

# Exploring the Application of Blended Teaching Mode in the Cultivation of Talents of Higher Vocational Automotive Majors

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**Abstract:** In view of the problems existing in the process of training talents of automobile majors in higher vocational colleges and universities, a hybrid teaching mode combining in-class and out-of-class, online and offline is proposed based on Tsinghua online network teaching platform. The exploration of the hybrid curriculum reform mode is carried out in four aspects, including teaching content, teaching organization form, curriculum resource construction and curriculum assessment form respectively. Through the practical application in classroom teaching, students' learning enthusiasm and initiative will be enhanced and the teaching effect of the classroom will be improved.

**Keywords:** Blended Teaching Mode; Higher Education; Automotive

## 1. Teaching Content

At present, the main problem in the process of training automotive professionals in higher education institutions is that students are not motivated to learn and take the initiative, the efficiency of classroom learning is relatively low, and they start to study suddenly near the examination in order to achieve more satisfactory results. In this paper, in view of the problems existing in the teaching of automotive majors, adhering to the principle of "students as the main body, teachers as the leading"[1], the blended teaching mode as the carrier, from the following four aspects of the teaching mode reform specific measures, blended teaching mode as shown in Figure 1, 2.

According to the training objectives of the training program for senior automotive majors, combined with the actual needs of professional knowledge for jobs in automotive majors and taking into account the current quality of students, the teaching units are divided in various ways such as project-based, modular, task-based and topic-based. In class, we mainly

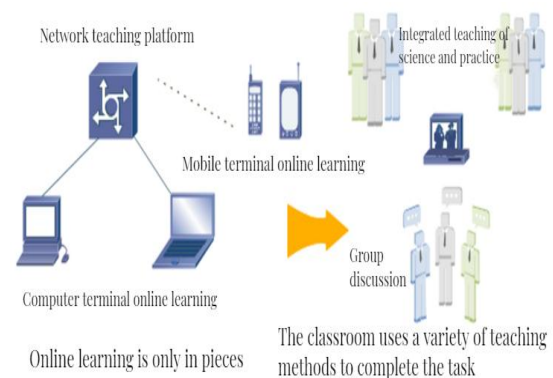


Figure 1. Hybrid Teaching Model

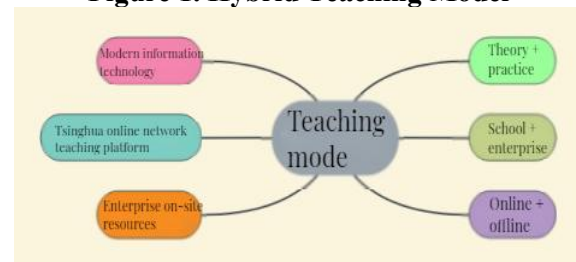


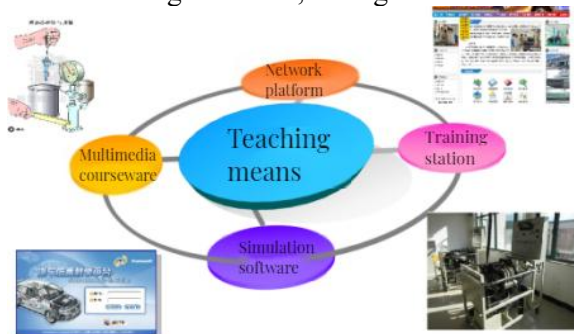
Figure 2. Blended Teaching Model

talk about basic theoretical knowledge, problem-solving thinking and the details of equipment and software operation in the process of practical training. Outside the classroom through the online learning platform to review the theoretical knowledge points in the class, watch the enterprise workflow and classic case teaching video, solve the various problems that may be encountered in the actual work process. If necessary, the appointed enterprise experts will provide offline guidance to answer some outstanding problems that may be encountered in the actual work, so as to truly achieve the school-enterprise docking, and the specific teaching contents and teaching means are shown in Figure 3.

