

# Research on the Practice of "Helping Learning" in Higher Vocational Accounting Course under the Background of Digital Economy

-- Takes the Big Data and Accounting Major of Wenzhou Polytechnic as An Example

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**Abstract:** The development of digital economy puts forward higher reform requirements for the selection of content and teaching methods of higher vocational accounting courses. On the basis of the integration of industry and education, Supported by digital technology, With the party building into the curriculum ideological and political mobilization learning, the use of emerging technology to stimulate learning, real project leadership learning, "three students and three teachers" student team to help learning, pioneer pilot evaluation system supervision learning as the main measures of the "five studies in one" help learning practice, Help with the learning of the curriculum system, Promoted teaching from "teaching" centered to "learning" centered, Teaching mode ranges from "teaching mode" to "learning mode", To further improve the teaching quality of higher vocational accounting courses, Improve the adaptability of higher vocational accounting personnel training; at the same time, We also see that the "infrastructure" needs to be further accelerated.

**Keywords:** The "Help with Learning" course, Higher Vocational Big Data and Accounting major, Digital Economy.

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## 1. Introduction

A new round of scientific and technological revolution and industrial transformation is deepening, and digital transformation has become the trend of The Times. The Outline of the 14th Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Long-term Objectives for 2035 calls for accelerating digital development, building a digital economy, digital society, and digital government, creating a sound digital ecology, and building a digital China. The 14th Five-Year Plan for the Development of the Digital Economy issued by The State Council has put forward specific measures to make China's digital economy stronger, better and bigger. The digital upgrading of industry puts forward necessary requirements for the digital transformation of accounting talents. To accelerate the reform of accounting professional curriculum is to implement the national information development strategy, to promote the deep integration of digital economy and real economy, and to choose the construction of digital China; on the other hand, it is of great significance to meet the expansion of enterprise accounting function, to improve the level of accounting work and accounting level of informatization in China.

## 2. Under the Background of Digital Economy, The Curriculum Reform of Higher Vocational Accounting Major Faces Challenges and Opportunities

### 2.1. The Development of Digital Economy Brings Challenges to The Curriculum Reform of Higher Vocational Accounting Majors.

Digital economy, green economy booming, such as big data, artificial intelligence, mobile Internet technology innovation application, prompting the transformation and upgrading of traditional industries, also spawned new industry, new forms, new models, natural "crossover" higher vocational education must first smell industrial upgrading for talent demand, higher vocational accounting personnel training need to integrate new ideas, new ideas, new technology, higher vocational accounting course knowledge system also need to reconstruction, constantly improve strategic thinking, data analysis, communication and coordination ability, to adapt to the digital transformation and high economic and social quality development. Therefore, the development of digital economy brings new challenges to the teaching concept, teaching methods and curriculum content of the curriculum reform of higher vocational accounting majors.

## **2.2. The Development of Digital Economy Brings Opportunities for The Curriculum Reform of Higher Vocational Accounting Majors**

First, the development of digital economy has brought new content to accounting professional courses. Our country will implement a wider range, wider field, deeper opening to the outside world, in promoting the process of high quality economic and social sustainable development, represented by information technology, digital technology, artificial intelligence application of industrial upgrading, there will be a lot of advanced technology and accounting knowledge of new content enrich in, this brings new content for accounting professional curriculum reform. Secondly, the development of digital economy brings new technologies to the curriculum reform of higher vocational accounting majors. Since the COVID-19 epidemic in 2020, the transformation of college teaching methods to "Internet + education" and "intelligence + education" has had a profound impact on higher vocational education; The application of new technologies such as big data, artificial intelligence and mobile communication in the training of accounting talents in higher vocational colleges will certainly change the teaching concept of accounting curriculum reform, innovate teaching mode and improve teaching efficiency. Finally, the development of digital economy will bring policy opportunities for the curriculum reform of higher vocational accounting majors. The new Vocational Education Law of the People's Republic of China, which came into effect on May 1, 2022, clearly stipulates that vocational education is a type of education with equal important status as general education, and the state will vigorously develop vocational education and promote the reform of vocational education. In November 2021, the Ministry of Finance issued the Outline of the 14th Five-Year Plan for Accounting Reform and Development, which proposed: to further promote the integration of unit industry and finance and the expansion of accounting functions, and accelerate the digital transformation of unit accounting work. In order to connect with the new economy, new technology, new forms of business and new occupations, the Ministry of Education issued the Catalogue of Vocational Education Majors in March 2021 (2021), which revised the "accounting" majors in the catalogue of higher vocational majors into "Big Data and Accounting" majors, and then brought a series of curriculum reforms such as professional curriculum standards. It can be seen that, with the development of digital economy, the curriculum reform of higher vocational accounting major will usher in a wave of "policy dividend".

