

# Research on Training Mode of Applied Talents Based on OBE Concept

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**Abstract.** In order to explore the training path of applied talents in line with the needs of social development, based on the concept of OBE, this paper analyzes and sorts out some problems faced in the training process of applied talents. Then, in order to solve these problems, the paper puts forward some countermeasures such as optimizing the curriculum system, innovating practical teaching and constructing project-based teaching. Finally, combining with the logistics engineering major of Liaoning Institute of Technology, the paper analyzes the implementation effect of the applied talent training mode based on the OBE concept. The results show that this model is helpful to improve the graduates' application ability and quality, and better carry out school-enterprise cooperation and promote regional economic development. At the same time, it provides reference for the reform of higher education and teaching.

**Keywords:** OBE concept; Application-oriented personnel training; Major in logistics engineering; Teaching reform .

## 1. Introduction

With the rise of knowledge economy and the deep development of globalization, the demand for talents in society has gradually changed from traditional knowledge talents to applied talents. As an important base of talent training, the innovation and practice of higher education is particularly important. As an emerging educational concept, the concept of Outcome-Based Education (OBE) emphasizes that the design of educational and teaching activities guided by students' final learning outcomes is of great significance for improving the quality of talent training and meeting the needs of social development [1].

The application of OBE concept in the field of higher education has been widely concerned. Foreign universities generally pay attention to the cultivation of students' practical ability and innovative ability in the process of talent training, and OBE concept is an effective way to achieve this goal. Domestic scholars are also constantly exploring the talent training model based on the OBE concept. Scholar Guo Yixuan studied the big data management and applied talent training model from the perspective of OBE [2]; Zhu Xinpeng, Liang Ru and Li Mengnan made the cultivation of innovation and entrepreneurship ability under the OBE concept [3]; Liu Lei proposed to take the information platform as the carrier and based on the OBE education concept. The training path of higher vocational talents is analyzed and discussed. Zhang Xin et al. also provide innovative educational ideas, teaching methods and new paths and programs based on the OBE concept. This paper aims to deeply discuss the applied personnel training model based on the concept of OBE, which will not only contribute to improving the quality of personnel training in higher education in our country, but also contribute to promoting the reform of education and teaching in colleges and universities and better serve the development needs of our country and society.

## 2. The relationship between OBE concept and applied talent training mode

OBE (Outcome-based Education) refers to the concept of results-oriented education. It is a student-centered education model, emphasizing the cultivation and development of students' abilities and the combination of education and society. The core of OBE concept is not only to focus on students' knowledge and skills, but also to focus on the cultivation of students' abilities. It

requires education to proceed from the learning goals and results of students, ensuring that students not only master the necessary knowledge and skills, but also be able to apply these knowledge and skills in real life and work, and gradually improve their own quality. OBE philosophy emphasizes the need for education to be closely integrated with the needs of society. This means that in the process of education, we should not only pay attention to the imparting of subject knowledge, but also pay attention to cultivating students' social responsibility and practical ability, so that they can successfully cope with the challenges of society in their future careers.

The main characteristics of OBE concept are reflected in the following aspects:

(1) goal-oriented: The OBE concept emphasizes the clarity and measurability of educational goals. Educators need to clearly set students' learning goals and use effective assessment tools to measure whether students are achieving the expected learning outcomes.

(2) Student centrality: Under the OBE concept, students are no longer passive receivers of knowledge, but become the center of the educational process. Educators need to pay attention to the characteristics and needs of each student and provide them with personalized learning support and development opportunities.

(3) Continuous improvement: The OBE concept requires educators to carry out continuous self-assessment and improvement of the educational process. This means that educators need to constantly reflect on and adjust educational methods and strategies to ensure the continuous improvement of educational quality.

(4) Cooperation and sharing: The OBE concept encourages cooperation and exchange among educators to share quality education resources and experience. This spirit of cooperation and sharing can help drive education reform and innovation, and improve the quality and efficiency of the entire education system.