## 2. Teaching Organization Form

In the teaching, we follow the teaching concept of "student-oriented and teacher-led"[2], and adopt more task-driven teaching methods, allowing students to complete self-learning online through Tsinghua Online Teaching Platform and teachers to answer questions

offline. The hybrid teaching model is divided into three stages: before, during and after class.



**Figure 3. Teaching Content and Teaching Methods**

Before class is mainly for students to complete pre-course pre-study tasks with their cell phones. During the class, students are mainly motivated to explore and ask questions by creating problem backgrounds through PPT and videos, while basic theories are taught and combined with specific case studies to motivate students to think and speak enthusiastically during the lecture. At the same time, classroom learning tasks are issued, and students are guided to complete them collaboratively in teams. During the lesson, students are mainly asked to solve the problems they encountered in the pre-study session and the key points of the unit. After class, students complete online extension assignments, offline hands-on training, and fill out in-class learning questionnaires.

In these three learning stages, multiple dimensions of process evaluation are implemented to improve students' motivation to learn. Different teaching modes are selected according to the teaching contents and the feedback contents of the questionnaire to achieve diversified teaching, highlighting the key points and digesting the difficulties.

### 3. Course Resource Construction

The concept of course resource construction is "fragmentation of basic knowledge, systematization of structure, visualization of important and difficult points"[3], and develop resources to meet the needs of blended teaching in multiple ways, covering all knowledge and skill points of the course, as follows.

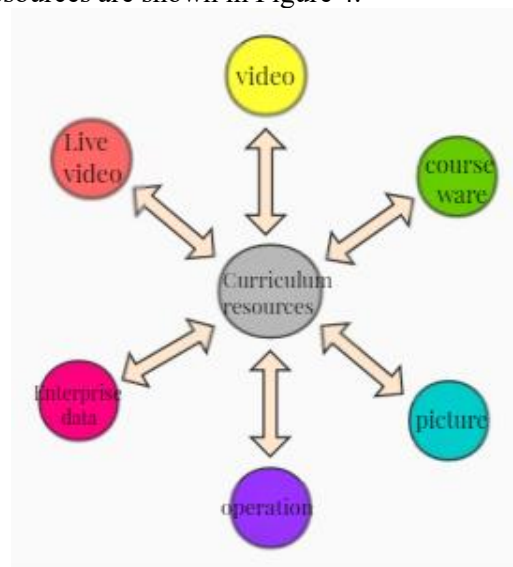
#### 3.1 Sorting out the Original Teaching Resources

The original teaching resources will be categorized according to the needs of blended teaching, and the resources needed for the

course will be organized. This process should combine the opinions of relevant automotive enterprises and industry experts, and at the same time conform to the development trend of the automotive industry.

#### 3.2 Optimization of the Construction of Resources

The types of course resources of Tsinghua online teaching platform include course standards and introduction, syllabus and calendar, teaching courseware and videos, teaching videos and cases, post-class assignments and exercises, teaching pictures and animations, etc. In addition, the course resources should be constantly updated to reflect the most forward-looking teaching research results, in order to make the resources newer, more reasonable and more logical, and the course resources are shown in Figure 4.



**Figure 4. Course Resources**

#### 4. Course Assessment Format

The course assessment evaluation of blended teaching adopts process and diversified evaluation[4]. During students' learning process, students' performance and ability are comprehensively evaluated by combining pre-course pre-task book, attendance, classroom performance, in-class practical training and post-course extended assignments to form the process assessment score. Finally, the process assessment results are combined with the stage assessment results and the final examination paper results to form the final grade of the course according to a certain ratio. The details are as follows.

Total grade = process assessment grade + stage assessment grade + final examination grade.

This assessment method is conducive to enhancing students' interest in learning, as well as facilitating communication and interaction between teachers and students, while providing a reference basis for teachers to adjust their teaching strategies and improve and refine their teaching activities in real time.

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