## **3. Analysis of the Reform of Accounting Curriculum**

The rapid development of digital economy, enterprise business and financial work is deepening, accounting post group of data and intelligent tools application ability demand more and more strong, in the integration of enterprise demand and students' personal development, enhance the adaptability of higher vocational accounting talent training, higher vocational accounting professional curriculum reform mainly faces the course content choice, students learning habits, teaching information integration and teaching depth fusion.

## **3.1. The Dilemma of Accounting Major Course Content Selection: The Contradiction Between Knowledge Explosion and Limited Class Hours**

With the development and application of digital technology, the development of digital economy is accelerating, combining digital data mining and analysis, data visualization, intelligent business analysis and accounting knowledge. Compared with the limited hours, teachers face the dilemma of integration and selection of old and new knowledge; on the other hand, it is also a big challenge for students to complete more and faster knowledge learning in the limited hours.

## **3.2. Accounting Major Students "Know and Do Different" Learning Dilemma: "Should Learn", "Do Not Want to Learn" And "Can Not Learn" Phenomenon Coexist**

In the three-year study plan survey, 98% of the students know that knowledge learning and ability training should be the main task in the three years in the university; 73% have difficulties in implementing the study plan and insufficient learning motivation; 70% have no learning method or no suitable learning methods. At present, there are three main categories of accounting students in higher vocational colleges: ordinary high school students, secondary vocational and technical school students and social students. 1. Most students in higher vocational colleges have the problem of inconsistent learning cognition and learning action,

## **3.3. Student-centered Teaching Reform and Learning Information Isolation Dilemma: There Are Many Teaching Platforms and Prominent Information Islands**

Student-centered teaching reform, To focus on student learning and development, To realize the transformation from "teaching" to "learning", The focus of assessment also ranges from results to process and results, This requires teachers to master the learning information of students in teaching, Teach no students according to their aptitude, As the digital reform of the curriculum advances, Teachers can use online teaching platforms such as blue ink cloud class, learning pass, and provincial quality course teaching platform, Record the course teaching data; Data on students' learning behavior are also recorded in the school's academic affairs system and academic engineering system, But there is no effective integration between these data platforms, The phenomenon of information island is more prominent, It is still very difficult for teachers to obtain students' comprehensive learning data.

## **4. "Five Studies in One" Accounting Professional Curriculum to Help Learning System Construction**

Wenzhou vocational and technical college of big data and accounting from the accounting professional development, founded in 1978, is Zhejiang vocational college, Zhejiang much starker choices-and graver characteristic construction of professional and college first advantages, professional to party as the gripper, through fusion provide resources for professional teaching, with the help of "pioneer pilot" evaluation system, student-centered teaching data support, to build the "five integrated" accounting professional course

system, promote teaching from "teaching" to "learning" as the center, teaching mode from "teaching mode" to "learning mode".

#### 4.1. Party Building Serves as The Starting Point to Promote the Integration of Industry and Education, And Improve the Cultivation of Students' Professional Ability

Big data and accounting major takes the construction of national Party building benchmark departments as an opportunity, With different enterprise party building complementary learning as the entry point, Establish a party building alliance, In the mutual learning of the party building platform, To understand the business characteristics of SMEs and the needs of accounting positions in the region, Enterprises to provide business materials for accounting professional teaching, Corporate accounting position

employees, as corporate mentors, Participate in the teaching of professional courses, And to provide students with professional practice and career planning guidance, Improve students' professional ability; Teachers lead the students, Develop project-type teaching with the idea of "job demand-problem solution-solution application", Solve the business pain points for enterprises, Learn professional knowledge and job skills in problem solving, To improve the quality of students' learning, Make the students in the knowledge, ability and quality to obtain a comprehensive improvement. The integration of industry and education provides resources to support the teaching of professional courses.

