

Research on Teaching Reform of Urban Rail Transit Specialized Courses in Higher Vocational Education

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Abstract: In recent years, with the continuous improvement of economic strength in our country and the continuous advancement of urban rail transit construction, enterprises' demand for applied talents in the urban rail transit industry is increasing with each passing day. However, the traditional higher vocational courses teaching mode of urban rail transit is old and cured, and the course teaching effect is poor, which seriously affects the improvement of the quality of talents in rail transit. In this regard, under the background of the new era, higher vocational urban rail transit professional course teaching should be optimized and innovative, through a variety of ways and means, stimulate students' interest, mobilize their enthusiasm and initiative, make them take the initiative to participate in the course teaching, so as to improve the teaching effect of the course. In this regard, this paper briefly analyzes the teaching reform of urban rail transit professional courses in higher vocational colleges, hoping to provide readers with some valuable reference and reference.

Key words: Higher vocational colleges; Professional courses of rail transit; Teaching reform

Introduction

As we all know, the major of urban rail transit is one of the majors in the current higher vocational education system of our country, which trains a large number of professionals of rail transit in our country. As of December 31, 2023, a total of 306 urban rail transit lines have been opened in 55 cities in China, with an operating mileage of 10,165.7 kilometers and 5,897 stations. According to the statistics, in the whole year of 2023, China's urban rail transit actually operated 37.59 million trains, the passenger volume reached 29.44 billion people, the total number of stops was 17.66 billion people, and the passenger turnover was 241.8 billion person-kilometers. The annual passenger volume in 2023 will be 10.04 billion more than that in 2022, an increase of 51.7 percent. From this, we can see that China is in urgent need of a large number of high-quality rail transit professionals. At the same time, it also puts forward more requirements and standards for the teaching of rail transit professional courses in higher vocational colleges. How to stimulate students' interest, enhance classroom participation, improve classroom teaching effect, and more effectively train students' professional knowledge and comprehensive ability has become one of the teaching problems plaguing higher vocational teachers. In this regard, it is necessary for higher vocational colleges to optimize and reform the traditional curriculum teaching mode and method, and stimulate students' interest by using new thinking and new means. Mobilize their enthusiasm and initiative, so that they take the initiative to participate in classroom teaching, so as to improve the teaching effect.

I. Analysis of the problems existing in the teaching of urban rail transit professional courses

In real life, we have more or less dealt with rail transit. Although many cities have not built subways, we have more or less dealt with railway and high-speed rail. There are many similarities between urban rail transit, high-speed rail and railway. Therefore, when teaching professional courses of urban rail transit, Students should have a preliminary cognition and understanding of the overall process. However, in the course teaching, some vocational teachers adopt the traditional preaching and infusing teaching, taking students as the container of knowledge, resulting in students' main role can not be highlighted, and lack of interest in course teaching, which leads to unsatisfactory classroom teaching effect. In addition, some teachers attach too much importance to theoretical teaching while ignoring practical teaching. Although students master a lot of theoretical knowledge, they lack practical ability and practical ability, resulting in the practicability and use value of professional knowledge can not be highlighted, and the effective connection with enterprises cannot be achieved, which has a serious impact on the future employment and development of vocational students.

II. Teaching reform strategies of urban rail transit professional courses

1. Change the teaching concept and thought

As a new mode of transportation, urban rail transit courses must keep up with the latest direction of the current industry development, ensure that the teaching concept keeps pace with The Times, timely innovation and optimization of the course content, and conduct detailed research according to the career development direction of higher vocational students. The most advanced technology, the latest model and the current management means adopted by the subway are incorporated into the course teaching, so as to optimize the students' cognition, enhance their sustainable development ability, and lay a solid foundation for their future employment and development. In this way, we can ensure that the rail transit talents in higher vocational colleges can meet the needs of the industry for talents.

2. Optimize the teaching content according to the characteristics of the specialty

According to the educational characteristics of higher vocational colleges, we should adhere to the employment-oriented and competency-based teaching concept, and carry out curriculum reform centering on students' vocational ability and position positioning, so that vocational ability training in higher vocational colleges and enterprise position positioning can be seamlessly connected, and course teaching content should be directly linked to employment positions, so as to improve the employment competitiveness of higher vocational

students. To enable them to achieve employment and development smoothly. In the current new period of the development of rail transit, higher vocational colleges should optimize and design the course content and teaching plan according to the characteristics of the major, and choose the urban rail transit job skills training manual organized by the Metro Corporation as the professional teaching material. Because there are more professional courses of urban rail transit, the content involved is complex and diverse, therefore, According to the requirements of the major and the job, the course content can be optimized and upgraded. For students majoring in locomotive and vehicle, the key content should be adjusted, focusing on the vehicle chapter; For students majoring in electrified power supply, the course should focus on the content of power supply system; For students majoring in urban rail transit signals, the teaching emphasis should be placed on transit and signal systems, station interlocking and section blocking. For students majoring in urban rail transit operation management, the teaching focus should be on passenger transportation organization, ticketing organization and driving organization. According to different majors, the teaching emphasis should be adjusted, which can not only effectively cultivate students' professional quality and strengthen their professional ability, but also lay a solid foundation for the subsequent professional course teaching.

3. Optimize teaching methods and improve teaching effects

In the past, the traditional and outdated teaching methods and models were adopted in the teaching of rail transit courses in higher vocational colleges, which resulted in the students' interest being unable to be effectively stimulated, their subjective initiative being unable to be mobilized, and their participation in course teaching being low, resulting in poor teaching effect. In this regard, vocational teachers should optimize and reform the traditional teaching methods and modes according to the course content and specific learning situation, and create a new teaching situation of urban rail transit professional courses by using new methods and modes, so as to improve the teaching effect.