The applied talent training model is a teaching model of higher education, which aims to cultivate specialized talents who can apply professional knowledge and skills to practical work. It emphasizes the combination of theory and practice, and pays attention to the cultivation of students' practical ability and professional quality. In the aspect of knowledge, the training mode of applied talents emphasizes the mastering of applied knowledge. At the ability level, it emphasizes students' adaptability and practical ability, and encourages students to have the spirit of innovation and entrepreneurship. The development of application-oriented talent training model can be traced back to the reform of higher education and the changes in industry demand. With the increasing demand of applied talents, higher education has gradually shifted from the traditional emphasis on imparting theoretical knowledge to the cultivation of practical ability and application ability. In this process, the application-oriented talent training model has been widely concerned and applied.

There is a close relationship between the OBE concept and the training of applied talents. First of all, the OBE concept emphasizes the design of educational teaching activities oriented to students' learning outcomes. This means that the education process is no longer the traditional teacher-centered transfer of knowledge, but more focused on the actual needs and ability development of students. Application-oriented talent training mode also emphasizes practicality and applicability, and is committed to cultivating students' practical operation ability and solving practical problems. Therefore, the two have a high degree of consistency in focusing on student ability development.

Secondly, the OBE concept requires educators to have clear expectations for the final learning outcomes of students, and to formulate corresponding teaching plans and evaluation standards accordingly. This is consistent with the goal-oriented principle in the applied talent training model, that is, talent training should focus on the specific occupation or industry needs, set clear training objectives, and organize teaching content and practical activities accordingly.

In addition, the OBE philosophy also emphasizes continuous improvement and feedback mechanisms to optimize the educational process through the continuous collection and analysis of student learning outcomes data. This concept of continuous improvement is consistent with the

quality monitoring and evaluation system in the applied talent training mode, which jointly promotes the improvement of talent training quality.

### **3. The problems existing in the teaching of applied talent training mode and the reason analysis**

If students want to become application-oriented specialized talents, they should not only have a solid theoretical foundation and professional knowledge, but also have strong practical ability, so that students can adapt to the needs of jobs in the fastest speed and shortest time after graduation. However, at present, there are still some shortcomings in the teaching process of applied talents training mode in our country: for example, the discipline characteristics are not strong, the research direction is not prominent, the professionalization degree of teachers is low, and the practice teaching link is weak, so that the training mode and training objectives of applied talents can not be fully realized. There are mainly the following problems in the education and teaching of application-oriented talent training mode:

#### **(1) The curriculum is not consistent with the needs of the industry**

Because the curriculum setting of China's application-oriented talent training model may pay too much attention to theoretical knowledge, and lack of attention to practical application and the latest industry trends. This makes it difficult for students to quickly adapt to the actual needs of enterprises after graduation. And the existing curriculum system may be too fixed, lack of pertinence and flexibility, can not timely adapt to the rapid development and change of the industry.

#### **(2) Insufficient practical teaching links**

The existing practical teaching links in most application-oriented colleges and majors may have some reasons such as insufficient class hours, lack of practical teaching facilities and practice training bases or backward equipment. As a result, students' practical ability is poor, and their career position adaptation is slow. In order to make students become application-oriented specialized talents after graduation, a lot of practical training is needed to improve students' practical operation ability.

#### **(3) Teachers do not match the needs of the industry**

Some teachers may lack industry background and practical experience, resulting in a gap between the teaching content and industry needs. The practical ability and teaching level of the subject teachers need to be improved, and it is urgent to build a high-quality "double-qualified" teacher team. At the same time, the structure of the faculty may also need to be further optimized to better adapt to the development of various engineering fields.

#### **(4) Insufficient cultivation of students' innovative ability**

For a major closely related to the industry, it is necessary to establish a close cooperative relationship between the school and the enterprise. However, if the school lacks the cooperation mechanism with the industry or the cooperation channel is not smooth, it will affect the pertinence and practicality of talent training. Under the current talent training model, students may lack opportunities for independent thinking and innovative practice, which limits their innovative ability to improve and personalized development.

