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Transforming from the Supply Side to the Demand Side-Empowering Student Development through the "Supply Chain Management" Course

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Abstract
Course teaching needs to be based on training objectives, continuously iterate teaching content and innovate teaching design. However, it is only truly good when students say it is good. The focus of curriculum reform must shift from the supply side to the demand side, shifting the focus from what teachers can provide to what students need. This paper mainly discusses the pain points of "Supply Chain Management" course teaching, innovative solutions to these pain points, and the innovative results achieved. The course explores innovative design and reform of new liberal arts teaching through student-centered blended innovation and practice, achieving a shift from supply side to demand side in course teaching, aiming to cultivate innovative, applied, and skilled supply chain management talents needed by the country and industry development, and to maximize the empowerment of student development.

Keywords: Supply Chain Management, Teaching Innovation, Blended Teaching, Integration of Industry and Education, Student-Centered Development

1. Introduction

With the rapid development of globalization and information technology, the teaching mode of higher education is facing unprecedented challenges. The traditional teaching methods have been difficult to meet the new era of innovative, compound talents training needs. Therefore, teaching reform has become the key way to improve the quality of education [1]. However, teaching innovation, as the core driving force to promote teaching reform, is a basic project to promote the high-quality development of higher education, an inevitable requirement to accelerate the development of new quality productivity, and plays a vital role in accelerating the national strategy of promoting educational modernization and building a powerful educational country [2].Teachers 'teaching standards have been improved, and teaching innovation has become the most critical link. For example, sponsored by the Department of Higher Education of the Ministry of Education, the National College Teachers 'Teaching Innovation Competition aims to stimulate teaching, learning and innovation through competition, improve teachers' teaching level and educating ability, and then promote the reform of higher education teaching. The competition encourages teachers to devote themselves to education and supports teachers to play a greater role in the classroom to promote the all-round development of students.

In order to truly realize the “student-centered” education, it is necessary. In addition, at the press conference on the theme of people's livelihood at the second session of the 14th National People's Congress, Minister of Education Huai Jinpeng pointed out that it has become an important direction for the current teaching reform of colleges and universities to put artificial intelligence technology into all links of the whole process of education, teaching and management, vigorously develop quality education and promote the high-quality development of education. Under the tide of digital transformation of education, how to promote the reform of educational concept, governance mode and teaching means, realize the structural reorganization and visual display of curriculum content with the help of big data model and cutting-edge artificial intelligence technology, such as natural language processing and knowledge map, so as to promote students 'overall understanding and application of knowledge and promote the transformation of education to intellectualization and digitalization is the teaching reform and innovation that every educational work needs to practice [3].

This indicates that the future education reform will not only be the innovation of technology, but also the deep integration of teaching philosophy and practice. In order to truly realize the “student-centered” education, it is necessary. In recent years, in the field of higher education, in response to the characteristics of students in the new era and the "real problems" existing in curriculum teaching, university teachers have actively explored and implemented diversified and innovative teaching modes. These models focus on the transformation from traditional "teaching" to "learning" and are committed to promoting the "student-centered" quality revolution in higher education, aiming at cultivating students comprehensive quality and practical ability [4].The concept of "student-centered" education emphasizes the subjectivity of students in the learning process, and requires teachers to change their role from one-way knowledge transmitter to leader and facilitator of learning. This education model encourages students to actively participate in the learning process, cultivate critical thinking and problem solving skills, and pay attention to personalized learning to adapt to the needs of different students [5].

In order to truly realize the "student-centered" education, it is necessary to re-examine the teaching objectives of the curriculum to ensure that they are both in line with the characteristics of the subject and close to the reality of students, while reflecting the overall requirements for knowledge, ability and thinking. Questions to be considered include: whether knowledge imparting is still the dominant value of teaching, how curriculum teaching can better serve the growth of students, how teaching content is related to the new progress of discipline research, new experience of practical development and new changes in social needs, and how to effectively integrate ideological and political education into curriculum teaching to realize the value guidance of students [6]. A key focus of current education reform is to integrate cutting-edge technologies such as artificial intelligence to improve teaching effectiveness and student experience [7]. Through the innovation of teaching content and teaching method, it can provide a new path for personalized learning and teaching, which can not only improve the interaction and participation of teaching, but also promote the personalized development of students and meet the high standard requirements of education in the new era.

