

# *Discussion on Curriculum Teaching Methods under High-quality Development-- Taking the Course “Web Design and Production” as an Example*

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**Abstract:** Higher vocational colleges mainly cultivate high-quality technical and skilled talents with strong ideals and beliefs, who pursue both moral and technical skills, develop comprehensively in all-around development of moral, intellectual, physical, aesthetics and labour education, master the professional knowledge and technical skills of their respective majors, meet job requirements, have strong practical and operational abilities and professional qualities, have good information literacy, professional ethics, innovation awareness, and a craftsman spirit of continuous improvement, and have strong employment ability and sustainable development ability. In order to achieve this talent cultivation goal, we have explored and practiced teaching methods for professional courses, reconstructing course content based on job skills, improving teaching methods, integrating curriculum ideology and politics, and using real work projects as carriers to improve the quality of curriculum teaching, thereby improving the quality of talent cultivation.

The General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the “Opinions on Promoting the High Quality Development of Modern Vocational Education”, which proposed that we should promote the high quality development of vocational education, adhere to the principle of cultivating people with moral integrity and cultivating both moral and technical skills, deepen the promotion of education methods, and promote the integration and unification of ideological and political education and technical skill cultivation. Vocational education should not only improve students’ operational and application skills, but also enhance their comprehensive literacy. Through course learning, students should develop a learning habit of autonomous learning and willingness to explore, promote the spirit of craftsmanship, and cultivate team awareness. High quality teaching should be a process of displaying people’s thinking activities, an interactive scene that inspires students to generate wisdom, rather than teaching textbooks or being a knowledge mover. The richer the teacher’s thinking activities, the broader the demonstration and training that students receive, and the greater the possibility of future innovation and breakthroughs.

## **1. Reconstructing the Teaching Content to Reflect the Integration of Post, Course, Competition, and Certificate**

Due to the strong practicality of computer technology and the endless emergence of various technologies, it is generally difficult to combine the applicability of teaching with the progressiveness of content in the actual process. To summarize advanced technologies, methods, and ideas also requires a period of accumulation and precipitation, so the technology in textbooks generally appears very outdated. Therefore, it is necessary to reconstruct the content of textbooks in combination with actual projects and applications, in order to achieve better teaching quality [1-2].

When reconstructing the course content, it is necessary to combine job requirements, take the enterprise project development process as the background, focus on vocational ability cultivation, and take the post, competition and certificate as the guide. In contrast to the course standards, it is necessary to break down the competition rules and certificate requirements, breaking the barrier of traditional teaching materials to the teaching content, so that the course content can be presented hierarchically and in a hierarchical manner, allowing students to adapt to enterprise management.

For example, with the project background of creating a national health website, the content of the course “Web Design and Production” is divided into four projects, namely, demand analysis, basic page production, basic function page production, and improvement and optimization. Each project is further divided into multiple tasks. For example, the third project is divided into seven tasks, including overall framework production, detailed page layout, page list content production, page table content production, page questionnaire production, hyperlinks between pages, and comments and optimization. Each task is a knowledge point. For instance, the main knowledge point in the overall framework of the task is the box model.

## **2. Concentrated Theoretical Learning and Practical Project Grading**

In order to enable students to quickly grasp theoretical knowledge and enhance their practical abilities, the teaching time is divided into two stages: theoretical knowledge learning and project practice. Theoretical learning refers to the period from the beginning of the course to the middle of the semester, in which core knowledge points are focused on learning according to the restructured course content, and theoretical knowledge testing is conducted after learning, to test the learning effectiveness of students, and to comb and memorize the knowledge learned [3-4].

After learning theoretical knowledge, conduct centralized practical training. The training project is divided into three levels, low, medium, and high, based on the difficulty of the knowledge involved. The project is conducted in groups, advocating cooperative division of labor. After the completion of each level of project, students will be organized to conduct a group defense. During the defense, each group of students will use PPT to demonstrate the team’s division of labor, production ideas and processes, problems encountered in production and solutions, the effect map of the work completed by the group, reflection and insights, etc. Through practical projects, students not only learn knowledge and skills, and achieve the transformation of knowledge into ability, but also cultivate their sense of teamwork, ability to analyze and solve problems, ability to summarize and report, and communication skills. Meanwhile, speaking during students’ defense can exercise students’ language organization ability and adaptability, improve their psychological quality, and enhance their self-confidence.