To sum up, the problems and causes in the mode of application-oriented talent training are mainly concentrated in the aspects of curriculum setting, investment in practical training resources, teacher training and industry cooperation.

### **4. The construction of application-oriented talent training model**

The research on the training mode of application-oriented specialized talents is not only the reform of the teaching content of application-oriented subjects, but also the reform of teaching methods. Therefore, the article discusses the construction and reform of the training mode of applied professional talents in the following aspects.

(1) Highlight professional characteristics and realize education model innovation

Construct the "trinity" talent training mode of classroom teaching, practice teaching and innovation activities, and highlight the cultivation of practical ability of applied talents. Optimize the curriculum system to improve the teaching effect, reform the training mode to increase practical teaching, participate in scientific and technological innovation activities to improve management innovation ability. Furthermore, the teaching process of the close combination of theoretical teaching and practical teaching is reflected in the training program, which provides a scientific basis and lays an institutional foundation for effectively promoting the reform of personnel training mode [6].

(2) Determine the structure of students' ability based on vocational ability

The teaching content and teaching methods of all theoretical and practical courses of the major are integrated into a large system for overall research, the proportional relationship between basic courses and specialized courses, theoretical courses and practical courses, compulsory courses and elective courses is optimized, and the course teaching content is constructed into three teaching systems: professional foundation, professional skills and comprehensive innovation. Establish the teaching concept and training program with the main line of applied ability.

(3) Restructure the curriculum system to achieve specialized training

According to the training objectives and basic requirements of specialized talents, the principles and implementation models of theoretical and practical teaching objectives and teaching contents for each semester of the whole course are formulated, and the professional curriculum system is set up into subject basic courses, major main courses, major elective courses, innovation and entrepreneurship courses and practical modules. Among them, the innovation and entrepreneurship courses and practical teaching modules mainly set the teaching contents of operational skills, vocational qualifications and applied abilities around the subject characteristics and research direction.

(4) Create a serialized teaching platform to realize the reform of teaching methods

Innovative case analysis and scenario simulation teaching platform, professional skills training platform, research learning platform, project-driven teaching platform and management practice simulation platform, using case analysis teaching method and scenario simulation teaching method to strengthen classroom practice teaching; Social practice, in-class training, practice links, cognitive practice, professional practice and graduation practice are used to strengthen practical teaching of application-oriented talent training. Use research-based learning method and project-driven teaching method to strengthen curriculum design and practical teaching of graduation design; Use practice (practice) base, training room platform and management practice simulation teaching to strengthen the practical teaching of management application ability.

(5) Improve the conditions of teaching resources and meet the requirements of application ability training

Because the training mode of applied talents requires strong professional practice, and involves the mutual penetration of many aspects of knowledge. Therefore, it is necessary to establish a long-term and stable off-campus practice base and build a digital training center. The establishment of teacher qualification + professional qualification "double teacher type" teachers; Establish a mechanism for students to obtain vocational qualifications. Therefore, we should strengthen the training of practical operation technology to realize the effective combination of knowledge, ability and quality of relevant talents in the subject field.

(6) Create comprehensive practical teaching projects according to the ability composition of students

According to the requirements of application-oriented talent training objectives, I conceived and created comprehensive practical training courses and graduation design models and methods, especially case analysis teaching method, scenario simulation teaching method, relevant skills practical training method, research-based learning method, project-driven teaching method and management practice simulation teaching method. Through case analysis, scenario simulation

practice, logistics related skills training, management practice simulation courses, enrich practical teaching content, and guide the development and implementation of practical training teaching.

(7) Set up innovative activity teaching modules to cultivate students' entrepreneurial ability and innovation ability

This module can be established through the establishment of customized classes of industrial college, innovation and entrepreneurship teams and some professional elective courses, such as subject innovation lectures, subject innovation and entrepreneurship practice, market research and analysis of related industries, project planning innovation and application analysis, etc. These practical teaching activities are set in the seventh and eighth semesters. It can be continued in professional practice, graduation practice and graduation project, and the score is assessed. Therefore, to stimulate students' innovation awareness and entrepreneurial ideas, cultivate students' innovation ability, collaboration ability, dedication ability and management decision-making ability, and realize team learning.