It is in this wave of educational reform that the teaching innovation reform of Supply Chain Management course emerges as the times require. It not only responds to the call of higher education reform, but also reflects the deep integration of teaching idea and practice, and accurately meets the urgent demand of the market for supply chain management professionals. Based on the characteristics of the subject and the actual situation of students, the course carries out mixed innovation and practice centering on student development aiming at the pain point problems in the teaching process, builds a bridge from supply chain management theory to management practice, realizes the transformation of course teaching from supply side to demand side, cultivates innovative, applied and skilled supply chain management talents needed by national and industrial development, and maximizes the efficiency. Energize student development.

2. Curriculum Overview and Teaching Pain Points

2.1 Course Overview

As a core course of logistics management specialty, Supply Chain Management has been continuously iterating teaching content and innovating teaching design based on the background of "new liberal arts" since its commencement in 2018.However, it is really good for students to say good. The focus of curriculum reform must change from supply side to demand side, and the focus of attention should shift from what I can supply to what students need. Therefore, the teaching team has actively participated in the construction of national high-level teaching competitions such as the National College Young Teachers Teaching Competition, the National College Teachers Teaching Innovation Competition and other national high-level teaching competitions, the employment and education project of the Ministry of Education, the industry-university cooperation and collaborative education project of the Ministry of Education, and the curriculum thinking and politics of Shanghai City, learning advanced teaching concepts and methods, exploring the path of curriculum reform and innovation, and promoting the curriculum content and teaching. Continuous innovation of teaching methods; At the same time, it innovates various modes, participates in the talent cultivation process at different levels, opens the micro-specialty of supply chain management for the whole school, and undertakes the teaching of supply chain management courses of Sino-German international cooperation, Intelligent Logistics Industry College and Intelligent Logistics Excellence Class. Curriculum construction is a dynamic matching education goals, student needs and technology development and changes of the process of continuous improvement, the course has become an important support for the three-level supply chain management certification courses, its construction and development process as shown in figure 1.