#### 4.2. "Pioneer Pilot" Learning Evaluation System Construction, To Provide Comprehensive Teaching Data Support

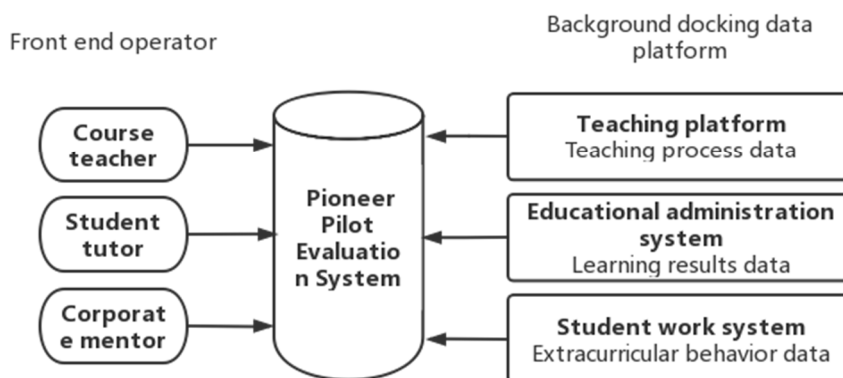


Figure 1. Pioneer pilot evaluation system

To solve the Information Island problem, The school has started the campus information construction project, From 5G network coverage, information center construction, smart classroom construction, To the physical integration of office and teaching software, Infrastructure construction was steadily promoted; To get through the last kilometer from the school to the curriculum, Big data and accounting major is led by Party building, Building a "pioneer pilot" academic evaluation system, As shown in Figure 1, The front end of the system mainly has course teachers, student mentors and enterprise mentors respectively input students' learning and behavior data, The system background integrates the student behavior data, learning achievement data of academic administration system, teaching process data of teaching platform, Finally, the students' moral quality, professional quality, professional skills and professional knowledge are evaluated. The "Pioneer Pilot" learning evaluation system integrates teaching data, comprehensively reflects students' learning process, and provides data support for teaching students in accordance with their aptitude.

#### 4.3. "Five Studies in One" Help Learning System, from "Teaching Mode" To "Learning Mode"

##### 4.3.1. Party Building into The Curriculum of Ideological and Political Thinking, From the Heart to Mobilize Students To Learn

First of all, teachers improve their own ideological and political cultivation through the mechanism of "daily learning, weekly speaking and monthly activities". The course teachers pay attention to current politics and study theories every day, discuss the experience of ideological and political integration through teaching and research activities every week, understand the trend of enterprise party building with the help of party building alliance activities every month, through daily learning, weekly lectures and monthly activities, improve their theoretical level, and lay a theoretical foundation for ideological and political development of the course.

Second, the teacher to be the teacher in charge, academic tutor, to join the party, extracurricular tutor, such as multiple roles, through academic tutor talk, activist party class, probationary party member training communication, course education, understand the dynamic of the students, into the student heart, move, xiao Daniel, inspire students learning motivation, spring rain mobilization.

