

The Training Mode of Logistics Management Talents under the Background of Internet Information Technology

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Abstract: With the rapid development of the Internet economy, the logistics industry has become a pillar industry, and the development of new forms of production and distribution such as e-commerce, chain operations, and order-to-order manufacturing has made the role of logistics more prominent. At present, my country's supply-side structural reform is continuously deepening, and the logistics industry has played a pivotal role in it. The main purpose of this paper is to study and construct the training mode of logistics management talents under the background of Internet information technology. This paper compares and analyzes the innovation ability training mode of logistics management professionals, analyzes the current situation of logistics management talents innovation ability training in colleges and universities, conducts in-depth investigations, and analyzes the problems and reasons that exist in the innovation ability training of logistics management majors. Experiments show that among the factors affecting the practical ability of management students, the seven influencing factors are language expression ability, safety and environmental protection awareness, self-discipline ability, comprehensive literacy level of employees, task and activity design ability, psychological endurance ability, and warehouse management ability.

1. Introduction

Building an innovative country must rely on various industries. As an important basic service industry, the development of the logistics industry is closely related to the national scientific and technological progress. In recent years, the scale of work in the logistics industry has continued to expand, the service level has been significantly improved, the logistics capacity has been significantly enhanced, and the entire industry has continued to progress. my country's logistics education started late, and there are problems in the development of higher vocational logistics education, such as unclear training objectives, little practical experience of teachers, and irregular construction of training rooms. How to change the current situation of the training of logistics talents in higher vocational colleges to meet the needs of the development of logistics enterprises, comprehensively strengthen the innovation education of college students, and improve the innovation ability of college students has become an urgent problem to be solved [1-2].

In the research on the training of logistics talents, Mutanga believes that the logistics management major is a major with an obvious engineering background, so colleges and universities should focus on cultivating applied talents when cultivating talents [3]. He proposed that by increasing the hours and credits of practical teaching, strengthening the construction of practical platforms, and guiding students majoring in logistics management to carry out in-depth practical activities, actively innovate, and improve their personal innovation ability. Prieto-Ayuso believes that in cultivating innovative logistics management talents, we should first identify the target position [4]. At present, colleges and universities should focus on cultivating college students' strategic vision, comprehensive management ability and application skills.

This paper designs a research plan for logistics personnel training, and uses descriptive statistics to analyze the current situation of the questionnaire. Based on the analysis results, this paper believes that the training of logistics talents in higher vocational schools has some aspects such as insufficient talent training goals, insufficient "double-qualified" quality teachers, unreasonable teacher structure, unreasonable curriculum settings, and failure of school-enterprise cooperation to play its due role. In response to the above problems, the paper puts forward some countermeasures and suggestions in terms of formulating feasible talent training goals, strengthening the construction of teachers, building a reasonable logistics professional curriculum system, and establishing a deep, close and all-round school-enterprise cooperation relationship. The research conclusion of the paper has certain reference significance for the training of logistics professionals in higher vocational colleges.

2. Design and Research on The Construction of Logistics Management Personnel Training Mode

2.1 The Problem of Practical Ability Training

In the process of cultivating students' practical ability in higher vocational colleges, there are mainly the following problems [5-6].

(1) The practical ability is generally not high

According to the above scoring results, practitioners of logistics enterprises have a low evaluation of the logistics practice ability of students of all grades in the school. On the other hand, according to the research results of the school, after the newly established logistics management major in higher vocational colleges, it is very easy for the two fresh graduates to find jobs and obtain employment opportunities. The employment rate is nearly 100%, and the subsequent employment rate Slipping state. The school conducted a serious survey of the companies where students are employed, and found that the graduates initially trained by the school failed to meet the expectations of the company after entering the workplace, and their logistics practice ability was limited. Only training can be competent for the job, which produces serious negative externalities, which makes companies less optimistic about the ability level of logistics management students in higher vocational colleges in future recruitment, resulting in a downward trend in the employment rate in the following years. It can be seen that the level of practical ability is not high, which directly affects the employment level of students.

(2) The quality of professional ethics needs to be improved

Many graduates of higher vocational colleges cannot meet their needs for large-scale logistics employment when they graduate due to their own academic qualifications, work experience, ability level and other factors. Therefore, they generally choose small and medium-sized logistics enterprises as their springboard. However, when they have accumulated certain experience, contacts and qualifications in small and medium-sized logistics enterprises, they will look for various opportunities to jump to some large enterprises with better resources. The lack of professional

ethics of these graduates makes some small and medium-sized logistics companies lack trust in some students in higher vocational colleges, and are unwilling to easily provide employment opportunities for subsequent graduate students. This also increases the training cost of small and medium-sized logistics enterprises, puts small enterprises in a disadvantageous position, and is not conducive to the healthy development of the logistics industry.