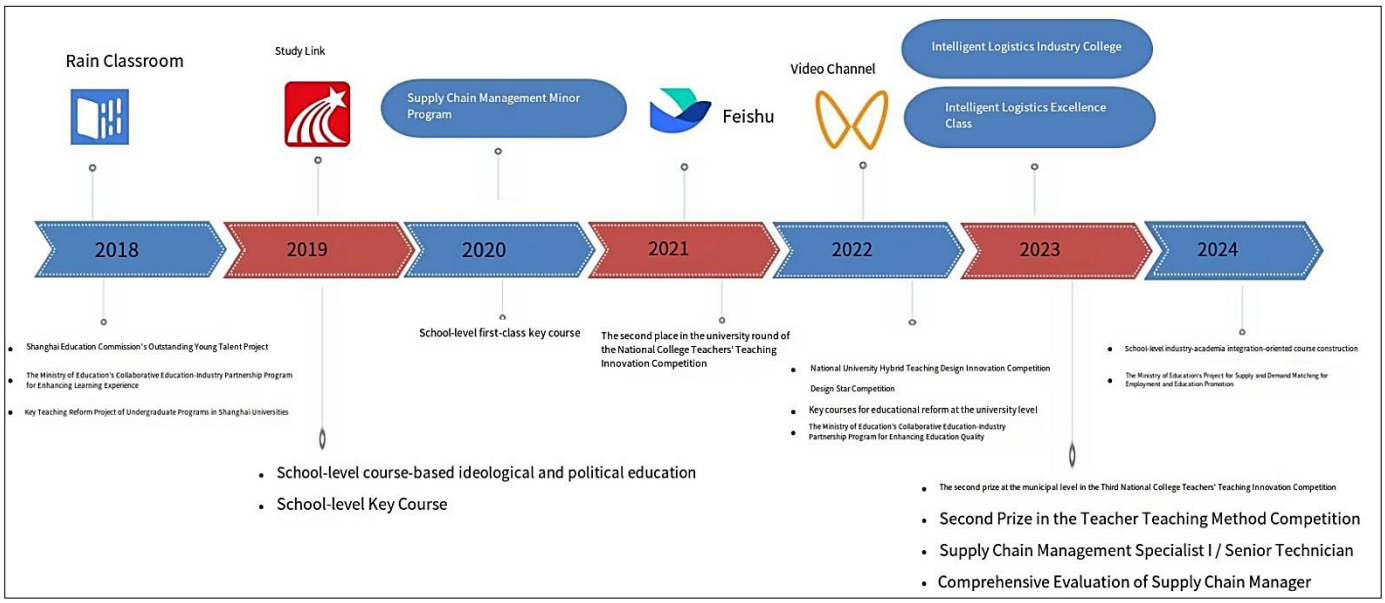

Fig 1: Curriculum Development

Based on Bloom's "Classification of Educational Goals" and Dee Fink's "Classification of Meaningful Learning," the curriculum's "student-centered" philosophy establishes a trinity of teaching objectives that combine student participation and teacher guidance. Combining knowledge, ability and quality, a complete teaching target system is formed, aiming at cultivating students 'overall quality, not just imparting knowledge. Among them, the knowledge goal is to teach students to learn to know (Learning to know), that is, to master the SCOR supply chain operation and reference model and supply chain management related concepts and theories; the ability goal is to help students learn to do (Learning to do), that is, to be able to diagnose the maturity of supply chain and obtain the certificate of three-level supply chain manager; the quality goal is to lead students to learn to be, that is, to be applied talents with innovative consciousness, cooperative spirit and communication ability and top talents with family and country feelings, craftsman spirit and global vision.

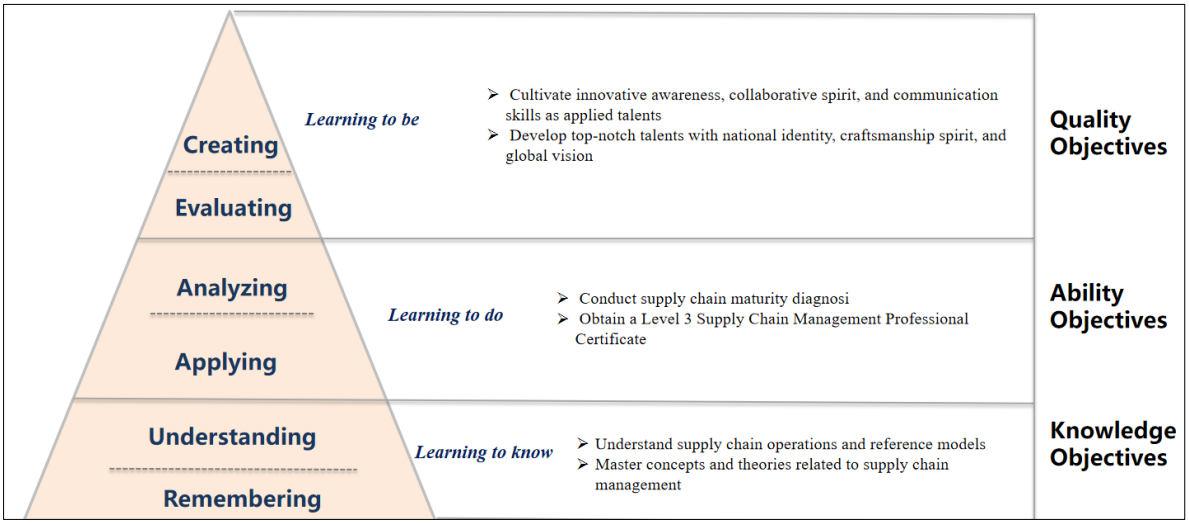

Fig 2: Teaching Objectives

2.2 Pain Points of Curriculum Teaching

The course teaching team has fully investigated and analyzed the problems and unmet needs in the course teaching process by means of student feedback from discussion and questionnaire survey, supply chain talent demand observation from industry summit and recruitment website, teaching effect evaluation from practice experts and teaching team, comparative study of supply chain management courses in other colleges and universities, and student learning data analysis from online teaching platforms such as learning pass and rain class. Specifically, supply chain management involves many disciplines, students can not integrate these interdisciplinary knowledge well, limited to books, lack of acquisition sense; supply chain management process is complex, students lack in-depth understanding of the core concepts and skills of supply chain management, knowledge cannot be used, rote learning; students lack supply chain thinking, weak sense of collaboration, lack of overall view. Corresponding to this is how to enrich the teaching content, integrate the relevant resources of the course, and guide the students to form a multi-perspective understanding of supply chain management under the condition of limited

class hours; how to mobilize the students 'subjective consciousness, change from passive learning of knowledge to active application and creation; how to meet the talent demand of industry development, and help students establish the value of win-win cooperation.

