



The Training of Medical Supply Chain Management Talents under the Background of New Engineering and New Liberal Arts

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Abstract. The characteristics of the integration of supply chain management and humanities are studied in the context of the current combination of new engineering and new humanities, with a focus on interdisciplinary and multidisciplinary talent cultivation. Construct a talent cultivation system for supply chain management professionals, and reconstruct it from the aspects of talent cultivation mode, ability indicator system, curriculum group, and integration of industry and education. To continuously reform and improve talent cultivation in practice, in order to better meet the demand of society for medical supply chain management talents, and enable students to better serve society after graduation.

Keywords: New Liberal Arts, New Engineering, Supply Chain Management Major, Personnel Training

1 Introduction

In August 2018, the central government proposed for the first time to promote high-quality development of higher education, further enhance education service capabilities and contribution levels, and develop new engineering, medical, agricultural, and humanities. The construction of the "four new" has entered the public's view for the first time. On April 19, 2021, General Secretary Xi Jinping emphasized on "promoting the construction of new engineering, new medical, new agricultural and new liberal arts" during his inspection at Tsinghua University. So far, the "four new" construction has gradually moved from early exploration to paradigm change, becoming a landmark measure leading the reform and innovation of China's higher education. The "four new" construction has a very important leading role in promoting interdisciplinary integration, upgrading and transforming the existing disciplinary and professional system, and cultivating scarce talents. "New Engineering" is to upgrade and transform the tradi-

tional engineering specialty through intelligent manufacturing, cloud computing, artificial intelligence, etc., with the Internet and industrial intelligence as the core. "New Humanities" is a disciplinary restructuring and interdisciplinary integration of traditional humanities, integrating new technologies into courses such as philosophy, literature, and language, providing students with comprehensive interdisciplinary learning. The supply chain management major has the characteristic of integrating literature and work. In the context of the current "four new" construction, conducting research on talent cultivation of supply chain management majors with interdisciplinary and multi professional integration, solving the problem of talent cultivation in medical supply chain management majors, is of great practical significance for improving the quality of talent cultivation in supply chain management majors.

2 Current Situation Analysis

Policies such as the "Healthy China 2030" Plan Outline and the "Guiding Opinions on Promoting High Quality Development of the Drug Distribution Industry during the 14th Five Year Plan Period" point out the optimization and reform of the current industrial structure of China's pharmaceutical distribution, in order to enhance China's drug supply guarantee capacity, distribution efficiency, and quality and safety. Drugs are different from ordinary commodities, and the pharmaceutical supply chain is also different from ordinary supply chains. Due to the particularity of drugs, the pharmaceutical supply chain has higher requirements than ordinary supply chains. The Supply Chain Management major is a new major that was only recruited by domestic universities in 2018. As of April 2024, the number of supply chain management majors has reached 100, and since 2022, there has been a continuous influx of supply chain management graduates into the job market. Currently, only Hunan University of Medicine has started admitting students majoring in supply chain management since 2022, and there are no graduates in medical supply chain management. This also leads to the unmet demand for supply chain management talents in the medical industry. Medical colleges have abundant medical teaching resources and a comprehensive medical and pharmaceutical system that other universities cannot compare to. They have sufficient educational and teaching resources in modern basic medicine, pharmacy and other related courses, and have close cooperation with local medical related enterprises. They have implemented better integration of industry and education. These advantages are very helpful for creating a supply chain management student practice base based on medical institutions or enterprises, which can better cultivate students' ability to combine theory and practice. Therefore, offering supply chain management majors in medical colleges has significant resource advantages in cultivating composite talents in medicine and supply chain management. In this context, Hubei University of Traditional Chinese Medicine is actively applying for a new major in supply chain management to cultivate supply chain management talents with medical characteristics.

