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The Strategy to Strengthen the Logistics Practice of Experimental Teaching and Improve Innovation Ability- For "Distribution and Inventory Management" Course as An Example

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ABSTRACT

with the strong development of logistics industry in our country, logistics professional talent demand is more and more strong, and the corresponding logistics professional talent training, but from the logistics professional education present situation: on the one hand, a large number of logistics professional graduates have been trained, on the other hand, the real society needed logistics professionals are difficult to meet, especially the lined logistics professional talents with practical ability. Therefore, in the logistics professional teaching, we should attach great importance to logistics experiment teaching and laboratory construction, lets the student in the laboratory simulation practice carries on the comprehensive skills training, so as to rapidly improve the students' practical and innovative ability, and relying on the development of logistics industry change request, eventually adapt to rapidly changing market needs. Based on the distribution and warehousing management course as an example, through the introduction of logistics laboratory conditions and the experiment situation in the Chongqing Jiaotong University, we analyzed the logistics management problems existing in the experiment, and put forward effective suggestions so as to improve logistics experimental teaching and improve students' practical ability to innovate.

Keywords - *Innovation ability; Experimental teaching; Logistics management*

I. INTRODUCTION

Since I became a "ten" the revitalization of industry logistics industry, logistics industry development situation in our country more and more strong, more and more strong demand for logistics professionals, along with the emerging development of e-commerce makes emerging logistics project development and expand rapidly, logistics enterprises and the logistics enterprise all a sharp rise in demand for logistics talent, at the same time, professional logistics education in China has been rapid development. Existing domestic logistics industry talent demand distribution is: (1) corresponding to the traditional transportation and warehousing transportation and storage become the basic position, and the two positions of personnel engaged in logistics practice more, but these are not in the true sense of logistics professionals; (2) intermediate position, logistics engineering or logistics management practitioners are mostly the position has certain logistics practice experience and has a certain basic knowledge of logistics professionals; (3), a senior logistics manager or director position, the two jobs logistics practitioners have a wealth of practical experience, experience and has a wealth of logistics professional theory knowledge, can to digest system thinking all kinds of knowledge and solve the problem of logistics engineering and management, is the highest level of logistics talents but this part of the talents is very lack. Logistics education, though developing rapidly, along with the enrollment expansion and logistics management professional Settings, while cultivating a large number of logistics professional graduates, but all types of enterprises need a variety of logistics talent is not satisfied. Logistics is a practical strong, strong technical and theoretical strong professional, and most colleges and universities logistics professional education in the theoretical knowledge of education and digestion, logistics experimental courses as students contacts an important link in logistics practice, rich logistics practice activity to deepen understanding of the theory and the digestion. Students through the complete logistics experiment projects can be well reached out to theory and practice, not only can improve the learning effect of students in the class, also can deepen students understanding of logistics professional basic knowledge and and learning, such as distribution center planning, distribution route optimization experiments, warehouse location experiments require students to be able to logistics professional knowledge with linear programming theory in operations research, optimization control theory and fuzzy evaluation theory better combination, so that it can significantly improve students self to find information, analyze problems, to use all kinds of knowledge ability to solve problems, thus improve their learning and practice innovation ability. Therefore, in the logistics professional teaching, experiment teaching should attach great importance to logistics, logistics project development and logistics laboratory construction,

lets the student in the lab simulation practice can rich logistics of comprehensive skills training, to increase interest in learning, improve the learning efficiency and achieve professional theoretical knowledge learning and practice operation skill training effective integration and unity, in order to improve the logistics practice ability and innovation ability of students, for students after graduation can well adapt to the logistics work to lay a solid foundation, to better meet the needs of the society for talents of logistics. Himself in Chongqing Jiaotong University, school of management as the distribution and inventory management theory and experimental curriculum on teachers, 5 years theory class 40 hours, 16 experimental school, the teaching object of logistics management professional undergraduate, general class of 2, at least 50 students, logistics experiment item including shipping route optimization, the beer game, the location of the center of gravity method and the analytic hierarchy process (ahp), a distribution network shortest path and capacity arrangement. Therefore, this article will take the shipping and warehouse management course as an example shows how to improve the logistics professional logistics experiment with the students' practical ability to innovate.