## **3. Innovating Teaching Models to Reflect Students’ Subjectivity**

To achieve teaching results, the “237” teaching model is adopted for the learning of theoretical knowledge, realizing the dual line of teacher leading and student leading. The online, offline, and

enterprise classes complement each other. The seven teaching links of “test, guidance, learning, exploration, practice, evaluation, and consolidation” aim to cultivate students’ conscious initiative in learning, cultivate good learning habits, and achieve the integrated cultivation of professional knowledge, hands-on operation ability, innovation, and comprehensive quality within a limited class hour.

The implementation process of the seven teaching links is as follows:

#### 1. Pre class preview

To make full use of students’ spare time and integrate their fragmented time, the teacher will produce a loose-leaf manual, microlesson, or microvideo of the core knowledge points summarized, summarized, and extracted from the course, which will be uploaded to the teaching platform to allow students to preview in advance and understand their learning status and knowledge mastery through pre class tests. In order to further test students’ understanding of preview knowledge, the teacher releases operational tasks related to preview content before class for students to try out. Through students’ completion, the teacher analyzes students’ weaknesses, identifies key and difficult points for the next class, adjusts classroom progress, and changes teaching strategies [5-6].

The calculation of the size of the box model in the course “Web Design and Production” is taken as an example:

##### (1) Preview

Relevant video resources from the intelligent vocational education platform to students and the animation of the box model can be pushed to the students. Courseware resources can be published in the Rain Classroom, and these three forms can be used to prepare students for the box model they will learn in the next class. In order to test the preview effect, students will also be pushed pre class test questions in the rain class, and the results of the pre class test will be included in their usual grades.

##### (2) Requirements for attempt

A box on the page with a size of 500\*500 pixels, blue, 3px, and solid border is designed. The inner and outer margins are set to 10px, and the final size of the box is measured with a pixel ruler to analyze the reason.

Having students complete the above trial exercise ensures that they have conducted a careful preview. On the other hand, it is possible to understand the weak points of students’ knowledge through the results of the trial exercise, so as to provide targeted explanations in the classroom.

#### 2. Flipped classroom teaching in class

The teacher first sort out and consolidates the preview knowledge, conducts case teaching through “guidance, learning, exploration, practice, and evaluation”, and stimulates students’ learning enthusiasm through situational introduction. Then the teacher will elaborate on the key points in the preview and the weak points of the students. The difficult points in the case can be solved through group exploration, and theory should be integrated with practice to complete case operations and enhance students’ hands-on ability. The teacher selects excellent student works for comment, helps students sort out the knowledge points of this lesson, and further emphasizes the key and difficult points as well as issues that need attention in operation. With the help of teaching cases, students can deepen their understanding of core knowledge points and be able to apply what they have learned through the flipped classroom teaching model.

The introduction of the box model concept in the course “Web Design and Production” is taken as an example:

##### (1) Leading-in of a new lesson

The concept of a box can be introduced through the issue of packing beans in daily life. A box can hold one type of beans. If you want to store multiple types of beans separately, you need multiple boxes, which can be large or small. You can stack them or lay them flat. In fact, when we

create web pages, we use the concept of boxes, which are called box models. The box model treats elements in a Web page as a rectangular box that can be used to hold text, pictures, or even another box. This is called box nesting.

This introduction can give students a perceptual understanding of the box and make dull theories interesting. It can also stimulate students' interest in learning.

#### (2) Learning new knowledge

After students know what a box model is, the teacher begins to explain new knowledge. Based on the student preview, the composition and style setting of the box model are emphatically explained. When learning new knowledge, teachers adopt methods such as inspiration, guidance, and questioning to capture the attention of students.

#### (3) Exploration of scheme

The exploration of plan is generally aimed at the difficult points of this lesson, combined with the project, and focuses on the problems that arise during the student preview as the topic for discussion. In this lesson, the problem of centering the box and merging the upper and lower outer margins are discussed in groups, with students' discussion and teachers' guidance. Students speak and teachers summarize.

The potential of students is infinite. Don't impart all the knowledge to students in the form of explanations. Only the problems they solve themselves will be impressive. After breaking through difficult points, students will have a full sense of achievement and a growing interest in learning. At the same time, they will also exercise their communication skills, ability to summarize problems, and language expression skills.