(3) Lack of essential professional core skills

Many companies report that the major problem of logistics talents in higher vocational colleges is that the core competence of the profession is not good, so that they cannot be well qualified for the job. In logistics practice, it is often necessary to form a company team to complete some projects together. Therefore, logistics talents are required to have teamwork ability. Good teamwork ability is conducive to the smooth development of the company's warehousing, distribution, transportation and other business links in accordance with normal business processes, thereby improving the efficiency of organizational operation [7-8].

2.2 Construction Principles of Practical Ability Evaluation Index System

The establishment of indicators for evaluating the practical ability of logistics management majors in higher vocational colleges is the first step in research and analysis, and it is also the basis for analyzing practical ability. When determining indicators, it needs to be selected according to certain principles, as follows:

(1) Systematic principles. The evaluation of the practical ability of logistics major students in higher vocational colleges includes multi-level indicators, which is a three-dimensional and complex evaluation system, involving various factors such as vocational ability, professional ability, and personal quality. There may be correlations between the selected indicators. Therefore, in the process of research, it is necessary to adjust the system, so that each index selected has a certain meaning.

(2) The principle of objectivity. The establishment of indicators should be in line with reality and facts. When selecting and scoring, it is based on facts, not personal judgments, to ensure the authenticity and reliability of indicators and analysis results [9-10].

(3) The principle of operability. The establishment of any indicator is the most important for the analysis and research of the problem. This requires that the selection of indicators should be combined with existing research, and at the same time, simple and understandable requirements should be followed, and no vague or difficult-to-locate indicator definitions should be made.

(4) The principle of representation. Through the research and analysis on the selection of indicators on students' practical ability, the focus of the indicator systems established in the literature is different to a certain extent. Therefore, when establishing indicators, it is necessary to establish the most suitable indicators according to actual needs and research objectives. system [11-12].

2.3 Related Algorithms

(1) Pearson product distance correlation

The formula for calculating the Pearson product distance correlation coefficient is as formula (1):

$$r_{AB} = \frac{\sum_{i=1}^n (a_i - \bar{a})(b_i - \bar{b})}{\sqrt{\sum_{i=1}^n (a_i - \bar{a})^2 \sum_{i=1}^n (b_i - \bar{b})^2}} \quad (1)$$

In the formula, variable $A=(a_1, a_2, a_3, \dots, a_n)$, variable $B=(b_1, b_2, b_3, \dots, b_n)$, \bar{a} , \bar{b} are the mean values of variables A and B, respectively, a_i and b_i are the observed values of variables A and B, respectively, and n is the number of samples.

(2) Model establishment of growth accounting

The following equations always exist in the system of social accounting:

$$\begin{aligned}
 qY &= q_1Y_1 + q_2Y_2 + \dots + q_mY_m \\
 &= p_1X_1 + p_2X_2 + \dots + p_nX_n \\
 &= pX
 \end{aligned}
 \tag{2}$$

Among them, it is assumed that there are n kinds of factor inputs and m kinds of outputs in the logistics industry; Y_i and q_i are the quantity and price of the i th output of the logistics industry, respectively, and Y and q represent the quantity and price of the total output of the logistics industry; X_j , p_j represent the quantity and price of the j th input of the logistics industry, respectively, and X and p represent the quantity and price of the total input of the logistics industry.

3. An Experimental Study on The Construction of Logistics Management Personnel Training Mode

3.1 Indicator System

This research systematically researches the possible factors of the evaluation index, and finally establishes a set of index value system based on the problems that may arise in the research. The details are as follows.