(1) Use case teaching method

Case teaching is an efficient teaching method for rail transit courses in higher vocational colleges. Teachers can share practical cases with students in course teaching, stimulate students' interest in learning, mobilize their subjective initiative, and make them take the initiative to participate in course teaching. Moreover, starting from the actual cases, the teachers can raise, analyze and solve problems, so as to improve their practical ability and problem-solving ability, which can be described as multiple birds. The case teaching method generally has three steps. First, the teacher needs to select the corresponding cases and design the problems before class; Secondly, in classroom teaching, teachers guide students to analyze and discuss specific cases. In this process, teachers should adhere to the student-oriented concept, divide students into groups, and guide them to think and analyze in small groups so as to get the correct answers. Finally, in the stage of case discussion and summary, teachers should give full play to their role of guidance and inspiration, guide the representatives of each group to summarize and make speeches, and evaluate their speeches correctly and scientifically, and then make a summary. In this way, all the students in the class can participate in the classroom teaching, highlighting the students' subjectivity and making them take the initiative to participate in the classroom teaching, which can not only cultivate the students' communication ability and strengthen their teamwork consciousness, but also improve the students' analysis and problem solving ability, so that they can better learn and master professional knowledge and skills. Thus promoting their all-round development.

(2) Use modern technology

At present, with the development of modern technology, such as big data technology, multimedia technology, new media technology, etc., it has been widely used in various fields and plays an important role. At the same time, it also brings good enlightenment to the teaching of rail transit professional courses in higher vocational colleges. In this regard, teachers can integrate it with curriculum teaching, stimulate students' interest and mobilize their subjective initiative in this way, so as to improve the classroom teaching effect.

① Use of multimedia technology

Take the teaching of "Introduction to Urban Rail Transit" as an example, teachers can use multimedia technology to create a teaching scene integrating video, pictures, animation and other elements for students, so that the teaching content is illustrated and colorful at the same time, to bring students a novel teaching experience, stimulate students' interest, mobilize their initiative and enthusiasm, so as to improve the teaching effect. When talking about the composition of the switch, the teacher can make the composition of the switch into an animation and play it to the students through multimedia. In this way, the students have an intuitive and image cognition of the term switch, so as to improve the teaching effect of the course; When learning the interlocking of the station, teachers can use multimedia technology to play the video of "centralized interlocking" to the students, so that they have an intuitive and clear understanding and cognition of the interlocking equipment and the work project, so as to better grasp the concept of interlocking and improve the teaching effect.

② The use of network resources

With the rapid development of urban rail transit technology, the content of teaching materials is difficult to follow up quickly. Therefore, we can fully tap the network resources, download a large number of pictures, animations, videos, etc., to update the teaching content. This will help students to keep abreast of the latest developments in their majors, master the latest professional knowledge, and lay a solid foundation for the sustainable development of their future careers. Through the Internet search tool, it is easy to obtain the development plans and the latest construction progress of subways in different places; Information about the opened subway, such as technical features, route maps, opening time, etc., can also be queried from the Internet; At the same time, you can also learn about the development of urban rail transit around the world, as well as other relevant information, such as automatic coupler, shield tunnel and so on. In addition, online platforms such as the Urban rail Transit Forum are rich in content, and students can browse the content they are interested in learning independently and interact with employees from different positions. Undoubtedly, the network is the best assistant to learn the knowledge

of urban rail transit professional courses, which can not only answer students' doubts, but also broaden their horizons and enrich their cognition.

4. Build high-quality teachers and improve their teaching ability

Professional teachers play an important role in the teaching of professional courses of rail transit. Therefore, in order to better improve the teaching effect, it is necessary to do a good job in teacher training. In this regard, vocational colleges can start to build "double-qualified" professional teachers, regularly arrange relevant rail transit professional teachers to go to relevant enterprises for training, improve their professional ability, and understand the ability requirements of relevant enterprises for professional students, so as to facilitate the adjustment of teaching direction; In order to better improve the professional quality and comprehensive ability of teachers, vocational colleges can carry out targeted training for teachers. For example, the colleges carry out regular teaching and research activities to ensure that the professional ability and teaching level of professional teachers are improved and their teaching level is improved. Teachers can rely on colleague communication, network learning and other diversified channels to acquire some knowledge and skills on locomotive maintenance, subway network system operation, etc., to ensure that professional teachers' teaching ability is comprehensively improved.

5. Improve assessment methods

Improving the teaching assessment method is an effective means to test the teaching effect and cultivate the comprehensive ability of students. Some higher vocational colleges still adopt the traditional way of assessment, and the results are divided into two parts, respectively, the peacetime results and the examination results. The peacetime score accounts for 40% of the total score, and the exam score accounts for 60% of the total score. There are some problems in this way of assessment, which is very unfavorable to the improvement of students' practical ability and professional quality. In this regard, higher vocational colleges can increase the proportion of normal grades, that is, normal grades account for 50% or 60% of the total grades, and assess a number of contents. In addition to the assessment of previous classroom performance and completion of learning tasks, higher vocational colleges should also focus on the practical ability of students. In this way, students' cognition of practical learning can be strengthened. To prevent some students from not paying attention to practical teaching, and to enhance their initiative and enthusiasm.

Concluding Remarks

In a word, in the new era, in order to better train application-oriented talents that meet the needs of the development of The Times, higher vocational colleges should reform and optimize the traditional teaching mode and teaching methods, improve the classroom teaching effect, improve the quality of professional talents through various ways and means, and provide high-quality talents for the development of enterprises and society. Lay a solid foundation for the future employment and development of vocational college students.

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