#### (4) Practicing skills

After solving the key and difficult points, students can't wait to practice. At this time, they should be allowed to implement the construction of the website architecture in the project, so that students can apply what they have learned. Combining theoretical knowledge with projects can make theory no longer empty. Integrating theory with practice allows for a more solid grasp of knowledge, which can be associated with the knowledge learned when encountering similar problems in the future.

#### (5) Comment on works

After completing the tasks of the project, the students feel a sense of achievement, and they also very much hope to be recognized by the teacher. At this point, the teacher extracts some of the students' works for display. A team can be organized to evaluate both the display effect and the code. During the continuous display, the team repeats the knowledge learned and consolidates the knowledge. At the same time, when seeing the displayed works, other students will also compare their own works to promote their strengths and avoid their weaknesses. Finally, the teacher will summarize the common problems encountered by the students to improve their level again.

In the process of watching other people's works, students' cognitive range is expanded, and they learn from each other, forming a catch-up learning atmosphere. Practice has proven that at the end of the semester, there are more and more outstanding students and their works are getting better and better.

### 3. Consolidation and improvement after class

Based on the knowledge learned in the classroom, the enterprise mentor will provide the operation parts related to the actual project and this lesson, and under the guidance of the enterprise mentor, the knowledge points learned need to be applied to solve practical problems. During the operation process, students will use the knowledge they have learned before, and they will encounter many problems. Under the guidance of their corporate mentor, they can consult the materials and discuss together to find solutions. This not only expands the scope of students'

knowledge and achieves knowledge integration, but also enables them to learn to think, cultivate their autonomous learning ability, sense of continuous exploration, and innovative spirit.

The introduction of the box model concept in the course “Web Design and Production” is taken as an example:

The after-school practical project for this knowledge point is about the characteristics and implementation of the weird box model and the elastic box model. Students can clarify the differences between standard box models, weird box models, and elastic box models, as well as their application situations, through communication with corporate mentors, and consulting materials, to form a written submission, and provide operational examples.

Through this form, students have a clearer understanding of the concept of the box model, while also learning new knowledge and technology, making full use of their spare time. This not only enables students to develop the habit of autonomous learning, but also cultivates their exploration spirit. Students can have a strong sense of achievement [7-8].

#### **4. Whole-process Tracking Learning and In-depth Interaction between Teachers and Students**

In addition to classroom interaction, teachers and students still maintain in-depth interaction through the form of report forms. Students can sort out knowledge, organize ideas, and reflect on improvements by filling out various report forms. By reviewing students’ study reports, teachers can see how well they master and understand knowledge, what they don't understand, and how they reflect on themselves. This is convenient for summarizing the teaching experience and methods of this class, as well as areas that need to be improved in the future. At the same time, teachers can also see common problems that students have and work together to solve in the next class.

##### **1. Preview report and preview analysis**

In order to ensure that each student can effectively complete the preview task, after the completion of the preview, they will be asked to fill in a preview report form, which includes the preview time, duration, method, completion of the pre class test, knowledge points learned during the preview, problems encountered during the preview, and how to solve them. The teacher analyzes the knowledge learned; problems encountered, problems solved, and an unresolved issue through the preview report, and then develop teaching strategies.

##### **2. Learning report and learning situation analysis**

According to the pre class preview, the teacher explains the knowledge points in a focused manner, emphasizing key points and error-prone knowledge points, and effectively solves teaching difficulties through case explanation and discussion. In order to check the learning situation of students in class, after class, students are asked to fill in an in class learning report form. The content of the report form includes the completion of the case, the difficulty coefficient of the case, the knowledge points involved in the case, the problems encountered in the implementation of the case, the content to be consolidated after class, and learning reflection. The students review the classroom content by filling in the report form, conduct in-depth thinking on classroom cases, and develop a consolidation and learning plan after class. Finally, through continuous reflection, the students can have a clear understanding of their own learning state, thereby continuously improving their own learning state. According to the study report form filled in by the students, the teacher understands the students’ learning situation in the classroom and the completion of this course, so as to facilitate the selection of teaching content for the next class.

##### **3. Analysis of practical training assignments after class**

After class, under the guidance of a business mentor, the content related to the enterprise project needs to be completed. The teacher analyzes the results based on the assignments submitted by

students. The content of the analysis includes homework content, submission, outstanding homework list, problems in the homework, list of students to be evaluated, and evaluation content.