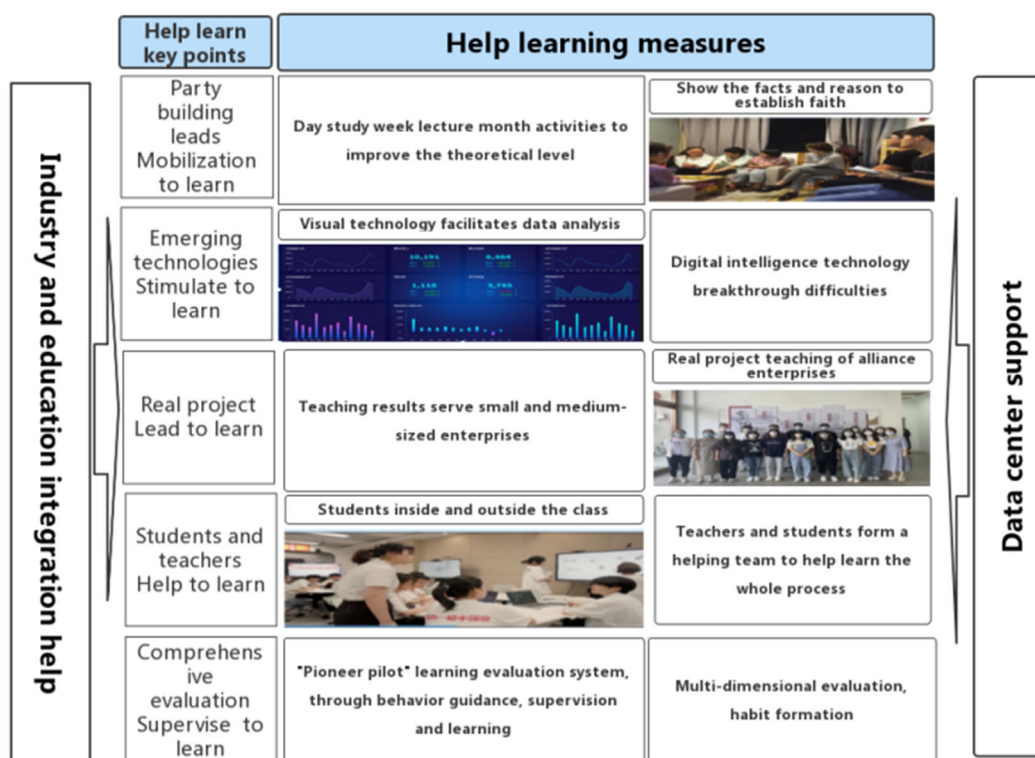


Figure 2. Help learn the course design drawing

#### 4.3.2. Digital Intelligence Technology Breaks Through the Difficulties and Uses Emerging Technology to Stimulate Students' Interest in Learning

Using the characteristics of higher vocational students' interest in emerging things, Course teaching, through visual teaching tools such as FineBI, PowerBI and Tableau, At the same time, using new technologies such as the finance and tax big data analysis platform, Using students' curiosity about new technologies, Attract students to explore and learn; Through the use of the visualization tools, Students will more vividly understand the principles of professional courses; Through financial sharing, financial tax financial application, fiscal and tax big data analysis and other 1 + X certificate platforms, Students can discover their business needs more accurately and intuitively, Dialectically to design appropriate solutions for enterprises, Improve students' professional skills, Stimulate students' interest in learning.

#### 4.3.3. Docking with the Real Needs of Enterprises, Project Teaching Leads Learning

Big data and accounting professional through the party alliance and national small and medium-sized enterprise service platform, integrating enterprise, municipal finance bureau accounting talent resources, teachers lead students docking area small and medium-sized enterprises, using project teaching method, let students to "accountant" for enterprise research, enterprise demand, put forward solutions, and complete the implementation of the solution, service transformation and upgrading of small and medium-sized enterprises, vocational students good at brain, interested in enterprise practical problems, by solving real project problems, stimulate students' interest in learning, improve students' accounting professional ability.

#### 4.3.4. Teachers and Students Form A Helping Team to Help Learn the Whole Process

Using graduate enterprise work experience, senior students learning experience, accounting class members of professional experience, form a "three" help team, as students

'academic tutor, behavior, professional tutor, in daily life, practice, career planning, graduation, employment, etc., comprehensive multidimensional to help, assist professional course teaching from "teaching mode" to "learning mode", through the "three" help team, through demonstration, assistance, promote students to learn, and improve students' independent learning ability, and cultivate students' team spirit and professional quality.

#### 4.3.5. "Pioneer Pilot" Learning Evaluation System, Through Behavior Guidance, Supervision and Learning

Set up the pioneer pilot list, mobilize outstanding students, especially active party members, to lead other students in the learning process; the "pioneer pilot" learning evaluation system integrates the whole teaching data, students can see their own growth process, and also through the system students' learning assessment and supervision, urge students to develop good study habits. The "Pioneer pilot" learning evaluation system, through the evaluation and supervision of the "external thrust", to cultivate students' "internal drive" of independent learning.

### 5. "Five Studies in One" Accounting Professional Help Learning Course Case Analysis

Take the "tax planning" course as an example to explain the specific implementation process of the course. "Tax planning" is the core of big data and accounting courses, relying on the national small and medium-sized enterprise public service platform, party into education courses, pioneer stimulate learning motivation, to "demand-planning-application" ideas to carry out the project teaching, "five learning" comprehensive help, training with thick virtue, critical innovation quality of highly skilled accounting talents.

### 5.1. Content Design — Investigates the Needs of Cooperative Enterprises and Constructs Teaching Content According to The Life Cycle

In enterprise research, we learned that under the new normal economy, industry-education integration enterprises urgently need tax reduction, different life cycle enterprises,

tax planning focus, enterprise production and operation, for production and marketing of different priorities. As shown in Figure 3, on the basis of docking enterprise tax accounting positions and national teaching standards of vocational education, into "big data financial analysis", "golden tax financial application" two vocational skill level certificate (X certificate), the traditional tax planning, and data upgrade to reconstruct by the enterprise life cycle.

