

Analysis of the Development Path of Intelligent Logistics in Higher Vocational Colleges

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Abstract: In recent years, with the gradual popularization of Industry 5.0, the era of smart manufacturing has followed, and the production and economic growth models of various industries have received certain impacts and had to make some changes to meet the needs of the times. The logistics industry, as an important pillar of the country's livelihood, is undergoing the transformation and transition from commercial logistics to intelligent logistics. The traditional teaching mode of commerce and logistics in higher vocational schools has obviously failed to meet the needs of industrial development and needs to be adjusted and changed accordingly.

Keywords: Intelligent logistics; Higher vocational colleges; Development dilemma and solutions

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1. Introduction

In recent years, with the development of Industry 5.0, great changes have taken place in people's way of lifestyle, and call for industrial transformation. As a necessary supplement to undergraduate study, it's especially urgent for vocational colleges to change teaching methods in order to better serve industry needs. Among all the majors, logistics has a huge impact on domestic and the global economy. It is of great theoretical and practical significance to study how to adjust the major in response to practical requirements.

2. Current situation of the development of logistics teaching in vocational colleges

In the past years, logistics education focused more on the field of commercial circulation and because of the strong employment orientation of vocational colleges, students of this major usually choose Courier, Administrative Specialist, Customer Service Specialist as their jobs. The school curriculum is also mainly focused on this field and lacking of connection with engineering. But with the full popularity of industry 5.0 era, it has been a trend to improve the work efficiency with man-machine interaction. Machines has been improved and do more and more work for man. Many traditional jobs are disappearing and the traditional logistics teaching mode cannot have satisfied the need of contemporary education, the teacher must break through the traditional teaching mode to improve the teaching quality and meet the needs of logistics practice^[1].

For logistics major, facing the disappearance of the traditional jobs brought by the popularity of artificial intelligence, which way we should go becomes a priority issue. And since the reform of traditional majors lies in clarifying modern enterprises' demands for intelligent logistics talents, the key to reform logistics teaching model is to clarify the changes of logistics industries and the shortcomings of existing talents. This is also the main purpose of this paper.

3. The changes of the demand for logistics talents

3.1 The demand for basic logistics positions has dropped sharply.

The development direction of intelligence is to free people from basic work and drive industrial development with high efficiency

of science and technology. Therefore, in the future period of time, some basic positions in distribution, manufacturing and outsourcing logistics service companies will be replaced by artificial intelligence. Unfortunately, these basic positions are the first choice for vocational college students in their employment and career. Therefore, it is urgent to change the direction of business logistics and develop intelligent logistics.

3.2 The demand for compound talents is increasing

Basic positions in traditional logistics field are gradually replaced by artificial intelligence, and enterprises are bound to have higher and higher requirements for employees. The overall demand for talents is advancing towards the direction of compound and professional skills.

3.3 The demand for intelligent technology research and development positions is increasing

Designing various machines and equipment and putting them into production is only the first step of intelligent logistics, and then the huge operation support, code writing and other system support is the core key. Therefore, the demand for intelligent technology research and development positions will increase in the future.

3.4 The demand for equipment maintenance talents is increasing

In the recruitment prospectus issued by major logistics enterprises led by JD.COM and HUAWEI, it can be found that the demand for personnel involved in the installation or maintenance of the equipment is increasing year by year. Different from research and development positions with high professional requirements and technical difficulties, these jobs are more suitable for vocational college students both in terms of abilities and educational requirements. This is good news for logistics major which needs to shift from commercial direction to intelligent logistics. In Suzhou, China, Suzhou Polytechnic Institute of Agriculture has already signed a talent training agreement with JD.COM and brought a lot of inspiration to the industry.

In summary, the training of intelligent logistics talents in vocational colleges should focus on technology, compound, equipment maintenance and other fields.