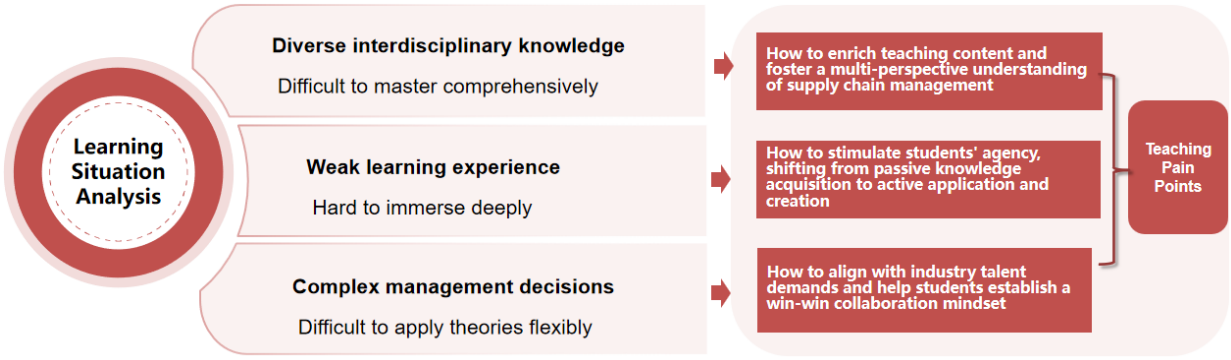

Fig 3: Analysis of Learning Situation and Pain Points in Teaching

3. The Way of Curriculum Innovation

Aiming at the three teaching pain points, the course carries out the mixed innovation and practice centering on the development of students. With the help of big data, new media and artificial intelligence technology, the teaching process is optimized and analyzed, and the structural reorganization and visual display of course content are realized by vertical use of natural language processing, video number and knowledge map, so as to promote students 'overall understanding and application of knowledge. It covers the whole process and each link of students 'learning horizontally, from preview before class to review after class, helping students to answer questions intelligently and recommending learning resources and routes. Specifically, multi-modal resource construction is carried out online to enrich teaching content, and teaching process and method innovation is carried out offline to guide students to conclude knowledge; at the same time, production and education integration and collaborative education are carried out to deduce knowledge in the situation of solving the real problems of supply chain, and the organic combination of knowledge construction and application collision is pursued.