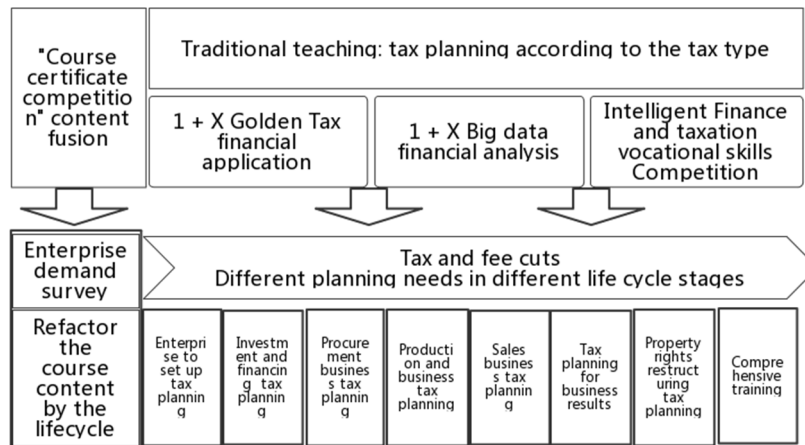


Figure 3. Reconstruction teaching content according to life cycle

### 5.2. Analysis of Students' Learning Situation- - The "Pioneer Pilot" Learning Evaluation System Collects Data and Analyzes the Learning Situation in Three Dimensions

Through the "Pioneer Pilot" learning evaluation system, students' learning information is collected, and the learning situation is analyzed from three dimensions of knowledge and skill basis, cognitive and practical ability and learning characteristics as follows.

Knowledge and skill base: good knowledge of single tax, the comprehensive ability of multiple tax is weak. The courses are 2020 big data and accounting students, both from

secondary vocational and technical schools, and tax courses such as economic law and tax accounting. The pre-class test shows that the average score of single tax is 89 points and solid; the average score of multiple tax calculation is only 59 points, indicating that most students' comprehensive application ability of multiple taxes is weak.

Cognitive and practical ability: to understand the enterprise tax-related business, weak tax planning and application ability. In the pre-course study, 100% of students have a certain understanding of the tax-related business of small and medium-sized enterprises. However, through the feedback of cooperative enterprises, 87% of students' practical ability to apply tax planning theory to tax reduction for enterprises needs to be improved.

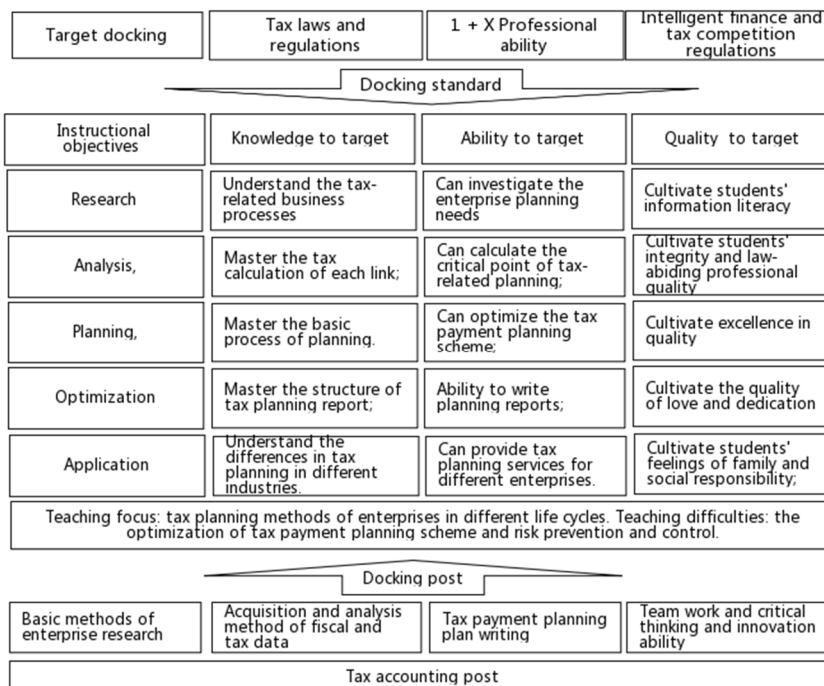


Figure 4. Termination of teaching objectives

Learning characteristics: active thinking and personality, weak thinking and innovation consciousness. Students are active in thinking. 83% have participated in entrepreneurial competitions or personalized project activities; 91% of students have the fixed thinking of "planning is tax reduction" in the learning process, and lack of speculative and innovative awareness of the operation process and business planning of smes.