4. Difficulties in training intelligent logistics talents in vocational colleges

4.1 The existing teaching material system cannot support the teaching of intelligent logistics

Although recently, interdisciplinary teaching is regarded necessary, however, it's still a new trend. The existing teaching material system has already had a solid foundation of field theory on business logistics and related vocational skills. But comparing with the needs of the intelligent logistics industry, it's still far from sufficient. The talent cultivation program of traditional type is usually oriented to the needs of customer service specialist, administrative clerk, junior accountant, marketing promotor and so on... There is a big gap between the cultivation of potential employees with intelligent logistics experience and the need of the market. The lack of intelligent logistics talents also affects the further development of the industry, bringing a series of negative effects.

4.2 Lacking of deep cooperation with modern intelligent logistics enterprises

At present, there is a certain gap between higher vocational colleges and enterprises.

The teaching content of vocational colleges is more theoretical. Although students have many opportunities to work as trainees in the cooperative enterprises, but the proportion of intelligent logistics enterprises is not high. Even though some higher vocational colleges have established certain cooperation with intelligent logistics enterprises, but the level of cooperation is still low. We still don't know much about what companies really want. Finally, there is a disconnect between theory and practice.

4.3 The existing teachers do not know enough about the development of intelligent logistics

The existing teachers cover different professional orientations including industry & business administration, mathematics, economics, accounting, logistics, marketing and so on...having formed a complete professional system of management. However, most of the teachers are from liberal arts majors, they do not have a broad understanding of artificial intelligence and intelligent logistics. That's why they're also confused about how to construct the intelligent logistics curriculum system according to the needs of current logistics development for knowledge and abilities. There's still a long way to go for them.

4.4 Current students have difficulty in learning research and development knowledge

Most students majored in logistics graduated from liberal arts major from high school. They are not good at courses like computer, math, programming, etc. Even they have already spent a lot of time on such course, the actual result is just passable. It will also affect their confidence in learning and make them doubt their profession and themselves.

5. The path to solve the dilemma of training intelligent logistics talents

5.1 Deepen cooperation with intelligent logistics enterprises

The final goal of majors in vocational colleges is to service the development of enterprises^[2]. That's why it's especially important for colleges to deepen cooperation with intelligent logistics enterprises. The criteria for judging talents in the intelligent logistics industry are very different from the traditional trade logistics. In addition to traditional logistics skills, intelligent logistics personnel also need to have some experience and ability in software writing and operation. Of course, the degree of software writing is not required to meet the standards of computer professionals. In most cases, it is enough to be able to master simple operating skills. Only by strengthening ties with companies can we obtain the appropriate standards.

5.2 Optimize the enrollment model while guiding current students gradually

Introduce easier learning in intelligent logistics and establish interest groups among students in order to help them develop an interest in intelligent logistics gradually. Form a good atmosphere for students in interest groups to drive the rest of the students to learn together. At the same time, when enrolling students, the proportion of science students should be appropriately increased to continue the reserve force for the development of intelligent logistics.

5.3 Optimize the teaching staff and the allocation of resources

Higher vocational colleges need to change the existing teacher evaluation model. A sensible patent policy could endorse and strongly support existing teachers to go into intelligent logistics enterprises to learn the most cutting-edge knowledge of logistics industry and prepare for good classroom teaching. Actively introduce business practitioners into the classroom to teach students in order to bridge the gap between teaching and practice. In addition, we will recruit logistics teachers with engineering background in a planned and systematic manner to create a team of intelligent logistics teachers who integrate arts and science.

5.4 Develop new teaching materials of intelligent logistics with enterprises

Strengthen cooperation between schools and enterprises to jointly develop new teaching materials based on the work orientation of intelligent logistics. Incorporate the real work needs of companies into the teaching materials and help students understand the real working scenario of the intelligent logistics industry with the skills required.

This will provide students with a good learning foundation for their future work in the intelligent logistics industry.

6. Conclusion

The development of intelligent logistics challenges the traditional logistics teaching mode of higher education. Only by continuously strengthening the connection with enterprises, changing the existing teacher structure and jointly developing new teaching materials with enterprises can we find the way to break the situation, which is worthy of deep consideration.

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