

# Research on the Modern Apprenticeship Ability Standard System for Logistics Management Major in Higher Vocational Education\*

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**Abstract**—Based on the establishment experience of British vocational ability standard system and the reality of vocational education in China, this paper is designed to establish a modern apprentice ability standard system for logistics management major in higher vocational education, including professional ability, academic ability and key abilities.

**Keywords**—modern apprenticeship; ability standard; system

## I. INTRODUCTION

In recent years, China's higher vocational education ushers in a good opportunity for development. It is to meet the needs of the development of logistics industry in the new normal environment of China's economy to speed up the development of logistics management higher vocational education. On May 2, 2014, the State Council issued "Decision on Accelerating the Development of Modern Vocational Education", which made specific requirements for "developing the modern apprenticeship pilots of school-enterprise joint enrollment and joint training, improving the supporting policies and promoting the integration of school-enterprise education", marking that the modern apprenticeship has become an important strategy of national human resources development. In August 2014, the Ministry of Education issued "Opinions on Developing Modern Apprenticeship Pilots".

On August 5, 2015, the Ministry of Education selected 165 units as the first batch of modern apprenticeship pilot units and industrial pilot leading units. On August 23, 2017, the Ministry of Education selected the second batch of 203 modern apprenticeship pilot units. On August 1, 2018, the Ministry of Education selected the third batch of 194 modern apprenticeship pilot units.

The modern apprenticeship system is a modern talent training mode which is based on skills training through deep cooperation between schools and enterprises, and joint teaching by teachers and masters. Different from the talent

training modes of the general college class and the previous order class and title-sponsorship class, the modern apprenticeship system pays more attention to the inheritance of skills. The school and enterprise co-lead the talent training and establish standardized enterprise curriculum standards and assessment programs, which reflects the deep integration of school-enterprise cooperation.

Modern apprenticeship system is conducive to promoting the industry and enterprises to participate in the whole process of vocational education personnel training, realizing the docking of professional setting and industrial demand, the docking of curriculum content and vocational standards, the docking of teaching process and production process, the docking of graduation certificate and vocational qualification certificate, the docking of vocational education and lifelong learning, and improving the quality and pertinence of personnel training. The modern apprentice ability standard system has great guiding significance for colleges and universities to carry out the training of modern apprentice talents.

## II. ANALYSIS ON THE SKILLS OF LOGISTICS MANAGEMENT GRADUATES

Logistics practitioners should have strong communication ability and skills, strong interpersonal skills, coordination ability and business negotiation ability, and be able to establish effective working relationships in a complex environment, understand the external environment of the enterprise, and be able to organize and implement logistics programs of different enterprises.

Logistics personnel shall have the following abilities:

First, they should have a breakthrough in the traditional understanding of the new concept and operation mode of modern comprehensive logistics, which can further develop the understanding of logistics and put forward a new logistics operation mode.

Second, they should have the same understanding of the business of each link of logistics. In the future, talents engaged in the logistics industry are often engaged in the business of a certain link in the logistics industry, such as

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shipping, warehousing, road transportation, railway transportation, cargo packaging, information management, etc. However, a logistics business personnel should extend their knowledge to other areas of logistics, gradually establish the concept of logistics system, and be able to consider the overall arrangement of logistics operation.

Third, they should have a deep understanding of computer network technology, and can put forward the demand for the computer network system of logistics information management in business.

Fourth, they should have certain knowledge of the technologies related to the realization of logistics in each link of logistics, and be able to reasonably use and allocate these facilities and equipment.

In addition to the above professional knowledge and technology, logistics professionals also need to have the following capabilities:

Firstly, due to the backward logistics business, logistics talents need to be forward-looking, that is, they are not constrained by the existing institutions, systems and some practices. In particular, the logistics management personnel must have the ability to create reasonable logistics conditions, and have the courage to organize young people to strive for logistics rationalization.

Secondly, the logistics business is a new thing, so they should have the spirit of pioneer in the unknown field.

Thirdly, because logistics is more restricted by other factors, they must have the spirit to challenge these factors.

### III. THE ESTABLISHMENT BASIS OF MODERN APPRENTICE ABILITY STANDARD SYSTEM FOR LOGISTICS MANAGEMENT MAJOR IN HIGHER VOCATIONAL EDUCATION

The training objective of the New Apprenticeship System in modern logistics enterprises is determined by the enterprise in combination with the post demand. It mainly trains the middle and senior technical workers to reach the comprehensive professional ability of high-skilled logistics talents. The key point of the new apprenticeship system is that through the training of the new apprenticeship system, the students master the methods of finding practical problems, analyzing practical problems and solving practical problems, and apply the methods to the production practice of the enterprise to produce results, which in turn guide the practice, promote the management innovation and technological progress of the enterprise and the industry, generate economic and social benefits, and make the enterprise and the employees motivated, so that the new apprenticeship system can play the most effective role and serve the economic and social development.

#### A. *Taking Example by British Occupational Ability Standard*

The British standard of professional competence divides professional competence into three levels: specific competence, general competence and core competence. The training of professional ability in the UK is mainly reflected

in the cultivation of specific ability. General ability is a common ability displayed by similar post groups; core ability is the ability required for all occupations; specific ability refers to the necessary ability displayed by a specific industry or post group which is different from other posts.

#### B. *Theoretical Guidance of the Concept of Integrative Ability*

The essence of professional ability is based on the actual situation of social and economic development, from the perspective of ability standard, to develop or cultivate the abilities of personnel for the actual needs of society, specific industries and related enterprises, usually including the knowledge and skills, process and method, emotional attitude and other elements required in specific professional posts and professional activities, and to be able to integrate these elements in specific work situations and complete the work.