### 5.3. Teaching Objectives — Docking Post Standards, Combined with The Learning Situation to Set Goals

As shown in figure 4, combined with the analysis, to the

national standard higher vocational school accounting professional teaching standards, the relevant tax legal system of the People's Republic of China, 1 + X gold financial application, 1 + X financial big data analysis, intelligent financial competition procedures, the big data and accounting professional training plan and the tax planning curriculum standards, downward docking tax accounting post standard requirements, determine the course teaching objectives.

### 5.4. Teaching Process — According to the "Demand-Planning-Application" Idea, "Research-Analysis-Planning-Optimization-Application" Five Steps

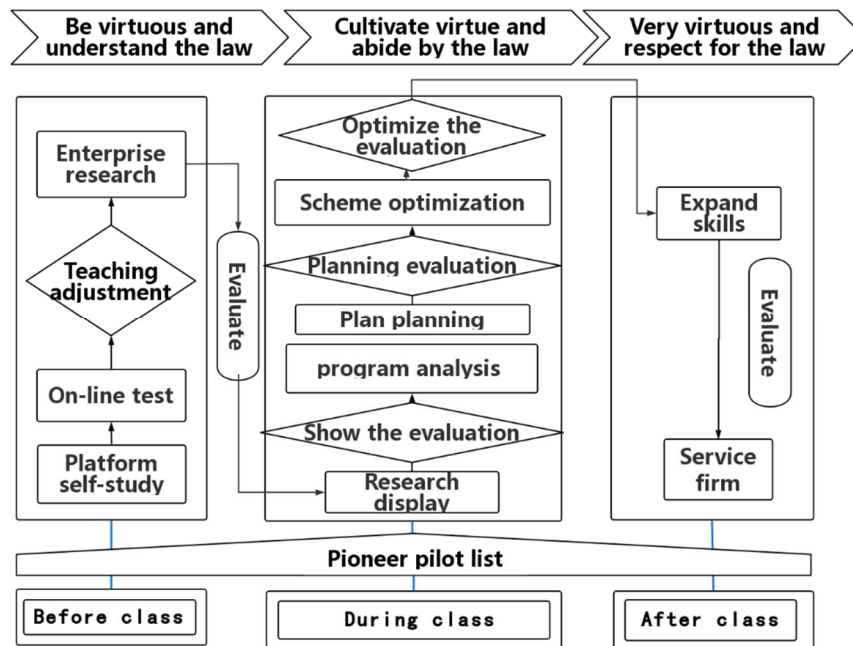


Figure 5. Teaching flow chart

The course connects with the tax accounting position of Huawei Auto Parts Group Co., Ltd., and adopts the five-step process of "program research-scheme-analysis-scheme analysis-scheme optimization-scheme-application". Learning evaluation runs through the learning guidance, technical support, business process guidance and comprehensive evaluation. Take the enterprise production business planning project: the enterprise production personnel comprehensive income planning as an example to explain the classroom teaching process.

"Learn in the research" before class. Students will use the video of personal income tax micro courses and related exercises to complete the pre-class test of personal income tax calculation. Those who fail to pass the pre-class test will re-learn relevant knowledge and then enter the test again until they pass. In view of the difficult recruitment problem and rising wage cost, understand the production personnel structure, salary and personal income tax, put forward preliminary planning ideas for individual income tax payment, prepare the classroom research report; student tutor to study. Cultivate students' team consciousness and helpful spirit through independent and mutual learning before class. Teachers analyze the pre-class learning data, and adjust the teaching design and scheme according to the problems

existing in the pre-class learning process.

"Learning in inquiry" in class. Student research and display, teacher comments. Students share the comprehensive income tax calculation results and preliminary tax planning plan. Other students will carefully observe, ask questions and evaluate the error points of tax calculation and the basic tax planning plan. Is it necessary to introduce the company to conduct tax planning for the employees?

Program analysis, teacher comments. According to students' display and comments between the group, the visual assistant of personal income tax planning was used to discuss the reasons for the difference in personal income tax in groups, and found that there was a critical tax rate jump in the year-end bonus. The distribution of salary and year-end bonus will also affect the personal income tax, and the rules of year-end bonus planning was summarized.

Plan planning, breakthrough in key points. Teachers use year-end bonus to plan assistant to demonstrate the changes in tax payable of year-end bonus, and students use year-end bonus to plan assistant to plan the year-end bonus of 7 production personnel of Huawei Company to help employees save tax and increase income.

