Based on "Can Science, Secondary Education"
Features of the Engineering Quantity List
Valuation of Design and Application of
Micro-lesson Course

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ABSTRACT
The teaching resources of engineering quantity list pricing are based on the function orientation of "learning and auxiliary teaching", according to the construction logic of "integrative design, structured curriculum and granular resources", the teaching resources of "Internet + Course teaching" are constructed. This paper focuses on the structural process of the course, expounds the design ideas and application results of the micro course of "granular resources", and puts forward the "mixed" teaching model suitable for the teaching of the Chinese and the Han classes for reference.

INTRODUCTION
In today's network era, with the popularization of "Internet +" technology and the rapid development of new generation information technology, such as large data, cloud computing and so on, it is an inevitable trend to reform and develop the teaching mode by transforming traditional teaching with information technology, so as to combine the application of instructional resources with daily teaching. Classroom is the main position of talent cultivation, is also the main place of teaching resources use, the research and implementation of "Internet + Course
teaching" mode, has put forward higher request to the teacher's educational teaching idea, teaching method and teaching means.

**BASED ON THE "INTELLIGENT VOCATIONAL EDUCATION" PLATFORM, SET UP A LARGE DATABASE OF CURRICULUM TEACHING RESOURCES**

In accordance with the professional capacity requirements, based on the construction of the teaching resource base of the National Vocational Education engineering cost specialty, according to the job task, the "ability to learn and teach" function orientation, the construction logic of "integrative design, structured curriculum, granular resources", the construction idea of the online open course, basing on "The Wisdom VTE" platform to establish a large database of course teaching resources, design and completion of the autonomous region, "Engineering quantity list Pricing" of the 33 key core content of the micro-course production, for all of the country with learning will and basic learning conditions of students, teachers and enterprises, industry scholars open, to achieve the sharing of high-quality teaching resources, open and large-data, and continue to lead the development of professional education of engineering cost in autonomous region.

**The Structural Design of the "Project Quantity List Price" of the Autonomous Region's Fine Course**

In the era of "Internet +" teaching, the original teaching methods can not meet the teachers, students, enterprise engineering technicians, social scholars in the same platform to learn to interact and exchange, combined with the construction of national Teaching resources Library, the "Bill of Quantities" course teaching resources into teachers resources, students learning resources, Enterprise Engineering and technical personnel learning and industry vocational training resources four categories. Based on the selection of core contents of the Project quantity list, the paper designs and manufactures the four kinds of resources, and realizes the digital teaching through the digital teaching platform of the National Teaching Resource library, which realizes the sharing and openness of teaching resources nationwide.

The Platform for Vocational education to provide a wide range of high-quality teaching resources, for students learning, teacher teaching, engineering and technical personnel of vocational skills training to create a good condition, but also the project cost practitioners to share the sharing platform for self-study. In the online classroom, students can learn by themselves, teachers and students can fully interact, teacher on-line assignment, with the test, exams, students will complete the homework and classroom doubts timely feedback in the curriculum network platform, improve the efficiency and efficiency of teaching and learning, teachers can also timely understand the situation of students learning. The teaching method
and the study way are flexible and changeable, greatly enhances the student's study interest, the student learns happily, the teacher teaches easily, the teaching efficiency has been greatly improved.

On the basis of the construction of the quality course of Bill of Quantities, the curriculum training task is further subdivided into the corresponding knowledge points, according to the different knowledge points and the specific situation of the completion task and the Students' cognition law, a class of knowledge points are suitable for the teaching of micro-courses and the other is suitable for traditional teaching. Connecting the teaching content of micro-course design with the job task, according to the principle of "system integrity, emphasis and technology development", according to the whole process project quantity list pricing management, the curriculum content is organized as follows: Six teaching modules based on two valuation methods, 12 Tasks content architecture system[3], see Figure 1.

**Autonomous Region Fine Course "Engineering Quantity List Valuation"**

**Course Resources Granular Subdivision**

Combined with the work process of Bill of Quantities, the 12 tasks of the course of Bill of Quantities are divided into 66 subtasks, it involves the measurement of engineering entity projects, the selection of a comprehensive, representative, relatively abstract 32 subtasks, the system of micro-curriculum design, the formation of "granular", Sharing open teaching resources to meet the requirements of teachers teaching, students learning, social training, engineering and technical personnel self-study.

![Figure 1. 12 Tasks content architecture system[3].](image)
"Engineering Quantity List Valuation" Course Learning Task Micro-course Design and Production

(1) Micro-curriculum design: Including task selection and focus on refining two major steps.