## **5. Overall, Multi-dimensional Assessment and Comprehensive Evaluation of Students**

Assessment and evaluation methods play an important role in promoting teaching. Traditional assessment methods are single, focusing only on theoretical written test results, while ignoring the usual learning process and practical application ability assessment, which cannot comprehensively reflect the true level of students. Students' grades should not be determined by a final exam paper, but should be reflected in the entire learning process, so as to stimulate students' enthusiasm and initiative in learning and truly achieve process based assessment. For this reason, we divide the assessment method into four parts: theoretical assessment, project assessment, process assessment, and value-added evaluation. We assess the entire learning process of students from multiple dimensions. The theoretical assessment is divided into two stages, namely, before the project starts and after the project ends. The highest score of the two grades is taken, and the difference is used as value-added score and added to value-added evaluation [9-10].

A multi-dimensional evaluation perspective is set up to guide students to self-study, penetrate professional literacy, and improve information literacy through training. Focusing on the overall process evaluation of online, offline, and enterprise classrooms, it focuses on the progress of individual students. Value-added evaluations are set up at multiple levels, including classroom progress, competition participation, and community activities, to give full play to the incentive role of evaluations.

## **6. Integrating Ideological and Political Work throughout the Process to Improve Comprehensive Quality**

For students in higher vocational colleges, the cultivation of abilities and habits is more important than learning knowledge. Over time, knowledge can be updated, but abilities can benefit lifelong, such as "autonomous learning ability", "ability to discover and solve problems", "team cooperation ability", "communication and coordination ability", "practical operation ability", and so on. Students' autonomous learning ability, problem finding and problem solving ability can be developed through pre class preview. In classroom learning, students' communication and communication skills, unity and cooperation abilities, and communication and coordination abilities can be cultivated. The consolidation practice after class exercises students' practical operation ability and innovation ability. Enterprise project practice cultivates students' ability to solve practical problems and unite and assist them. Through group defense, students' ability to make courseware, organize language, and analyze problems is improved. The integration of ideological and political aspects in curriculum teaching lays a foundation for cultivating high-quality talents.

The levels of ideological and political integration in the course "Web Design and Production" are shown below. Firstly, students' habit of active learning should be cultivated to lay the foundation for lifelong learning. Secondly, students' good professional spirit and their sense of innovation, teamwork, and craftsmanship spirit of excellence should be cultivated, so that students have room for upward development. Thirdly, students' sense of social responsibility should be cultivated to improve their information literacy and make them become a useful person for society, ultimately cultivating students into high-quality skilled talents with comprehensive development.

During the teaching process, the ideological and political aspects of the curriculum are carried out through the following aspects:

1. Ideological and political course content

In the teaching process, the topic selection of teaching content generally selects topics that are positive or close to students' lives to stimulate students' interest in learning, and sometimes it also combines current politics or hot issues at that time.

## 2. Ideological and political teaching mode

Through the teaching mode of grouping, students can learn to work together, communicate effectively with others, help and learn from each other. These good qualities will imperceptibly affect everyone and have a positive impact on their future work and life.

## 3. Ideological and political teaching cases

At the end of a chapter or during comprehensive practical training at the end of the course, some cases will be selected for students to imitate or creatively produce. The choice of these cases is not arbitrary. First, it is necessary to consider the degree of integration with the course, the degree of difficulty, and whether the content of the case is healthy and can bring some positive energy to the students.

## 7. Conclusions

Cultivating high-quality talents is our goal and has achieved certain results in teaching practice. Through the learning of this course, students not only learn knowledge, but also improve their various abilities, develop good learning habits, and lay a good foundation for students to learn later courses. However, during the implementation process, there are still many areas that need attention, such as strengthening the self-discipline and effectiveness of pre class learning. Students may experience burnout during the preview process, partly due to the lack of contact with the preview knowledge, fear of difficulties, and laziness. Teachers should strengthen online guidance. In addition, the training cases should be updated annually, and the content of the cases should conform to the laws and characteristics of students' learning. Moreover, it is also necessary to improve the ability of team teaching, find suitable learning methods for students in higher vocational colleges, and cultivate high-quality students who can meet the requirements of vocational positions.

## Fund Projects

The 10th batch of research and practice projects of teaching reform in local universities in Zhengzhou, "Research and practice of integrated talent cultivation mode based on the integration of post, course, competition and certificate" (Project No.: ZZJG-B1047).

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