healthy development in the course learning.

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