Scheme optimization, mutual evaluation and learning. On the basis of the year-end bonus planning, comprehensively

considering the calculation of the usual wage and individual income tax, we demonstrate the change of the individual income tax through the planning assistant, and guide the students to carefully observe the change law of the tax payable. Teachers released the annual salary payment of the production personnel of Huawei Company, requiring students to use the personal income tax planning assistant to complete the best salary allocation, under the premise of honest tax payment, minimize the personal income tax of employees, and improve their sense of gain. Students operate in groups, use the personal income tax planning assistant to complete the best salary allocation, and students show the planning results. The enterprise tutor commented on the students' planning plan, put forward the problem of difficult planning and implementation, and guided the students to think about whether they could find the best allocation of salary and bonus within the annual salary range, and solve the problem of landing difficulty. Students use personal income tax planning assistant to explore the best allocation value of year-end bonus corresponding to different salary ranges, and share learning in groups.

After school, I "use" the middle school. The team cooperated to complete the salary and income tax planning

scheme of production personnel of Huawei enterprise, and assisted the master of Huawei to improve the salary design scheme of production personnel. Through the service platform for small and medium-sized enterprises to provide employee salary planning consulting services.

### 5.5. Learning Evaluation of — Pioneer Pilot Increase Quality, Three-Dimensional Integrated Evaluation Effect

The learning process of students is mainly evaluated by academic tutors, behavior mentors and career tutors, through the MOOC platform, learning communication platform and pioneer pilot list evaluation system, from three dimensions of quality (40%), knowledge (30%) and ability (30%). Among them, the Pioneer Pilot list evaluation system mainly evaluates students' quality development and guides students' learning behavior. The China University MOOC platform is mainly used for pre-class learning, which mainly reflects students' mastery of knowledge, while the superstar learning platform is used for in-class and after-class teaching, and mainly reflects students' ability and quality cultivation.

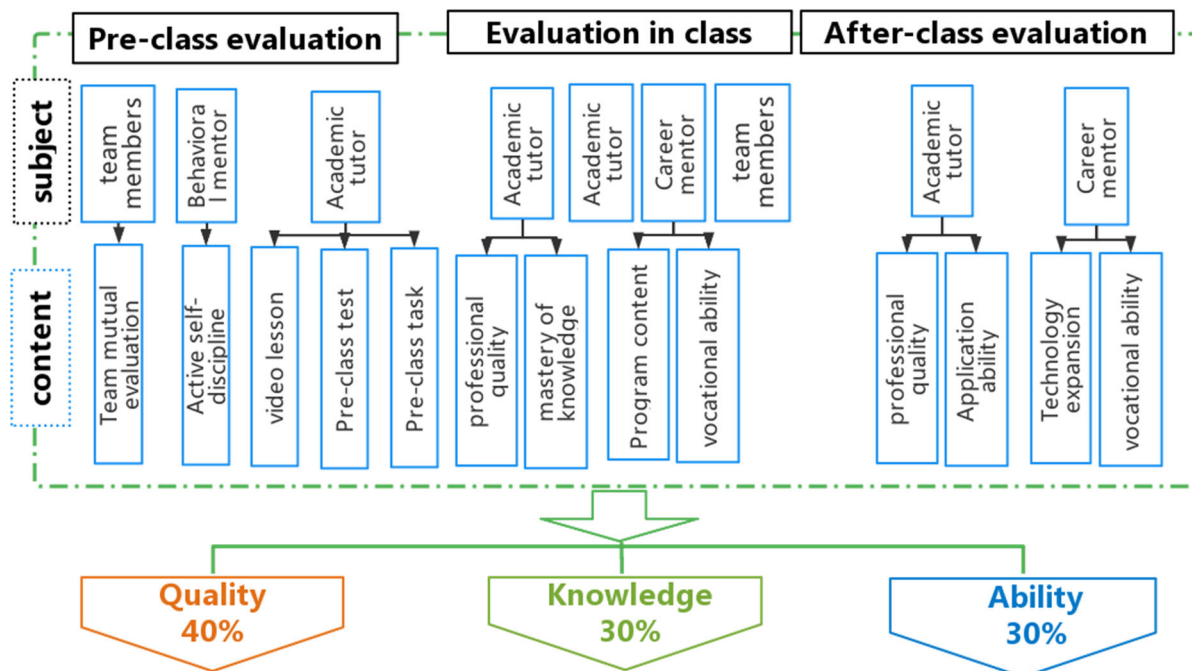


Figure 6. Learning evaluation system

### 5.6. Implement the Learning Effect of The Help-Learning Course

#### 5.6.1. In Task-Driven Projects, Critical Thinking and Innovation Is Becoming Stronger, And Social Virtue Is Becoming Stronger

In the project teaching of service enterprises, students' tax planning and application ability is provided for the enterprise, without increasing enterprise cost, save 386,000 yuan per year, provide employees with greater sense of gain, and get the recognition of the enterprise, the service willingness and service quality are steadily improved.