## **5. The problems existing in the teaching of applied talent training mode and the reason analysis**

Based on the above measures to build an application-oriented talent training model, this paper takes the logistics engineering major of Liaoning Engineering University as an example. Under the guidance of the OBE education concept, this major focuses on the cultivation of students' practical ability and professional quality, and has reformed and implemented the talent training mode in the aspects of curriculum system, practical teaching and project-based teaching, and has achieved remarkable results.

The major of Logistics Engineering at Liaoning Engineering University aims to train students with the ability of logistics system planning and design, logistics technology and equipment application, and digital logistics management. Students are trained to have innovative thinking, team spirit and communication skills, and be able to work in logistics enterprises, transportation enterprises, administrative institutions and other units. In the spirit of "dare to be the first, selfless dedication", engaged in logistics system planning and design, logistics technology and equipment application, logistics business management of applied personnel training mode. The training mode of this major is closely related to the actual needs of the logistics industry, emphasizes the subjectivity of students, and constantly optimizes the teaching design and practice links with the guidance of students' learning outcomes. We have trained a group of high-quality applied talents with innovative spirit and practical ability. Specific results are as follows:

(1) The curriculum is more reasonable: According to the OBE education concept, the logistics engineering major has optimized and adjusted the curriculum system, adding courses closely related to practical applications, such as logistics information technology, supply chain management, logistics system design, etc. At the same time, we pay attention to the combination of theory and practice, and use one third of the class hours for comprehensive training in the professional core courses, which improves the practicality and pertinence of the courses.

(2) Practical teaching has been effectively strengthened: the logistics engineering major of Liaoning University of Technology has strengthened practical teaching, including the construction of laboratories, the establishment of off-campus practice bases and the in-depth cooperation with enterprises. Through these measures, students have more practical opportunities, can master knowledge and skills in practical operation, improve their practical ability and problem solving ability.

(3) Students' learning results are remarkable: Under the guidance of the OBE education concept, students majoring in logistics engineering pay more attention to the achievement of learning results. Through the optimization of curriculum and practical teaching, students' professional knowledge and skills have been significantly improved. At the same time, students' professional quality and

comprehensive ability have also been cultivated, laying a solid foundation for their employment and career development.

Closer cooperation between schools and enterprises: the logistics engineering major of Liaoning Institute of Technology actively cooperates with enterprises and has established a good industry-university-research cooperative relationship. Through cooperation with enterprises, the school can keep abreast of the latest trends and needs of the industry, adjust the talent training program, and provide more practical opportunities and employment channels for students. At the same time, enterprises can also obtain excellent talents and technical support from the school to achieve mutual benefit and win-win

(4) Further improvement of graduates' ability and quality: Under the concept of OBE, the logistics engineering major of Liaoning Institute of Technology has significantly improved the practical ability, innovation ability and professional quality of graduates through the implementation of application-oriented talent training mode. In particular, the two students Zhao Yati and Li Qingyi, who are interning in Zhejiang Shunshang Logistics Co., LTD., majoring in logistics engineering in 2020, have passed the examination of the enterprise and been selected as "outstanding students". The enterprise has given high recognition and praise to the students majoring in logistics engineering in our school.

(5) Closer cooperation between schools and enterprises: the logistics engineering major of Liaoning University of Technology actively cooperates with enterprises and has established a good industry-university-research cooperative relationship. Through cooperation with enterprises, the school can keep abreast of the latest trends and needs of the industry, adjust the talent training program, and provide more practical opportunities and employment channels for students. At the same time, enterprises can also obtain excellent talents and technical support from the school to achieve mutual benefit and win-win.