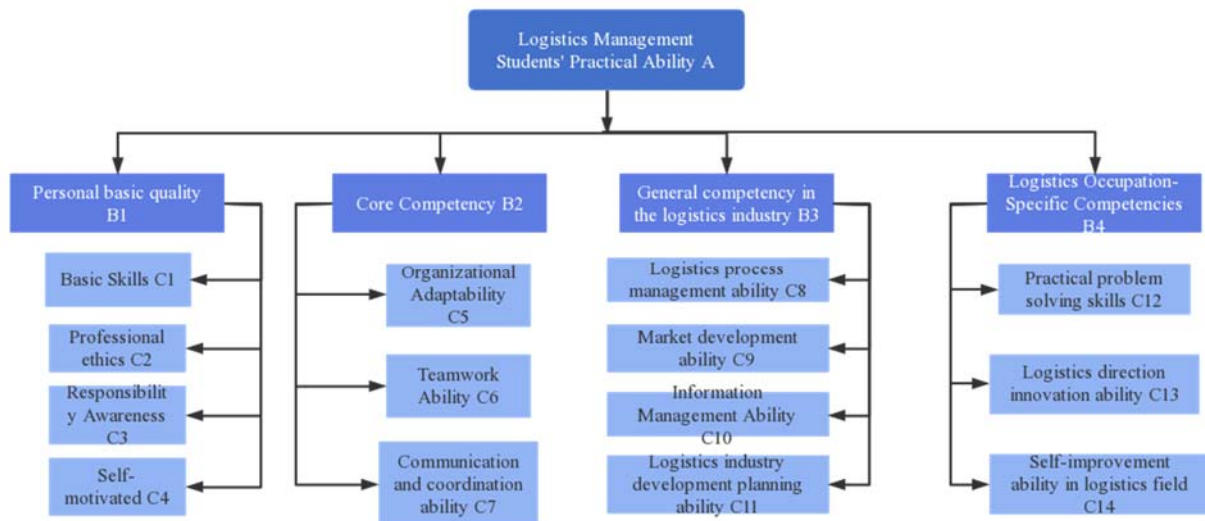


Figure 1: A three-level evaluation index system for the practical ability that logistics management students should have

(1) Evaluation objectives

Determine the scope and specific connotation of each indicator, and define the evaluation objectives of each indicator. The selected index factors are defined, and the above index factors are classified and important. On this basis, all the indicators selected in the paper are studied and analyzed, and the goal is finally established.

(2) Criterion layer (4 first-level indicators)

First of all, there are 4 evaluation indicators in the criterion layer, namely personal basic quality,

logistics core competence, industry general competence and logistics industry specific competence. As an evaluation index for evaluating students majoring in logistics management in higher vocational colleges, a student's personal basic quality and personal values determine the behavior direction of his practical work. Therefore, personal basic quality is the most basic evaluation index. Second, individuals also need to have core competencies, which are essential qualities in practice. Practitioners in the logistics industry must have the general capabilities of the industry in order to be competent for basic work. In order to achieve good long-term development of individuals and organizations, specific competencies in logistics occupations are required. Finally, the four indicators described above are taken as the first-level indicators.

(3) Factor layer (14 secondary indicators)

There are 14 secondary indicators in the factor layer, which are:

Basic skills (C1): refers to the basic personal skills that logistics practitioners must have, which are reflected in the basic aspects of listening, speaking, reading, writing, and arithmetic.

Professional ethics (C2): Professional ethics is the most important personal quality given by experts in the evaluation of personal quality and ability.

Sense of responsibility (C3): It refers to the sense of responsibility that logistics practitioners have for their work and the courage to undertake them.

Self-motivation (C4): It refers to the determination of individuals to be aggressive and keep striving upwards.

Organizational adaptability (C5): It refers to the ability of logistics practitioners to adapt to the constantly changing organizational and social environment during their practice. Being able to get along with members of the organization, accepting doubts from others, and having certain organizational influence.

Team collaboration ability (C6): refers to the ability to cooperate with team members, complete tasks, and realize the ability to plan and organize organizational resources. Specifically, it includes being able to listen to the opinions and feedback of others, be able to communicate and negotiate effectively, and be able to provide certain team guidance when necessary.

Communication and coordination ability (C7): In actual work, many business processes and people from all walks of life will be involved.

Logistics process management capability (C8): refers to the management capability of each process in the logistics link.

Market development ability (C9): refers to the ability to continuously expand the logistics market in which the enterprise is located. The sustainable development of any enterprise depends not only on the maintenance of loyal user relationships, but also on the ever-expanding market share and market share.

Information Management Capability (C10): Information technology related to logistics major. At the same time, logistics practitioners also need to have the ability to collect, process and apply logistics information.

Logistics industry development planning capabilities (C11): Including the research, development and professional development capabilities of the logistics industry. The practitioners of logistics enterprises should not only have good ability to solve the current problems of the enterprise and the industry, but also have a long-term vision, carry out the long-term development planning of the enterprise, and judge the long-term development situation of the industry.

Practical problem-solving ability (C12): refers to the ability to analyze and solve problems encountered in the process of logistics practice, and the ability to transform logistics theory, team plan, excellent ideas and understanding into practical work processes with operability. At the same time, it includes the individual's ability to respond and deal with the problems that arise in the various processes of logistics management.

