

# Application of Flipped Classroom Teaching Mode in Electromechanical Teaching of Secondary Vocational School

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**Abstract:** *Compared with the traditional teaching mode, the flipped classroom teaching mode is an efficient and scientific teaching mode. It takes students as the key development subject. It aims to enhance students' subjective initiative and guide students to learn and practice more independently and actively. In the process of electromechanical teaching practice in secondary vocational schools, teachers should fully combine the characteristics of electromechanical teaching, make scientific and comprehensive use of the flipped classroom mode, ensure the two-way improvement and overall optimization of students' ability and accomplishment, and better meet the long-term development of students.*

**Keywords:** *Flipped classroom; Secondary vocational school; Electromechanical teaching; Application*

## 1. Introduction

Compared with the traditional classroom teaching mode of confrontation between teachers and students, flipped classroom effectively turns the classroom center. In the traditional classroom, teachers are the organizers and initiators of teaching work, and students are more subordinate to learning status. However, in the flipped classroom, the relationship between teachers and students has undergone profound changes. Teachers return the initiative in class to students and guide students to actively study and practice. Under the guidance of teachers, students can learn independently according to their own learning goals, which can undoubtedly enhance the effectiveness of classroom teaching in an all-around way. As the core content of secondary vocational curriculum education, electromechanical teaching has significant practical characteristics. If secondary vocational colleges still tend to adopt traditional teaching methods or mechanized teaching methods, it is obviously difficult to improve and optimize the development of students. In view of this, in order to truly improve the overall quality of secondary vocational education, better optimize the development ability of students, and truly cultivate high-quality talents with certain basic skills required by society, secondary vocational colleges should make scientific and efficient use of the flipped class mode in the practice of electromechanical teaching, comprehensively promote curriculum reform and innovation, and maximize the development of students.

## 2. Application Characteristics of Flipped Classroom Teaching Mode in Electromechanical Teaching of Secondary Vocational School

As a novel and efficient teaching mode, in the practice of electromechanical teaching in secondary vocational schools, teachers should scientifically grasp the application characteristics of the flipped classroom, comprehensively enhance the utilization effect of the flipped classroom, better optimize the efficiency and quality of classroom teaching, and comprehensively promote students' ability. The application characteristics of flipped classroom teaching mode are mainly shown in the following aspects. Firstly, the teaching video is short and concise, which can easily grasp the key points of teaching. The flipped classroom is based on information-based teaching. In the process of applying flipped classroom mode, teachers should focus on improving the quality of teaching videos to ensure that each teaching video is short and concise, which conforms to students' cognitive laws and characteristics. Especially when teachers talk about the key and difficult contents of electromechanical teaching, it is difficult to guide students to have a deep understanding in a planar way. On this basis, teachers can use short videos to give a complete presentation, which can promote students' understanding and guide students to deepen their memory. Secondly, realize the visualization of teaching. The electromechanical course is a practical course with strong theoretical depth. In the process of understanding and cognition, some students may encounter different degrees of thinking obstacles and cognitive contradictions, which is not conducive to

their in-depth study. Therefore, in the specific teaching practice of Electromechanical, teachers should make full and comprehensive use of information means to scientifically and comprehensively realize the visualization of teaching. Through micro video, teachers can intuitively show the relatively abstract and complex contents of electromechanical courses to students, and then guide and encourage students to recognize, improve students' learning quality, and further grasp the key and difficult points of teaching. Thirdly, realize the in-depth interaction of teaching. Based on the flipped classroom model, the interaction between teachers and students has been fully enhanced. Teachers can adjust teaching plans and programs in time according to the situation and status of students' previews before class. Students can also carry out efficient scientific learning according to the scientific guidance of teachers, so as to better ensure the learning effectiveness of students and consolidate students' learning quality systematically [1].

### **3. Application Value of Flipped Classroom Teaching Mode in Electromechanical Teaching of Secondary Vocational School**

Secondary vocational education aims to improve students' practical literacy and cultivate basic skilled talents required by social posts. For a long time, in the process of electromechanical teaching in secondary vocational schools, secondary vocational schools may be more accustomed to teaching in accordance with the traditional way of educating people. Although this can improve students' practical literacy to a certain extent, it is not conducive to their long-term development. Many secondary vocational students find it difficult to understand and recognize the content of the course, and only practice and imitate it simply. In order to truly improve the comprehensive quality of secondary vocational students, secondary vocational colleges can make innovative use of the flipped classroom in the practice of electromechanical teaching, so that students can become the main body of the electromechanical classroom and actively participate in the electromechanical learning process.

#### ***3.1. Comprehensively improve and stimulate students' interest***

Interest is the best driving force. Due to their age and experience, secondary vocational students may gradually lose interest in obscure contents and relatively complex structures in the process of electromechanical learning. As the guide of electromechanical teaching, the primary task of teachers is to boost students' confidence in learning and cultivate their interest. Compared with the traditional indoctrinating electromechanical teaching mode, the flipped classroom mode itself is more interesting and revolutionary. Under the correct guidance of this teaching model, teachers can take the initiative to return electromechanical classes to students, so that students can choose appropriate learning content according to their own development needs and interests, and students can learn efficiently based on their own development. For example, in electromechanical teaching, teachers can comprehensively use audio, video, pictures and other different ways to show the course content, and can also create different teaching situations in combination with the course content, which can greatly enhance the overall learning interest of students.