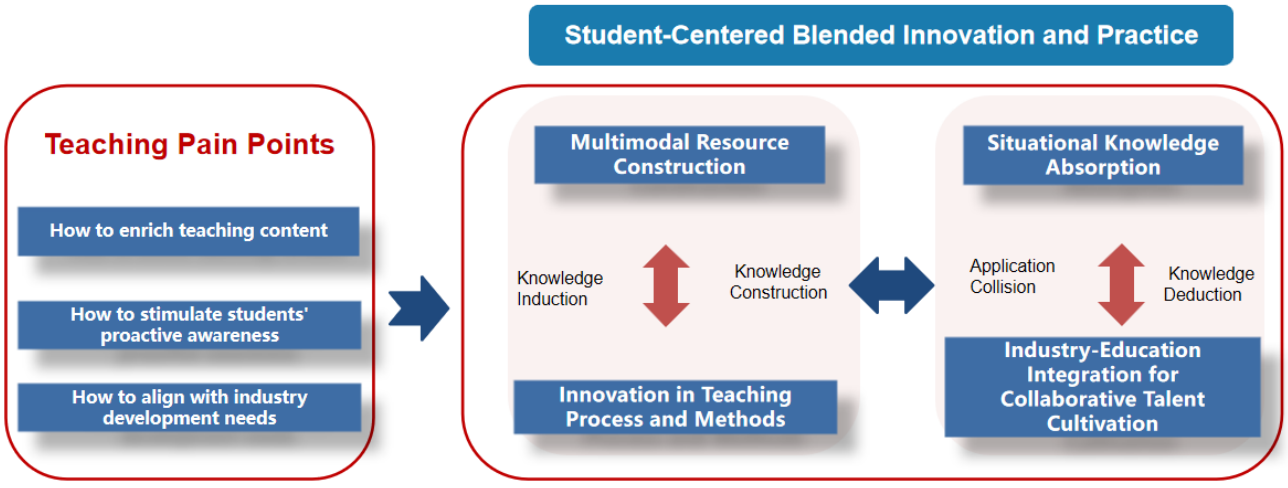

Fig 4: Student Development-Centric Hybrid Innovation and Practice

3.1 Multimodal Resource Construction

Courses based on learning platform, multi-dimensional fusion teaching resources, provides a rich teaching content, build the basic knowledge of contains more than 200 resources, including courseware library, case library, learning task list before class, video library, etc., pay attention to the content of the inheritance and innovation, enrich students 'knowledge; The expanded knowledge of more than 100 resources comes from the world-recognized supply chain management professional institutions to share knowledge, pay attention to the cutting-edge and epochal nature of content, reflect new ideas, new concepts and new achievements in the field of supply chain management, and increase students 'knowledge; The insight and perception of more than 60 resources focuses on the ideological and political thought of the course, and pays attention to the ideological and academic nature of the content. The ideological and political case base has been established in six chapters to realize the value guidance to students.

For example, in the section on supply chain elasticity, the course introduces the case of the Suez Canal Crisis. Since its opening in 1869, the Suez Canal has been an important channel for Asia-Europe maritime trade. However, the blockade of the century in March 2021 and the Yemeni armed attacks at the end of 2023 both led to the temporary suspension of the Suez Canal. Every time the international logistics service platform was shut down, the number of inquiries received about China-EU trains rose sharply, and the outgoing and return trips of China-EU trains were "burst." Against the background of the Suez Canal "ship blockage"

incident and the sharp rise in global shipping costs, China-Europe train has played a key role in "underpinning" global logistics. This case study leads students to recognize the fragility of the supply chain, to develop a sense of urgency, and to think about how to improve the resilience and flexibility of the supply chain in the face of uncertainty. By analyzing the impact of the Suez Canal Crisis on global logistics, students can deeply understand the importance of supply chain management and how to reduce risks and ensure the stable operation of supply chain through diversified logistics channels in the context of globalization. This case not only helps students to master the theoretical knowledge, but also can stimulate their innovative thinking and cultivate their ability to solve practical problems.

In addition, the course builds a real-time updated supply chain manager database, covering assessment schemes, instruction manuals and assessment question banks, aiming to provide professional and practical content and prepare students for obtaining the three-level supply chain manager certification. And four supply chain simulation software, from the supply chain operation actual combat, logistics system modeling, supply chain design and supply network optimization four dimensions to provide students with immersive learning experience. The software enables students to practice supply chain management theory in a simulated environment, improving hands-on and problem solving skills. The online resource library pursues the principle of "more, faster, better and more economical," i.e., rich content, rapid update, good quality and efficient resources, so as to meet the learning needs of students and improve teaching effect. At the same time, according to the visual display of students 'understanding and application, the structured reorganization and continuous iterative updating of resources will be realized.

3.2 Innovation of Teach Process and Method

In order to make better use of online multi-modal resources and stimulate students 'subjective consciousness and advanced motivation, the offline teaching process and method are designed and innovated. First, the self-media platform is introduced. Students are divided into groups freely, guided by their interests, make videos around a certain theme, and display them through the self-media platform. At the beginning of the period, students are timid and stiff at the beginning. After a semester's exercise, they realize calmness, self-confidence and various forms at the end of the period, such as inviting supply chain practitioners who can be contacted around them to conduct video interviews, and making animations to explain knowledge points. Students from behind the scenes to the front, from the passive acceptance of knowledge to the knowledge of teachers, students to create. Well-made, enlightening video will supply chain teaching video number for promotion.