#### 5.6.2. In the Help of The Learning Team, The Knowledge and Skills Are Solid, And the Learning Drive Is Enhanced

Under the guidance of professional tutors, students have

increased by 32% and 58%. Under the guidance of behavioral tutors and pioneer leaders, their learning initiative is completed before class from 60% to 96%, from 35% to 3.8 hours per week. Thus, students have improved with excellent planning skills.

#### 5.6.3. In the Service of Rooted Enterprises, Social Benefits and Professional Identity Are Improved

With the help of the Party building alliance and the small and medium-sized enterprise service platform, the course began with the tax needs of enterprises, and finally planned the plan was implemented. The enterprises were rooted at both ends, the course served 43 enterprises, saved 25.59 million yuan of tax for enterprises, and avoided 281 tax control risk points, which were recognized by enterprises, and the students' professional identity was constantly enhanced.

## 6. Summary of the Practice of "Helping Learning" in Higher Vocational Accounting Professional Course

Higher vocational students generally have a lack of learning motivation, The difficulty of not learning the law, The difficulty of helping you learn a course is to awaken the students' learning drive, Integrate the party building into the ideological and political course, Human proximity and heart mobilization science, With emerging technologies such as digital intelligence technology and visualization tools, Stimulate students' interest in learning, Integration with enterprise industry and education, Course Material Source Real Project, The teaching results are directly used to serve the enterprises, Task-driven learning, Establish the "three students and three divisions" student aid team, Help to learn in and out of class, The Pioneer Pilot List, The Pioneer Demonstration, Evaluation system supervision science; be able to see, By extrapolating the internal drive, Students' ability in professional quality and cognitive practice has been improved, It also solves the problem for the enterprise, Obtain certain social benefits.

To realize accurate help learning, need to have timely and comprehensive learning data as the basis of analysis, pioneer pilot evaluation system preliminary solved the platform of data integration, how to further analysis and mining, teaching data analysis module, need further exploration, therefore, the construction of education data center will be the direction of the next step.

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2021: Research on the Influence Mechanism of the Learning Behavior Improvement of Higher Vocational College Students (Project No.: DJA210326)

### References

- [1] Yanghe Ou. "Help learning courses": towards 3.0 higher vocational curriculum paradigm change [J]. Contemporary Education Forum, 2020 (4): 84-94.
- [2] Yanghe Ou. Help learn classroom: from "learn from me" to "help you learn" classroom revolution [J]. Vocational Education Forum, 2021 (01): 49-55.
- [3] Xianjun Liu. On "Student-centered" [J]. Higher Education Research, 2012 (8).
- [4] Wu Zhou, Mingxing Zhou. Help learning courses: from "good at teaching" to "good at helping" course revolution [J]. Vocational Education Forum, 2021 (07): 69-75.
- [5] Quanquan Wu, Xiwen Wang, Zhiyong Yan. Dilemma representation and model reconstruction of student learning effect evaluation in vocational colleges [J]. Chinese Vocational and Technical Education, 2021 (14).
- [6] Dayuan Jiang. Structural logic of the systematic work-process course [J]. Education and Careers, 2017 (13): 5-12.
- [7] Songchi Lin. Construction and implementation of the "five modernizations in one" teaching mode of higher vocational tax curriculum under the background of "intelligent +" [J]. Jiangsu Business Theory, 2012 (8).
- [8] Dayuan Jiang. Crossover, integration and reconstruction: Vocational education is the three major characteristics of type education [J]. Vocational and Technical Education in China, 2019 (7).
- [9] Juming Zhao. On the new three centers: Concept and History ——— One of the American SC undergraduate teaching reform research [J]. Higher Engineering Education Research, 2016 (3): 35-56.
- [10] Weiping Shi, Yueru Lin. Reform of vocational Education Talent Training mode in the New Technology Era [J]. Audio-visual Education in China, 2021.
- [11] Zhenfeng Yu. Exploration and practice of Middle Taiwan Construction in University Education Data [J]. Higher Education, 2021.