#### ***3.2. Improve students' practical literacy and application ability***

The electromechanical course is a comprehensive course with strong practicality. In order to effectively improve the teaching quality of electromechanical courses, and optimize students' learning literacy, teachers should also pay attention to comprehensively improving students' practical ability and constantly consolidating students' application literacy. The flipped classroom is based on the application of micro video, which to a large extent solves the problem of insufficient practical literacy of students. In the practice process, students can use micro-courses to strengthen their practical ability, constantly consolidate their practical literacy, and effectively apply the knowledge they have learned to the practice process. At the same time, by relying on the efficient and interactive teaching mode, teachers and students can also achieve efficient interaction and communication. In particular, when teachers provide relevant cases to students, students can deeply analyze course cases, and actively grasp the key contents of cases, so as to effectively improve their practical literacy and application ability.

#### ***3.3. Expand students' cognitive vision of curriculum***

In the process of electromechanical teaching practice, students are the learning subjects. In order to improve students' practical literacy and further consolidate students' learning effectiveness, teachers

should fully expand students' cognitive vision. In the process of practice, relying on scientific and efficient micro class teaching, students' knowledge cognitive vision can be expanded to a great extent. For example, teachers can create different preview tasks for students, encourage and guide students to bring clear goals to participate in the practice of autonomous learning, effectively grasp the direction of learning, and further improve students' learning quality. Another example is that teachers can effectively create different learning tasks for students in combination with the differences of them. Teachers guide students to expand their knowledge in their spare time, and effectively consolidate their learning qualities. The mechanical and electrical curriculum is a strong comprehensive course, and it is also inextricably related to social economy. Therefore, only based on the practice of social and economic development, teachers create a flipped classroom mode, and accurately improve the overall quality of students, further ensure the cognitive level of students, can they really promote students' development.

#### **4. Application Path of Flipped Classroom Teaching Mode in Electromechanical Teaching of Secondary Vocational School**

As an efficient and scientific teaching mode, in the practice of electromechanical teaching in secondary vocational schools, teachers should innovate and use the scientific flipped classroom teaching mode, actively play the key role of this teaching mode, effectively improve the quality of electromechanical teaching in secondary vocational schools, and comprehensively optimize the development literacy and overall cognition of students.

##### **4.1. Scientific courseware design**

In the process of mechanical and electrical teaching reform in secondary vocational schools, in order to play the key role of the flipped classroom mode, we should pay attention to the overall optimization of courseware design. Courseware is a very important material foundation. Only by paying attention to the overall quality of courseware, constantly optimizing the design of courseware, and practically enriching the presentation mode of courseware can teachers create a scientific foundation for the flipped classroom. On the one hand, in the courseware, the relevant knowledge points should be combined with the course content and should conform to the cognitive characteristics of students. At the same time, in the process of courseware design, teachers should pay attention to the overall optimization of courseware content, constantly expand the types of courseware resources, and better improve the overall effectiveness of courseware utilization. For example, in the process of optimizing courseware content, in addition to using videos, we should also make comprehensive use of charts, pictures and other ways to enrich the expression forms of courseware resources as a whole and catch the eyes of students. On the other hand, during the development of electromechanical courses, teachers should ensure sound quality and bright pictures of videos. They should also highlight key knowledge or analyze cases. At the same time, during the presentation of courseware content, teachers should listen to students' opinions and suggestions in time. Students are the overall users of flipped classroom courseware, and their interest in courseware content often determines the scientific use of flipped classroom mode. In view of this, in the process of practice, teachers should also pay attention to enriching and improving the presentation of courseware, and improve the overall utilization rate of courseware resources as much as possible.

##### **4.2. Optimizing teachers' information literacy**

In the process of using flipped classrooms, teachers are important guides, designers and producers of curriculum courseware. If teachers lack certain information literacy or strong information technology application skills, the overall utilization of flipped classrooms will be affected. Therefore, secondary vocational colleges should pay attention to comprehensively and systematically improving teachers' information literacy in the process of carrying out electromechanical teaching innovation and using the flipped classroom teaching mode. On the one hand, in the process of teaching reform of mechanical and electrical courses, teachers are an important driving force. At the same time, teachers are also the key subjects to apply the flipped classroom model. Therefore, colleges and universities should reform teachers' teaching ideas, enhance teachers' attention to the flipped classroom, and ensure that the flipped classroom mode really achieves outstanding results. On the other hand, in the application practice of flipped classroom mode, we should also focus on optimizing the quality of courseware content and creating a good material foundation for the flipped classroom. In the process of improving and optimizing the quality of courseware content, secondary vocational teachers should fully base themselves on scientific employment guidance, fully grasp students' learning practice, always take electromechanical

teaching content as the main body, and accurately improve teaching content and teaching conditions [2]. At the same time, teachers should study and learn from high-quality courseware resources and content, improve their own courseware quality, and create good preconditions for the scientific application of the flipped classroom mode.

#### **4.3. Create scientific preview tasks**

In the practice of mechanical and electrical teaching in secondary vocational schools, the premise of using the flipped classroom mode is to build on the scientific preview task. Therefore, teachers should pay attention to highlighting students' subjective status and actively create scientific pre-class learning tasks for students. For example, teachers can unveil the prepared courseware content to students in advance, and guide students to conduct in-depth independent previews. In order to improve students' preview effect, teachers can design preview tasks with clear levels and objectives for students to ensure that every student can effectively participate in preview practice.

### **5. Conclusions**

In the mechanical and electrical teaching practice of secondary vocational schools, the flipped classroom is an efficient teaching mode. In order to comprehensively improve teaching effectiveness, teachers should pay attention to grasp the principles and values of flipped classrooms, and make full use of flipped classrooms in combination with curriculum characteristics.

### **References**

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