II. CHONGQING JIAOTONG UNIVERSITY LOGISTICS EXPERIMENTAL CONDITIONS

Chongqing Jiaotong University, school of management has established the multimodal transport, port logistics sand table simulation laboratory laboratory and stereo warehouse system laboratory and invest a lot of money to buy a lot of logistics software, such as ERP, vehicle scheduling software, beer game, multimodal transport, physical distribution software and E road logistics management software; In hardware aspect, the introduction of automated multi-layered storehouse system, tray bungalow warehouse system, international cargo transportation system and container yard operation system, etc., as well as related software system matching the hardware facilities, such as in the automation stereoscopic warehouse is introduced involving suppliers, manufacturers, distributors and third-party logistics supply chain management system, using the system for order processing, production, cargo warehouse management and distribution of goods distribution, etc. As a result, the logistics experiment teaching has begun to take the required hardware and software implementation of the equipment, lay a foundation for good logistics experiment teaching. In Chongqing Jiaotong University logistics management professional institute of management as a shipping and warehouse management on theory and experiment course teacher for five years, theory of 40 hours, 16 classes of experimental teaching object for logistics management professional undergraduate, generally for 2 class, at least 50 student (now recruit students scale, average of 4 class, at least 110 students), logistics experiment projects including distribution route optimization (2 hours), beer game (2 hours), center of gravity method (2 hours) and analytic hierarchy process (ahp) location (4 hours), distribution network shortest path (2 hours) and capacity (4 hours). Due to laboratory space restrictions, in every time before experiment, generally the experimental principle, experimental related operations in the classroom teaching steps and process, the expected experimental results for all students, then students in the stipulated time to the designated laboratory for experiments.

III. THE DISTRIBUTION AND INVENTORY MANAGEMENT PROBLEMS EXISTING IN EXPERIMENT COURSE

Distribution and warehousing management of experiment course covers the project mainly on stereo warehouse system laboratory of the college of management, though the laboratory in the aspects of hardware and software is more perfect, but I found in the experiment teaching process, there are some problems, such as hardware is all but experimental equipment single number not to a class of students to carry out the experiment at the same time; Experiment content hasn't put the important job of logistics, circulation processing and logistics laboratory; Also no more perfect logistics lab manual; Ignore the logistics experiment teaching evaluation; Experimental course examination way mainly according to the students to submit the test report, inspection way too single, exist the phenomenon of plagiarism

(1) The experiment equipment of single units is not enough. Lab is full in the hardware aspect, but ignored the experimental equipment of single units to the students of class a at the same time the feasibility of trying out an experiment, it is not able to achieve student performance in practical operation, which hinders their understanding all kinds of logistics equipment and related operating skill. In software aspect, for example, generally USES the computer to experiment, the experimental project is below 50 students can experiment at the same time, and now the size of 110 people, so it is difficult to experiment at the same time, and the professional class teacher is difficult to in the limited time to guide every classmate, unable to communicate with them in time logistics design scheme. In addition, for the distribution and inventory management of experimental projects mainly in three-dimensional warehouse and bungalows, due to the 3 d warehouse and bungalows built in the same laboratory, laboratory area of about 150 square meters. As stereoscopic warehouse is

high investment, investment of automation stereoscopic warehouse in more than 3 million, so the school only purchase a roadway type automatic stacking machine, two rows of shelves, a sorting mouth, a computer, two automatic conveyor belt, and involved in three-dimensional storage experiment courses, the students can only visit, or watch the teacher the whole pickup operation, storage, delivery process, to a certain extent, limit the part or all of the students fully understand as basic logistics functions - warehousing facilitie.

(2) Insufficient experiment equipment using, too much idle time. Logistics laboratory basic management department were not open to the public, mainly for the use of the college logistics management professional students experiment, and logistics management professional course mainly includes: transportation economics, logistics and warehouse management, inventory control and management, the third party logistics, distribution center planning, multimodal transport, project procurement and management, etc., of which only a few course experiment involved, therefore, the logistics laboratory hardware equipment, especially equipment often idle. Such as warehouse laboratory a semester may visit a few times, and for logistics sand table laboratory is used less.