Secondly, in order to enhance the sense of bringing into the course, each student needs to design his own supply chain business card, play roles in the classroom and supply chain sand table deduction, record the wonderful moments of the classroom at the same time, and share them with each other at the end of the period, so as to condense the collective sense of the classroom. At the same time, a three-stage teaching mode is designed. Before class: data transfer, task familiarity, situational thinking and decision-making, and submission of solutions; during class: enlighten and guide students to collide and construct knowledge; after class: re-reflection to improve cognition. The three-stage teaching mode not only deepens the students 'understanding of knowledge, but also cultivates their ability of independent learning. Teachers also change from traditional teaching to direction guidance, providing students with timely feedback and personalized guidance.

In addition, in order to better meet the industrial demand, cultivate students 'supply chain thinking. Every semester, 2-3 practical experts in the field of supply chain management are invited to participate in the course lectures and practical project teaching, and awarded the honorary certificate of "Enterprise Tutor" to create a "double-teacher classroom"; students are led to enter the school-enterprise cooperative enterprise, and external resources of the enterprise are combined to carry out research projects to promote the improvement of students 'supply chain management skills; meanwhile, experts are consulted to select and compile knowledge points, and jointly build course contents to create high-quality industrial education resources for students.

3.3 Contextual Knowledge Absorption and Application

The construction of multimodal resources, the innovation of teaching process and method, and the development of integration of production and education are all for students to absorb and apply situational knowledge better.

According to the embedding degree of situation, the curriculum reconstructs the teaching content hierarchically and progressively. Simulative scenarios based on case analysis, online knowledge learning, self-test, case familiarization, submission of case analysis reports. Under the guidance of offline teachers, inspire individuals, groups and groups to collide, constantly improve case analysis reports; experience and research scenarios based on diagnostic consultation, online learning SCOR and supply chain maturity model, submit enterprise supply chain maturity diagnostic consultation reports. Offline enterprise research, interviews, individual and group collisions, and constantly improve diagnostic consulting reports; practical scenarios are based on case writing, online learning writing requirements and standards, information collection, and submission of case writing reports. Offline student mutual evaluation, teacher comments, collision between individuals and groups, continuous improvement of case writing reports; simulation scenarios based on innovation and entrepreneurship, online learning double innovation evaluation standards, award-winning cases, submission of supply chain field double innovation project plan. Offline enterprise tutors comment with teachers, individuals collide with groups, and constantly improve project plans.

Further, the evaluation content is reconstructed by curriculum hierarchy. Based on scenario traction, students can choose one of supply chain maturity diagnosis consultation, case writing report and innovation plan to complete the evaluation according to the course learning and mastery. At the same time, it has adopted a five-oriented, diversified and double-feedback assessment and evaluation mechanism. That is to say, the diversification of evaluation subject, the transparency of evaluation process, the diversification of evaluation form, the clarification of evaluation standard, the gradation of evaluation content, and the construction of teaching ecological circle combining real-time feedback and stage feedback.

4. Analysis of Teaching Innovation Effect

Since 2018, the course has gone through 10 rounds of

teaching practice, covering more than 1500 undergraduate students majoring in economics and management successively, and has been widely praised among students. With the innovation and refinement of teaching design, the teaching evaluation at the college level has been improved year by year. And the original content of video number has aroused the attention of supply chain management professionals, and through the form of co-creation with students, a professional moat has been constructed.

First of all, the students gave good feedback. Specifically, the cloud map of teaching evaluation words showed words such as good classroom atmosphere and interesting teaching methods; the cloud map of mixed teaching evaluation words showed words such as learning rhythm, flexibility and richness; the cloud map of enterprise tutor's evaluation words showed words such as adapting to the future and relaxing and happy; and the cloud map of flipped classroom evaluation words showed words such as participation and feeling, lively and interesting by taking theme sharing as an opportunity. At the same time, the supervision feedback is good. Director Yao of the Municipal Education Committee gives the evaluation of certain exemplary first-class courses, the school-level supervision and enterprise tutor give the evaluation above A, and the college-level supervision evaluation gives 96 points, giving good feedback on the teaching quality of the courses.