Innovation ability in logistics direction (C13): It refers to creative thinking and predictive analysis ability in logistics direction. Including the ability to solve unconventional problems and the ability to continuously improve and create logistics links and logistics quality improvement. Innovative thinking on the entire logistics direction and maintaining curiosity are also necessary requirements to achieve personal sustainable development.

Self-improvement ability in the field of logistics (C14): refers to the further development potential of one's own professional ability and the ability to continuously improve self-evaluation and self-cognition in the field of logistics management. Maintaining the requirement for self-improvement reflects the individual's planning, which in turn reflects the long-term value of the individual, which is also an individual competency trait valued by experts and logistics managers.

4. Experimental Analysis on The Construction of Logistics Management Personnel Training Mode

4.1 Influencing Factors of Students' Practical Ability

The factors influencing the practical ability of logistics management majors in higher vocational colleges are summarized and merged, and 21 relatively independent influencing factors are extracted as shown in Table 1 below.

Table 1: Screening list of factors affecting the practical ability of logistics management majors in higher vocational colleges

Serial number	Influencing factors	Serial number	Influencing factors
1	Basic skills	12	Practical problem solving skills
2	Language expression skills	13	Task and activity design skills
3	Professional ethics	14	Logistics process management ability
4	Sense of responsibility	15	Market development ability
5	Safety and environmental awareness	16	Information management capabilities
6	Self-motivated	17	Logistics industry development planning ability
7	Self-discipline	18	Mental capacity
8	Organizational adaptability	19	Logistics direction innovation ability
9	Comprehensive literacy level of employees	20	Warehouse Management Capability
10	Team work	21	Self-improvement ability in logistics field
11	Communication and coordination ability		

As can be seen from Figure 2, among the average values calculated under the above statistical results, the seven influences of language expression ability, safety and environmental protection awareness, self-discipline ability, comprehensive literacy level of employees, task and activity design ability, psychological endurance ability, and warehouse management ability factor below 3.

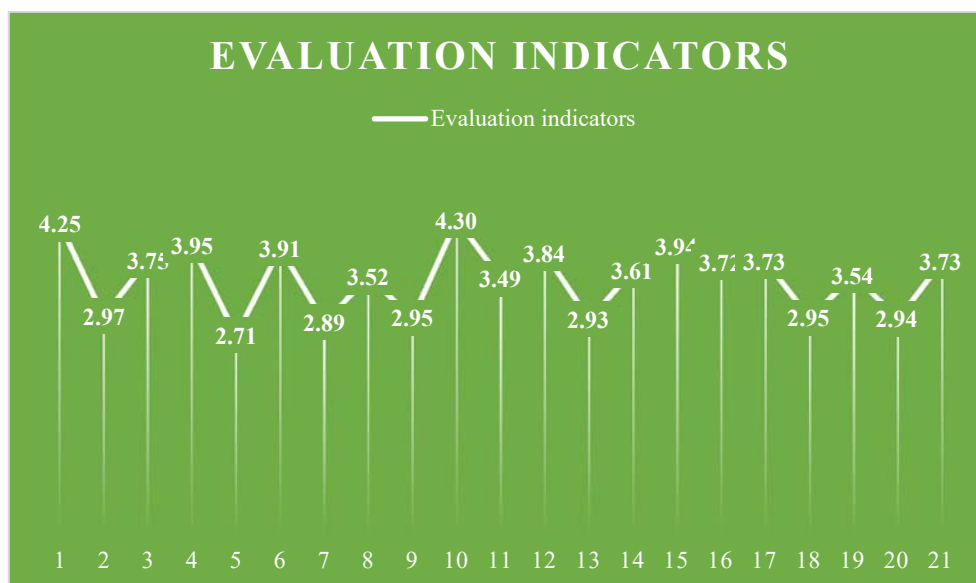


Figure 2: Statistical Results of Evaluation Index Screening

If the average score of a certain factor is lower than 3 points, the importance of the factor is considered to be low, and it has not been generally recognized by the industry and needs to be eliminated. As a result, the final list of factors affecting the practical ability of logistics management majors in higher vocational colleges is obtained, as shown in Table 2:

Table 2: The final index list of factors affecting the practical ability of logistics management majors in higher vocational colleges

Serial number	Influencing factors	Serial number	Influencing factors
1	Basic skills	8	Logistics process management ability
2	Professional ethics	9	Market development ability
3	Sense of responsibility	10	Information management capabilities
4	Self-motivated	11	Logistics industry development planning ability
5	Organizational adaptability	12	Practical problem solving skills
6	Team work	13	Logistics direction innovation ability
7	Communication and coordination ability	14	Self-improvement ability in logistics field