(3) The experiment item is too little, such as processing and related experiments. Current experimental project mainly including inventory optimization, distribution center operations simulation, shipping route optimization, electronic label chosen, RFID, simulation, automatic stereoscopic warehouse access view, etc. In addition, many emerging high value-added logistics operations such as circulation processing, logistics, finance, warehouse receipt pledge business is more and more become the main profitable business of logistics enterprises. Such as circulation processing business is more and more become an important business distribution and warehousing enterprises or link, thus reduce logistics cost, improve logistics efficiency, but in the existing logistics laboratory, haven't this important logistics homework should be brought into the logistics laboratory.

(4) Lack of logistics lab manual, a single course examination way. Because many students in the process of logistics experiment teaching can't very good for a limited time effectively absorb and master of experiment content, therefore, should prepare logistics lab manual, so that the students can effectively use logistics experiment under the lesson guide to master and consolidate the content of the experiment. Experimental course examination in general is mainly based on students to submit the test report, but I found, in the process of teaching students to submit the test report done especially in the form of personal experiment report exist the phenomenon of plagiarism.

(5) The lack of logistics experimental teaching evaluation. This is an important link in logistics experimental curriculum, and teachers' organization and the important content of teaching practice. Through quantitative evaluation on the students of experiment teaching, experiment, examination, also including process evaluation, and analyzes the evaluation results, to find the right logistics evaluation measures and operation basis for the development of curriculum, experiment and analyzes the evaluation results, so that to improve the logistics experiment course. Now schools lack of experimental teaching evaluation system of logistics, stay on the students after the experiment in a laboratory reports, experiment evaluation as the basis.

IV. IMPROVE LOGISTICS EXPERIMENTAL TEACHING TO IMPROVE STUDENTS' PRACTICAL INNOVATION ABILITY COUNTERMEASURE

(1) Increasing logistics simulation software, and to participate in intercollegiate resources sharing. Owing to lack of experimental equipment of single units, especially the stereoscopic warehouse, and warehouse's investment is too high, running cost is also high, such as the automation stereoscopic warehouse running for an hour, the power consumption to tens of thousands of, if want to change a easy wear parts, still have hundreds of yuan, even hundreds of yuan, these high costs are often turned off school and leadership. But the cost of computers and software are much lower, so the school can take main investment to build logistics logistics simulation software simulation platform to purchase more computers and related software. Through the logistics simulation software, let the student to study the logistics business process and the method and principle of logistics management. Through software simulation in logistics process is to let the students play different roles, such as suppliers, manufacturers, retailers, the shipper, the carrier, the third party logistics, etc., so as to let the student to the color of the decision-making, operation and running, let them in the logistics software simulation of all kinds of logistics processes such as supply, procurement, production, warehousing, transportation, distribution and sales, and fully understand and know. In addition, can also to participate in intercollegiate resources sharing, chongqing have a lot of vocational and technical college has more complete, more number of hardware facilities, such as chongqing city vocational college of management, the electronic engineering vocational college, etc., they have a strong logistics experimental base of software and hardware, and can satisfy the need of students more logistics experiment.

(2) The increased openness to experiment, improve equipment utilization. To carry out the open practice teaching, share resources and make full use of logistics laboratory. Open practice teaching makes the students no longer subject to arrangements, laboratory schedules and the limitation of the experimental project arrangement, completely according to their interests and the needs of the development of learning designed experiment, experiment independently. Experiment content from a single lab assignments into creative practice, comprehensive experimental form is varied, the results more practical and attractive. Hard software device makes the laboratory opening experimental teaching through various channels, such as free time, such as network open work, improved utilization of laboratory resources, but also greatly improve the students' ability to analyze and solve problems. In addition, can also be innovative experiment such as logistics laboratory is used to design contest. Launched by Chongqing Jiaotong University logistics association, for example, to undertake and support under the auspices of the cimc logistics co., LTD. Chongqing named "cimc cup" contest of design of logistics has been successfully held five sessions. All the design cases are generally tied to the side of real practical business problems faced by logistics enterprises as the research case, and then the students through the analysis of the problems existing in the case, personally, practical investigations to understand relevant link of logistics equipment and logistics and the present situation of logistics enterprise, and connecting with the basic knowledge of what they learn various and logistics professional knowledge to analyze the problems facing, and puts forward the solution. In the process of problem solving, can let them to use logistics laboratory hardware software simulate real logistics link, thus better pointed out the advantages and the deficiencies of the design as well as the need to improve place, so that we can develop the students' self study, self study ability, and can cultivate the students' heuristic scientific way of thinking, arouse their learning initiative and creativity.