Secondly, the individual achievement degree of course objectives has been improved year by year, almost all students have reached more than 60% in the latest semester; the questionnaire survey of students 'ability improvement satisfaction shows that knowledge construction, learning interest, team cooperation, supply chain thinking and theoretical connection practical ability have been significantly improved; More and more students have obtained the three-level certification of supply chain manager through the study of this course, which has well established the concept of learning for application and stimulated students 'enthusiasm and interest in learning; the number of participants in various supply chain management professional competitions and innovation and entrepreneurship projects has increased year by year, and the proportion of people who have won awards above provincial level has been rising continuously; Enlightening and practical significantly enhanced, curriculum evaluation, student topic selection content related to each link of the supply chain, research results more prominent new cognition, new methods and new trends. In addition, after the reform, students have more and more motivation to advance, and the proportion of people choosing intermediate and high-level evaluations has increased year by year.

At the same time, the course team constantly optimizes the course design, publishes many course-related papers in journals such as Enterprise Management, and publishes one textbook and one monograph respectively; the lecturers greatly improve their teaching ability through the participation of various teaching competitions, and the number and quality of honors they have won are constantly increasing. The integration of curriculum production and education has achieved remarkable results. On the occasion of the promulgation of the national pilot program for integration of production and education, it undertook the regional research project of integration of production and education in Shanghai City, and provided supply chain management optimization scheme for school-enterprise cooperative enterprises through project and case development centering on the real problem of enterprise supply chain management. The case based on this development won the third prize of "Excellent Developer" competition.

5. Future prospects

This course aims at the three major pain points of supply chain management: lack of interdisciplinary knowledge integration, lack of in-depth understanding of supply chain management concepts and skills, and lack of supply chain thinking. It carries out mixed teaching practice centered on student development, builds a bridge from supply chain management theory to management practice, and trains students to be "quasi-supply chain practitioners" with professional skills and humanistic comprehensive literacy. With the continuous evolution of new liberal arts education, the deep integration of technology and education will become the key force to promote personalized and intelligent teaching. Lifelong learning and the cultivation of self-driving ability will become the core of education to meet the social needs of rapid renewal of knowledge. In the future, it is planned to continue to innovate and reform curriculum teaching through artificial intelligence means, create a new intelligent and digital curriculum teaching ecosystem, and continue to iterate and improve teaching quality. On the one hand, it constructs intelligent learning partner, that is, it provides personalized and intelligent services such as sorting and urging students 'knowledge points; resources, learning route planning and planning; learning tool invocation, etc. with the help of artificial intelligence. On the other hand, it pursues all-round upgrading of teaching process, that is, through artificial intelligence enabling teaching whole process, intelligent lesson preparation, intelligent summary, intelligent question setting, intelligent generation of knowledge atlas, voice generation video content, intelligent duplication of homework, review, evaluation and analysis, etc., so as to reduce teachers 'work pressure in the whole process. At the same time, by participating in educational seminars and training programs at home and abroad, we constantly update teaching concepts and methods to ensure the continuous improvement of teaching quality. In addition, through school-enterprise co-construction of training base and project practice, guide students to pay attention to environmental, social responsibility and other issues in the supply chain, and cultivate their sense of social responsibility and sustainable development awareness.

6. References

1. Shi J, Cai Y, Zheng Y. Practical path of first-class undergraduate curriculum construction--Taking Nanjing University high-quality curriculum construction as an example. China Univ Teach. 2021;(04):49-53.
2. Li M. The performance, causes and countermeasures of students' knowledge vulnerability. Educ Theory Pract. 2024;44(11):49-52.
3. Zhu Z, Hu J. The essence of digital transformation of education and research prospects. China Audio-Visual Educ. 2022;(04):1-8+25.
4. Wulf C. "From teaching to learning": Characteristics and challenges of a student-centered learning culture. In: Inquiry-based learning–Undergraduate research: The German multidisciplinary experience. 2019:47-55.
5. Zhou G, Huang R. How to institutionalize teaching

reform--"student-centered" educational reform and the rise of innovative talent training special zones in China. High Eng Educ Res. 2013;(05):47-56.
6. Zheng Q. Artificial intelligence empowers to create a new pattern of future education. China High Educ Res. 2024;(03):1-7.
7. Jin Z, Lu A. The value orientation of curriculum design. Educ Theory Pract. 2022;42(22):54-59.
8. Tang KHD. Student-centered approach in teaching and learning: What does it really mean? Acta Pedagogia Asiana. 2023;2(2):72-83.