Regarding the construction and development of the supply chain management profession, most scholars have studied the construction of the supply chain management

profession under the background of new liberal arts[1][2][3]. Many scholars have proposed to pay attention to the interdisciplinary characteristics of the profession and the integration of multiple disciplines, and have put forward their own opinions from different perspectives. Liu innovates the discipline of supply chain management in the construction of new liberal arts from the perspective of business education[4]. Dai et al. conducted in-depth research on how to construct a practical teaching model for supply chain management in the context of the integration of new liberal arts and new engineering[5]. Under the construction requirements of the cross integration of "new engineering" and "new humanities", Wu et al. combined with the characteristics of the cross integration of information management, logistics management, supply chain management and other majors, applied interdisciplinary thinking to conduct research and exploration on the cultivation of professional talents with interdisciplinary cross integration[6]. Duan et al. studied the application of blockchain technology in supply chain management[7]. Chen and Ruan focuses on both the theoretical underpinnings and practical applications of integrating the metaverse into healthcare supply chain management[8]. Taking Hong Kong as an example, Liu studies the intelligent supply chain management mode under the background of Industry 4.0[9].

Therefore, medical colleges should establish a supply chain management major, aiming to focus on cultivating composite talents in the medical supply chain. In the context of new humanities and engineering, the training plan for supply chain management talents should be optimized, and the medical supply chain management talent training system should be improved.

3 Construction of Talent Cultivation System

Supply chain management not only requires mastery of a single function, process, and enterprise operation, but also requires familiarity with the characteristics of multifunctional, multi process, and multi type enterprises. This puts forward higher requirements for the cultivation of supply chain management talents, requiring consideration of interdisciplinary and multi professional integration issues, and the use of interdisciplinary thinking to construct a supply chain management professional talent cultivation system, including the reconstruction of talent cultivation models, ability indicator systems, course groups, and industry education integration.

3.1 Building a Talent Training Model for Medical Specialty Supply Chain Management

In order to meet the requirements of the national supply chain development strategy and the urgent demand for supply chain management talents in the pharmaceutical industry, our school plans to establish a supply chain management major on the basis of logistics management. Under the training requirements of interdisciplinary and industry academia integration, we aim to cultivate supply chain management talents with "ideological and political concepts+engineering foundation+management literacy+medical thinking+practical ability+innovation consciousness". Cultivate talents who can meet

the needs of employment and education institutions such as government, industry, enterprises, universities, research institutions, and entrepreneurial platforms, and continuously improve the talent training mode based on feedback from employment and education institutions. As shown in Figure 1.

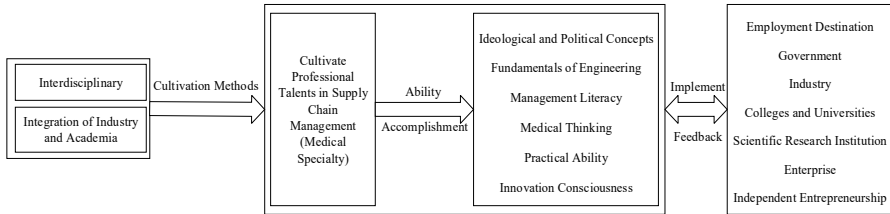


Fig. 1. Training Model for Medical Supply Chain Management Talents

3.2 Constructing a Talent Cultivation Ability Indicator System Covering Multiple Disciplines

Due to the interdisciplinary nature of supply chain management, through methods such as expert seminars, enterprise surveys, and questionnaire surveys, the requirements of society for the mastery of knowledge, abilities, and comprehensive literacy in medical supply chain management majors were obtained. Relevant indicators for new engineering and new humanities were divided as the basis for mapping ability indicators to the curriculum system, and the design of course content was guided. A professional talent cultivation ability system was established, and the knowledge structure reform and optimization of talent cultivation were achieved, as shown in Figure 2.

<p>New Engineering</p> <ol style="list-style-type: none"> 1.Fundamentals of Mathematics 2.Modern Information Technology Knowledge 3.Enterprise Data Statistics and Analysis <p>Capabilities</p> <ol style="list-style-type: none"> 4.System Modeling Thinking and Abilities 5.ERP Application Capability 6.Capable of Conceptualization and Abstraction 7.Information Processing Capability 8.Ability to Analyze and Solve Problems 	<p>New Liberal Arts</p> <ol style="list-style-type: none"> 1.Basic Knowledge of Modern Enterprise Management 2.Business Fundamentals 3.Financial Management Knowledge 4.Knowledge of Enterprise Operation Management 5.Knowledge of Foreign Languages, Political Law, Literature and Art 6.Oral Expression and Interpersonal Communication 7.Adhere to Marxist Ideology 8.Adhere to the Common Ideal of Socialism with Chinese Characteristics 9.Adhere to the National Spirit Centered on Patriotism and the Era Spirit Centered on Reform and Innovation
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Fig. 2. Professional Capability Indicators of Supply Chain Management Based on the Background of New Liberal Arts and New Engineering