At the same time, the major actively carries out school-enterprise cooperation projects with enterprises, and the implementation of these projects has achieved remarkable results. First of all, through the school-enterprise cooperation project, students have the opportunity to participate in the actual operation of enterprises, in-depth understanding of industry needs and business processes, thus improving students' practical ability and professional quality. Secondly, the school-enterprise cooperation project promotes the deep integration of production, learning and research, which makes the teaching content of the school more close to the reality and improves the teaching quality. In addition, school-enterprise cooperation projects also provide more job opportunities and entrepreneurial opportunities for students, which helps to ease the employment pressure.

(6) Contribution to regional economic development: The logistics engineering major of Liaoning Institute of Technology has made positive contributions to regional economic development through training applied talents under the concept of OBE. On the one hand, excellent graduates can provide high-quality logistics services and solutions for enterprises, and promote the innovation and development of enterprises. On the other hand, graduates can create more job opportunities and economic benefits in the process of entrepreneurship, contributing to the prosperity of the regional economy. In addition, through school-enterprise cooperation projects, the school can also provide technical and intellectual support for enterprises, promote the deep integration of industry, university and research, and promote the transformation and upgrading of regional economy.

## **6. Conclusion**

### **6.1 Research achievement**

Under the concept of OBE, the paper makes an in-depth study on the training mode of applied talents, and makes a concrete analysis by taking the logistics engineering major of Liaoning Institute of Technology as an example. Through systematic research, the paper draws the following main conclusions:

(1) Clear talent training objectives: Under the guidance of the OBE education concept, the logistics engineering major of Liaoning Institute of Technology has established clear and clear talent training objectives, that is, to cultivate high-quality logistics engineering talents with innovative spirit and practical ability. This goal not only meets the actual needs of the logistics industry, but also reflects the core requirements of application-oriented talent training.

(2) Optimization and integration of curriculum system: The research of OBE concept and applied talent training model promotes each other, which together constitute an important path for improving the quality of higher education. Under this concept, the logistics engineering major of Liaoning Institute of Technology actively adjusts the training objectives of talents, optimizes the curriculum, strengthens practical teaching, adds courses closely related to practical application, and pays attention to the organic combination of theory and practice. The setting of this curriculum system enables students to comprehensively and systematically master the basic theories and professional knowledge of logistics engineering, and at the same time have a strong practical operation ability, which effectively improves the quality of personnel training.

(3) Strengthening of practical teaching links: The school has strengthened the construction of practical teaching links, including the construction of laboratories, the establishment of off-campus practice bases and the in-depth cooperation with enterprises. These measures provide students with rich practical opportunities, so that they can learn and grow in practice, and further enhance their practical ability and innovative spirit.

(4) Significant improvement in talent training quality: Through the OBE concept of applied talent training mode, the practical ability, innovation ability and professional quality of logistics engineering students have been comprehensively improved, and the employment rate and employment quality of graduates have been improved [7]. Their outstanding performance in employment and career development after graduation has been widely recognized and praised by employers.

## 6.2 Deficiency and prospect

Although the article has made some achievements, there are still some shortcomings. First of all, this paper is mainly based on the case analysis of the logistics engineering major of Liaoning Institute of Technology. In the future, the scope of research can be further expanded to explore the training of applied talents in more universities and majors. Secondly, data collection and analysis still need to be strengthened. In the future, more in-depth research and data analysis can be used to improve the scientific nature and accuracy of the research. Finally, the depth and breadth of school-enterprise cooperation need to be expanded. Although the school has carried out cooperation with enterprises, the depth and breadth of cooperation still need to be further expanded. In the future, we should strengthen communication and exchange with enterprises, explore more forms of cooperation models, and jointly promote the improvement of talent training quality.

Looking forward to the future, the application-oriented talent training model will continue to be an important direction of higher education reform. With the increasing demand for applied talents, colleges and universities should further strengthen the contact and cooperation with the industry, optimize the talent training system, and improve the quality of talent training. At the same time, it is also expected that more scholars and educators pay attention to the research and practice in this field, and jointly promote the innovation and development of applied talent training model.

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