In this paper, more attention will be paid to the structure of social economy, the development of industry and the actual needs of enterprises. The standard of professional ability will also become the integration of knowledge, skills and attitudes.

#### C. *Using the National Vocational Standard for Reference*

At present, China has formulated a national professional standard for logistics professionals, which divides the logistics profession into four levels: logistics personnel (Level 4 of national professional qualification), assistant logistics personnel (Level 3 of national professional qualification), logistics personnel (Level 2 of national professional qualification) and senior logistics personnel (Level 1 of national professional qualification).

### IV. DIVISION OF THE VOCATIONAL ABILITY STRUCTURE OF MODERN APPRENTICE MAJORING IN LOGISTICS MANAGEMENT IN HIGHER VOCATIONAL EDUCATION

#### A. *Professional Ability*

Professional ability refers to the ability closely related to the occupation. To a large extent, professional competence usually includes the way of work, the understanding and use of tools and the identification of labor data. Professional ability is the ability for people to survive in their career or professional activities. In the labor world, its role tends to be the core position. It is the core ability of vocational college students' vocational abilities, the concentrated embodiment of the characteristics of vocational college students, and the core content for the establishment of vocational college students' occupational competency standard.

Professional ability mainly includes: purchasing management ability, storage management ability, distribution management ability, transportation management ability, production logistics management ability, international freight management ability, logistics information management ability, training and guidance ability, etc.

### *B. Academic Ability of Logistics Management Major*

The academic ability of logistics management is presented through knowledge as a carrier. According to the analysis of the training objectives of higher vocational students, the students' ability should include basic subject knowledge, general application subject knowledge, professional basic knowledge and corresponding professional extension knowledge. Basic subject knowledge and applied subject knowledge are the necessary basic knowledge for any major.

The academic ability of logistics management major mainly includes language ability, mathematics ability, computer ability, etc.

### *C. Key Ability*

Key ability is a transferable capability. It enables higher vocational students to adapt to the changes of their posts and the changes of their scope of professional activities after graduation. This ability can also reflect the characteristics of their mobility and universality to the maximum extent. The quality and technology type requires such talents should have theoretical basis and the flexible application in practice. Specifically, they should master the knowledge related to their major they have learned. Learning the knowledge is to better operate in practice, and to easily solve the real situation. The students in higher vocational education are comprehensive and all-roundly developed. The presentation of quality is not a single piece of professional knowledge, but a comprehensive quality that can draw inferences from one instance and act on reality.

The key abilities include self-management and development ability, social interaction and cooperation ability, innovation and entrepreneurship ability, etc.

## V. THE ESTABLISHMENT COURSE OF THE MODERN APPRENTICESHIP ABILITY STANDARD SYSTEM FOR LOGISTICS MANAGEMENT MAJOR IN HIGHER VOCATIONAL EDUCATION

The establishment course of the modern apprenticeship ability standard system of logistics management major in higher vocational education is as follows:

### *A. Setting Training Objectives*

The establishment of modern apprenticeship training objective of logistics management major in higher vocational education is the fundamental basis for education and teaching. The training objective of modern apprenticeship of logistics management major in higher vocational education is to train high-quality technical talents in logistics management industry, and the training objective is the basis for the analysis of professional post ability.

### *B. Analysis of the Professional Post Abilities of Senior Logistics Management Apprentice (Level 4)*

The professional post ability analysis of the senior logistics management apprentice (Level 4) includes three stages: preparation stage, implementation stage and analysis

and summary stage. In the preparatory stage, the requirements for the senior logistics management apprentice are based to select representative research objects, prepare questionnaire or interview outline, then contact with alternative research enterprises, inform the research content and determine the research time. In the implementation stage, the researchers go deep into the enterprise, conduct research on the relevant employees of the relevant enterprises according to the research content determined in the previous stage, and sort out and classify the recovered questionnaires. In the analysis and summary stage, according to the survey results, the ability and the corresponding knowledge, basis and behavior mode are classified to determine whether it is important or not according to the frequency of professional activities.

### *C. Analysis of Ability Units*

According to the division of ability structure, ability unit includes professional ability, academic ability and key ability. At the same time, the value sequence of professional ability, academic ability and key ability is related to how to locate the position of the standard, reflecting the tendency of vocational ability of higher vocational students. It is a kind of value judgment that the investigation of tendentiousness is only to determine the formulation of the standard and the position of these three ability types in the standard.

### *D. Analysis of Ability Unit Elements*

In analysis of ability unit elements, ability element can be determined according to ability units, i.e. professional ability, academic ability and key ability. The determination of ability elements comes from the analysis of vocational post ability. For higher vocational students, it is able to make empirical analysis from a specific specialty.

### *E. Analysis of Operation Standard of Ability Elements*

The operation standard is to define the ability structure and knowledge structure, and divide them according to the sequence from low to high, so as to judge whether they meet the required evaluation standard.

## VI. CONCLUSION

Vocational ability is the basis of human development and creation. Modern apprentices of logistics management in higher vocational colleges shall have general vocational abilities, including learning ability, the ability to use words and languages, the ability to use mathematics, the ability to judge space, the perceptual ability, the ability to distinguish colors, the dexterity of hands, the ability to coordinate hands and eyes, the ability to communicate with others, the ability to cooperate in teams, the ability to adapt to the environment, and the ability to meet setbacks. The level of professional ability determines their work competence in professional field. The training of modern apprentices' vocational ability needs the cooperation of both school and enterprises. According to the ability standard system of modern apprentice, both school and enterprise should work out their talent training plan, jointly develop teaching materials,

jointly build courses, jointly build teaching resource base,  
and jointly work out practical training plan.

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