3.3 Building a Multidisciplinary Integrated Professional Course Group

By clustering and dividing professional ability indicators, and based on the training goals of applied talents in medical supply chain management under the background of new engineering and new humanities, combined with the characteristics of interdisciplinary and multi professional integration of majors, the knowledge structure of talent ability cultivation is reformed and optimized. A course group of general education, management, medicine, and data analysis is constructed, effectively achieving the cross integration of theoretical courses between disciplines, as shown in Figure 3.

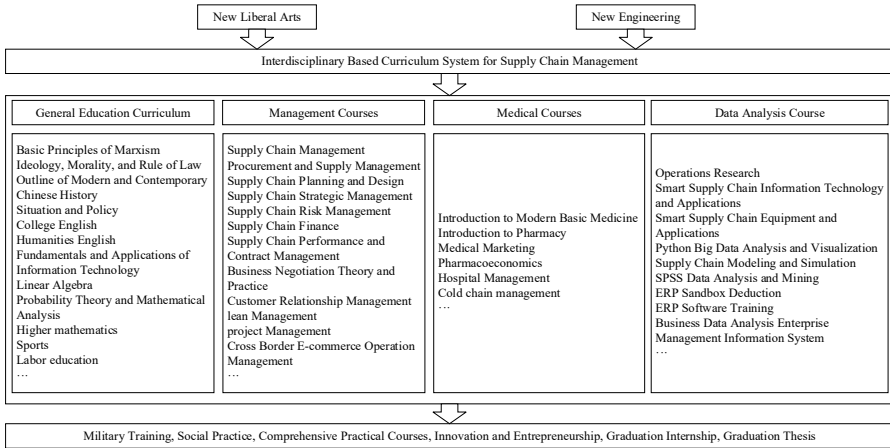


Fig. 3. Interdisciplinary Curriculum System for Supply Chain Management

3.4 Building a Comprehensive Mechanism for Integrating Industry and Education

In the process of cultivating supply chain management talents in medical colleges, it is important to attach importance to the construction of a practical teaching system for students. Firstly, in the design of practical courses, comprehensive arrangements should be made from in class practice and experiments, comprehensive practice, graduation internships, and other aspects, so that students can achieve a combination of theory and practice; Secondly, encourage students to participate in innovation and entrepreneurship competitions such as the National College Student Supply Chain Competition, continuously expanding their professional thinking; Thirdly, hold practical exchange activities on campus from time to time, inviting engineers or managers with strong practical abilities from enterprises to hold symposiums and other forms of communication, so that students' practical thinking can continuously enrich and improve on the theoretical basis; Finally, carry out training on pharmaceutical supply chain management related positions on campus, allowing students to enjoy excellent practical resources on campus while deeply cooperating with relevant school enterprise cooperation units, continuously creating new practical platforms for students, creating a second

classroom on campus, and continuously improving their professional practical abilities in innovation and entrepreneurship education.

Taking the cultivation of professional technical application ability and comprehensive quality as the main line, combined with professional characteristics, we have achieved a positive interactive mechanism for the integration of industry, academia, research, and competition in the construction of professional programs. In the process of designing a circular system of production, education, research, and competition, industry is the foundation, teaching is the center, scientific research is the key, and competition is the means. The integration mechanism of industry, academia, research, and competition combines classroom teaching with enterprise production practice, teaching with extracurricular scientific and technological activities, learning with participation in subject competitions, and utilizes different educational environments and resources such as universities, government departments, and enterprises to cultivate practical applied talents suitable for the needs of society and enterprises. Under the background of new engineering and new humanities, we will continue to deepen the integration of industry and education, and upgrade the comprehensive mechanism of industry and education integration, including training objectives, teacher team, resource sharing, management and operation.

4 Conclusion

The interdisciplinary and interdisciplinary nature of the supply chain management major makes its teaching reform a complex system engineering. Based on the current shortage of medical colleges offering supply chain management in China, talent cultivation needs to be continuously reformed and improved in practice, so as to better meet the demand for medical supply chain management talents in society and enable students to better serve society after graduation.

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