4.2 Demand for Logistics Management Talents

Through the investigation of a number of logistics companies, the specific data obtained are shown in Table 3:

Table 3: Statistical table of logistics management personnel ability demand

ability	Select the number of companies	Proportion
Professional ability	16	25.8%
professional core competencies	25	34.72%
Personal qualities	31	43.00%

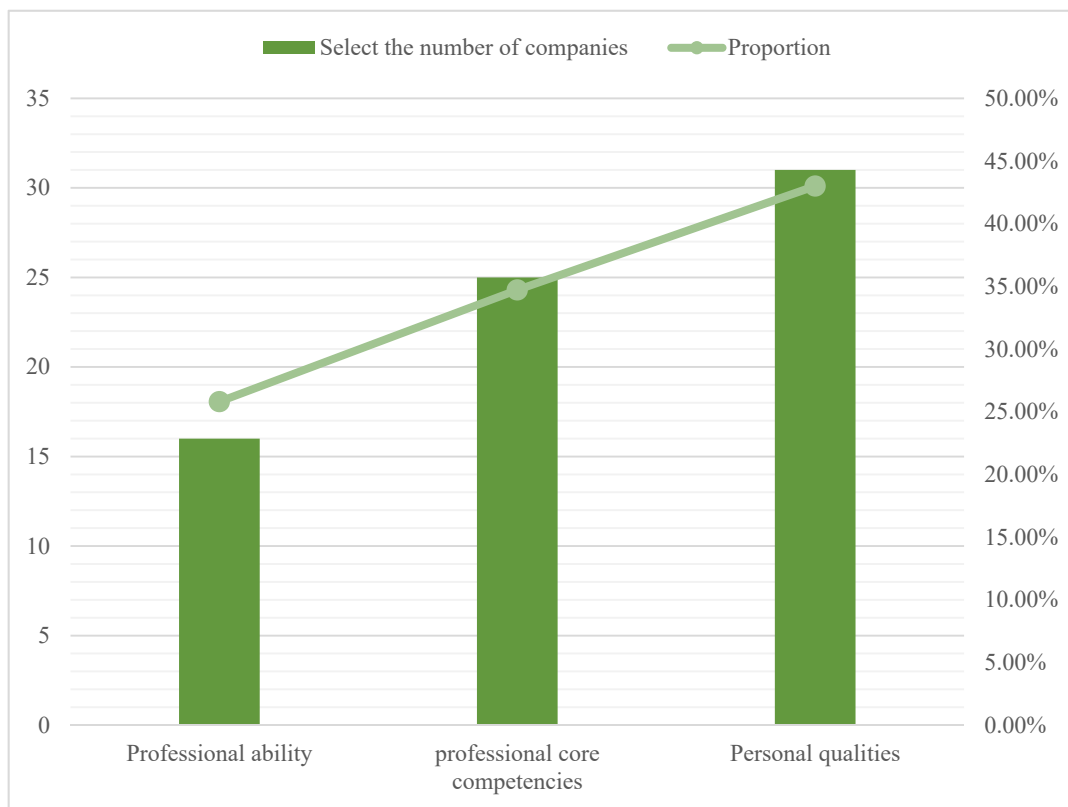


Figure 3: Logistics management talent ability demand analysis chart

As can be seen from Figure 3, logistics enterprises value the personal quality of logistics talents the most. Only with good personal quality can they better meet the needs of enterprises. The core competence of logistics talents is in a secondary position. Relatively speaking, companies have the lowest requirements for logistics professional skills, because most companies believe that these skills can be easily improved at work.

5. Conclusions

Logistics management is a management mode that integrates procurement, processing, warehousing, packaging, transportation and distribution. With the advent of the era of big data and the sharp increase in the volume of logistics business, the demand for high-end talents in logistics management in my country is increasing day by day. In the supply of logistics talents, higher vocational colleges are an important educational institution, especially higher vocational colleges are of great significance to the cultivation of practical and compound talents. The development of my country's logistics industry is unprecedentedly accelerated, and enterprises' demand for talents is showing a blowout trend, all of which make higher vocational colleges face unprecedented pressure and challenges in the training of logistics talents. Therefore, this paper builds an index system to improve the practical ability of logistics students in higher vocational colleges, and hopes to provide some ideas and suggestions for the cultivation of logistics practical ability.

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