(3) To understand enterprise actual demand, increasing the experimental project. At this stage, due to the business risk of the enterprise is very big, most companies don't want to let students participate in the actual logistics operation and management process, lead to students at the graduation practice stage, and all kinds of professional practice class, just stay on the visit, the status of facilities, ability to understand the workings of the logistics each link, all kinds of facilities of usage, and can't participate in the actual management of the logistics activity. So can arrange part of the teacher and the enterprise to fully communicate and understand the actual logistics demand of enterprises, develop some conforms to the enterprise requirements of experiment item, lets the student at the scene of the experiment simulation of logistics management play a certain role, so that students can gain actual engagement, make basic theory, basic methods they learned in class and the professional basic skills get full inspection and use, improve the quality and ability of comprehensive use.

(4) Logistics lab manual shall be prepared and enrich curriculum appraisal way. Let everyone know in advance before experiment teaching experiments about content and refer to the related knowledge and operation, require students to experiment according to the logistics guide, hand in your report preview the report content should be related to this experiment, the form can be varied. Draw experiment charts to be used in advance, for example, this experiment may encounter difficulties, the experiment teachers help only asked to solve problems and so on. As a teacher in the lab for explaining the operation of the detailed principles and steps, students also can undertake relevant operating at the same time, due to prior to collect related experimental data and related thinking, they can from the fully interactive and experimental teachers, change students' passive learning status, to make the students taught by mechanical simulation of the teacher in the experiment to positive thinking and operation steps, exercise students "brain" and "hands-on", increase the interest in learning, improve the learning efficiency. In addition, should enrich experiment course examination way, such as experiment object not only contains the experiment report grades, should also include the experiment preview report data, experiment preparation, experiment operation process of experimental project of positive performance and innovation as the basis of test scores.

(5) The experimental teaching evaluation should pay attention to logistics. General logistics education assessment is to evaluate the teachers' classroom education, such as network assessment, to improve the education of the teachers' teaching methods. In logistics experiment link lack of logistics experimental teaching evaluation, teachers also lack of logistics experiment effect evaluation for students. Therefore, we should increase the logistics link of experiment teaching of teachers evaluation to improve logistics experiment teaching method, it should also increase the students' experiment process evaluation, such as the degree of positive students to participate in the experiment, the extent of the collected data before experiment, experiment plan in the design and improvement of experiment schemes through the experiment, so as to actively encourage students to think for preparation experiment, data collection, design, architecture, experiment steps, improve the efficiency of their

participation and experiment study, to better promote the students to grow up.

V. CONCLUSION

Based on the distribution and warehousing management experiment course as a case study how to develop logistics professional students' practical ability to innovate, in the chongqing traffic university logistics laboratory based on the analysis of the problems, study how to without a massive increase in the experimental equipment and the cost on the basis of meet the requirements of the students at the same time to carry out the experiment of the Numbers, and the existing laboratory introduced some practical and simple circulation processing work experiment project. Then prepare the logistics experiment guide so that the students can effectively use logistics experiment under the lesson guide to master and consolidate the content of the experiment and hand in trying to let the students to preview the report so that they know in advance before experiment teaching experiments about content and refer to the related knowledge and operation. Finally, the experiment assessment link with students submit experiment preview reports and positive performance in the process of experiment operation and interaction as the basis of experiment score to enrich experiment course examination way. Strive to strengthen training students' ability of combining theory with practice, in order to improve the students' practical ability and innovative ability.

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