Topic: In order to ensure the micro-teaching content and professional post work task seamless docking, first of all, to carry out task selection, that is, in the course of teaching task focus on the selection of the core task of the job or abstract difficult to understand the knowledge. The content of the micro-course can be interpreted by the rules of calculation, the compilation of the Bill of Quantities, the comprehensive unit price analysis, the bidding strategy, the contract price agreement and the project Price settlement case. Combined with different tasks, from the concept of understanding, knowledge application, methods and techniques to explain, through the micro-class performance, so that the abstract knowledge becomes more intuitive and understandable, learners can quickly understand the mastery.

Key Refining: The compilation of the bill of quantities as the basic ability platform of the course content system, the learning content, the task weight, especially the understanding and application of the engineering quantity calculation rules is difficult, it is the knowledge point and skill training point which the students should master, so it is the focus of this course design.

(2) Micro-class production: including teaching design, supporting information enrichment, video production, expert demonstration and upload video 5 steps.

Teaching design: To fully excavate the difficulties in teaching task, find the difficulty of teaching, also clear the design idea of micro-curriculum, combine the teaching practice, carry on the study emotion analysis, correctly grasp the key point and difficulty of the students in accomplishing the practical training task.

The teaching of the course of Bill of Quantities, the teacher is familiar with the requirement of the standard of the curriculum and the difficulty. For example, the unit price is the core ability of the project quantity list, and it is the core work content of the enterprise bid quotation, so it is the teaching design of the micro-course.

The enrichment of supplementary materials: micro-curriculum In addition to video teaching needs to enrich the relevant materials, including curriculum tasks, teaching plan design, valuation basis, policy and regulation, after class summary, task training, student feedback, expert evaluation.

Video production: Video performance is the core of the micro-class, so the design and production of video is the focus of micro-curriculum design, video production quality reflects the level of the production of micro-class. There are two main methods in the course of "Engineering Quantity list Pricing".

The first is the teaching video, will lecture the teacher teaching activity carries on the whole shooting, made the teaching micro-video. Video shooting can be in the classroom, recording studio classroom teaching, can also be in the construction site on-site teaching. In the course of teaching, students interact with each other, and use
blackboard writing, multi-media courseware, building model demonstration and other teaching methods. Teachers are natural, generous, strong expression, good teaching effect. Teaching video requires teachers to be clear-cut, skillful in lectures, suitable for the choice of environment, and appropriate for teacher-student interaction.

The second is the screen recording, using multimedia courseware and other teaching materials in computer screen demonstration, teachers in accordance with the teaching content of the screen presentation, or directly with the touch screen, hand-painted board in the computer display on the top of the writing side, using video screen software to clip, splicing, add subtitles and other late system. To ensure the quality of the micro-lesson video, you should choose to record in a relatively quiet environment, such as a recording studio or home. Screen recording micro-video making method is simple and convenient, it is easy to popularize in the teacher.

Expert argumentation: In order to ensure the teaching content of micro-course and improve the quality of micro-course design, the project team has discussed and invited the experts and experts in the field to discuss the topics, teaching content, technical specifications, teaching effect and network evaluation of micro-courses.

Video upload: Micro-lesson video and related materials produced, uploaded to the National Vocational Education Digital Learning Center-"intelligent Vocational" Network Platform (http://www.icve.com.cn) and Xinjiang construction of vocational and technical College of Fine Course website http://course.xjjszy.net).

KEY ISSUES IN THE OUTCOME SOLUTION

Renewing the Teaching Idea of Education

Teacher's education experience, teaching style and is gradually formed, each teacher teaching pattern with the teaching time unceasing growth is stereotyped, if does not have the big external force promotion, wants to change the teaching pattern and the teaching style which the precipitation down many years is more difficult.

With the increasing influence of the teaching mode of "Internet + Course teaching", the micro-course will be quickly integrated into the classroom teaching. Under the background of "Internet +", the course teaching team is actively facing the challenge of teaching reform, and based on the construction of Teaching resource library, the paper will seamlessly connect the task and teaching contents in the design and application of the micro-curriculum, and renew the educational teaching idea.

Using Digital Teaching Methods to Improve Students ' Learning Enthusiasm

The traditional teaching means is to express the teaching content through the blackboard writing, the student's study enthusiasm is difficult to arouse, is in the
passive study condition. In the classroom teaching to insert different topics of the micro-class, the sound, shape, color and other information into one, so that students get intuitive, vivid, image of perceptual knowledge, can inspire students learning motivation and learning enthusiasm, so that it can be a high degree of enthusiasm to learn, feel the fun of learning.

**Improving the Teaching and Research Reform of Teachers**

**THE LEVEL OF TEACHERS' TEACHING REFORM IMPROVED SIGNIFICANTLY**

In the course of the construction of the Teaching resource library and the design and production of the micro-course in the Project quantity list pricing. The teachers' teaching level, teaching methods and means and the application level of informatization have been significantly improved, and the project team members have published 11 articles in the research and teaching reform, and cooperated with the industry enterprises to develop and integrate the digital educational resources idea into the textbook construction, In the open publication of Xinjiang engineering cost practitioners vocational education textbooks and vocational education textbooks 8, to create the autonomous Region project cost professionals training a new situation.

**TEACHERS' TEACHING LEVEL IS SIGNIFICANTLY IMPROVED**

As a new teaching method, micro-curriculum is the renewal and promotion of teaching means. In the design of micro-courses, in the process of production, the teacher needs to carry on the rigorous teaching design, achieves the simplified properly, the prominent point, simultaneously, unifies the teaching practice to encounter the practical question, including the teaching resources, the study sentiment analysis and so on, uses the appropriate teaching method and the method, makes the targeted teaching plan, The use of micro-teaching is a new way for teachers to grow.

1. Improved teaching ability of teachers

In order to achieve good results in micro-teaching, teachers should be fluent in sentence, the content is good, the emphasis is obvious, the explanation process is simple and the students are easy to understand. In the course of micro-curriculum design and production, we should fully consider these factors, rational design of teaching links, the use of appropriate teaching methods, the implementation of individualized, and strengthen the attraction of curriculum teaching to students. Micro-course design and production process, on the one hand, through the grasp of curriculum standards, in-depth understanding of the curriculum teaching tasks and career tasks of docking, on the other hand, also greatly enhance the teacher's logical thinking, language organization and key difficulties of grasping the ability.

2. Broaden the horizons of teachers[4]

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The design and production process of micro-courses need a lot of information collection, access to information, in order to ensure the content of teaching vivid and full. In the process of information and information collection, teachers broaden their horizons and accumulate abundant teaching resources. Teachers and students can realize the transference and promotion of teaching ideas and skills in the real, concrete and typical case teaching and learning scenarios, so as to improve the teachers’ classroom teaching level and promote their professional growth.

(3) Improving teachers’ information technology

The production of micro-courses requires proficiency in the use of Office applications, including word, Excel, Powerpoint, FrontPage, etc., but also to master the relevant software operation technology, such as cutting frequency, video recording, video and sound beautification and so on. The production process of micro-courses further promotes the teachers’ information technology level.

Create an Excellent Environment of Autonomous Learning, Inspire Students' Learning Enthusiasm, And Greatly Improve The Students' Learning Effect.

The micro-class manifestation in teaching resource library, enrich the content of teaching resources library, realize the diversification of teaching means, can give full play to the "Internet + Course teaching" digital teaching advantages, micro-curriculum permanent preservation, repeated use of the characteristics, to make up for the shortcomings of traditional teaching, but also the extension of classroom teaching. Students in the Internet environment using "granular" micro-curriculum resources, combined with their own characteristics have focused on the selection of learning content, before class preview, classroom study, after class review. The use of micro-curriculum such a clear, intuitive, understandable teaching means to serve the classroom "teaching" and "learning", students greatly improve the learning effect.

INNOVATION POINT

The "mixed" teaching model based on "Internet + Course teaching" has been innovated, and the teaching effect has been improved obviously, especially for the implementation of the teaching of "civil-Han-class" in Xinjiang Uygur Autonomous Region.

"Mixed-type teaching" is the integration of teaching and information technology in the traditional teaching, which integrates the digital and networked teaching, and organically combines the classroom teaching with the network teaching. Large-class teaching, "the Civil and Han classes’ teaching, so that a lot of the ability to accept slow, basic weak students, because not keep up with the teacher progress, and gradually produce weariness thinking, and even give up learning. The "mixed-type teaching" mode, is in the Internet environment, students through the micro-curriculum learning before the class, after class and after-school tutoring, not only
improve the students' interest in learning and autonomy, the role of teachers from the traditional leading role to the guiding role, the teaching effect is significantly improved, especially in Xinjiang, "Civil and Han" teaching, Han students "Not enough to eat", ethnic students "eat" the problem has been effectively resolved.

CONCLUSIONS

The design and production of the course micro-course of the engineering quantity list pricing; The teaching concept of teachers is further updated and the teaching level is greatly improved, meanwhile, a large database of curriculum teaching resources is established based on "intelligent vocational education" platform, which creates good conditions for students' study, vocational training and independent study of engineering technicians. It is difficult to solve the problems of students' acceptance ability in the teaching of Chinese and Minority language classes in Xinjiang, which has been effectively improved.

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