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The Practice of Output-oriented Intelligent Transportation Course Group Construction

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Abstract: Under the background of the current smart city construction, the construction of intelligent transportation course group in colleges and universities not only meets the needs of the times, but also reflects the deep-seated needs of the construction and reform of traffic engineering specialty in local undergraduate colleges and universities. This paper describes in detail the importance of the construction of the intelligent transportation curriculum group in colleges and universities with output as the core, and discusses in depth how to construct the specific path and strategy of the output-centered intelligent transportation curriculum group. Colleges and universities need to clearly define the goal of the curriculum group, scientifically build the structure of the curriculum group, plan each part of the curriculum group, develop and update the teaching materials, absorb and train the " double-qualified " teachers, build the " practical " place of the curriculum group, actively strengthen the close cooperation with enterprises, and implement the results-oriented practical operation education strategy.

Keywords: output-oriented, intelligent transportation, curriculum group, construction practice

Introduction

The teaching of intelligent transportation in colleges and universities has remarkable characteristics. The teaching of traffic engineering in local undergraduate colleges and universities focuses on the integration of transportation, computer and automation, and attaches importance to improving students ' professional ability. Therefore, colleges and universities should realize the construction of a curriculum system with ' traffic management and control ', ' intelligent transportation system ', ' traffic big data analysis ', ' C language programming ' and ' traffic engineering ' as the core, and then adhere to the output-oriented teaching work. At the same time, college teachers and managers should also pay attention to the construction of curriculum group, so as to better promote the orderly development of output-oriented intelligent transportation curriculum group teaching.

1. Output-oriented construction mechanism and organization construction of intelligent transportation course group in colleges and universities

In order to ensure that the construction of intelligent transportation course group with output as the core can be carried out smoothly, the construction mechanism and organizational structure of the course group have become an indispensable basic guarantee. According to the skill standards of transportation equipment integration enterprises for intelligent transportation engineering projects and other related positions, when constructing the course group system of intelligent transportation comprehensive projects, various practical application scenarios should be considered in order to establish a project with a comprehensive grasp of the collection, transmission, processing and control process of intelligent

transportation data as the main goal, and ensure its smooth implementation [1]. In other words, it is necessary to connect the required knowledge points according to the order of project execution and integrate the relevant course content. The integration of equipment hardware and information system of intelligent transportation is the focus of teaching. Focusing on the scheme design, R & D, construction, installation, integration and maintenance of the intelligent transportation integrated system, the course group system with clear hierarchy and interrelated courses is constructed according to the order of basic theory class (' traffic management and control '), technology class (' traffic big data analysis '), implementation class (' intelligent transportation system ') and application class (' C language programming ')[2].

2. The construction of output-oriented teaching team of intelligent transportation course group in colleges and universities

In order to build a teaching team of intelligent transportation course group with output as the core, it is necessary to establish a multi-party cooperative course group construction steering committee. The task of the committee is to guide the construction of the curriculum group, deeply understand the national policy, and integrate the resources inside and outside the school according to the economic and social development and the strategic needs of the country, scientifically formulate the construction plan and task book of the curriculum group, and promote the construction of the curriculum group in a planned, hierarchical and systematic way. The steering committee needs to hold seminars regularly in the course group construction to explore the new human resource needs brought about by the changes and progress of the intelligent transportation industry. The committee should guide the construction of teaching materials, courses and training bases, improve the operation and management mechanism of the course group construction steering committee, and establish an interactive system between the course group and the market, so as to achieve the common management of all parties and ensure the continuous and stable progress of the course group.

Under the background of the new era, it is necessary to pay attention to the deep development of the teaching team construction of the curriculum group, improve the internal guarantee mechanism, and improve the dynamic adjustment and development process of the curriculum group. We actively promote the construction of the spiral structure of the curriculum group centered on the ' 8 ' word and the normalized curriculum group ' diagnosis and improvement ' strategy. Connecting with the traffic digital industry, a dynamic adjustment system of traffic engineering specialty in local undergraduate colleges and universities in the group is constructed, which is " market-oriented, school-enterprise cooperation. " It focuses on the internal driving force of teacher and student growth and the external incentive mechanism to promote the personal growth of teachers, improve the overall quality of talent training, and further promote the high-quality development of the curriculum system. It is also necessary to ensure diversified investment between government, administration, enterprises and schools, so as to build a new strategy of multi-party cooperation. Strengthen the all-round and in-depth cooperation between schools and enterprises, improve the diversified capital investment mechanism, and promote the substantive operation mode, so as to realize the cooperation among schools, industries, enterprises and governments. Together with many large enterprises, we will jointly establish industrial colleges and industry-university-research collaborative innovation studios to meet the development needs of national and local industries, and actively cultivate high-level technical and skilled talents in the field of shortage[3]. We will also work with well-known companies around the world to jointly create a curriculum group, and promote a new curriculum group construction mechanism through the collaboration of schools, industries and enterprises to ensure the high quality and sustainable development of the curriculum group.

3. The teaching design of output-oriented intelligent transportation course group in colleges and universities

When designing the output-centered intelligent transportation course group, it is required to revise the training plan and investigate the relevant intelligent transportation enterprises and institutions. The teaching design of the courses in the intelligent transportation course group in colleges and universities needs the cooperation and efforts of all parties. It is necessary to implement the invitation of traffic engineers and full-time teachers to participate in the seminar, so as to realize the knowledge required by the relevant positions of intelligent transportation through this means, construct a

comprehensive curriculum system, including basic courses and elective courses, and determine the corresponding teaching and experimental contents. Based on this, develop training programs, syllabuses and other related teaching materials. In-depth analysis of each course content in the course group, comprehensive course planning, emphasizing the core content and difficulties of each course, in order to reduce the redundancy of the course content. The collection and processing of traffic data is actually a combination of traffic management and computer technology. When designing an intelligent system project at an intersection, it is also necessary to fully consider the teaching content of multiple courses and take output as the core orientation, including the establishment of one or more comprehensive experimental projects. In this way, the gradual expansion from the traffic subsystem to the large system can be realized, and the courses in the direction of intelligent traffic system integration can be further integrated into a whole. When choosing teaching methods, students in the class should be divided into several groups, and case teaching method should be adopted to enable students to complete a smart transportation system integration project, so as to better cultivate students ' comprehensive skills[4].

4. Output-oriented teaching resource construction of intelligent transportation course group in colleges and universities

The construction of output-centered intelligent transportation course group depends on diversified teaching resources. In order to better promote the construction of teaching resources, it is necessary to integrate the existing on-campus training rooms and reorganize the training resources according to the logical relationship within the course group to realize the sharing of resources. According to the standard requirements of the industry, the real production environment is simulated, and innovative technologies such as virtual simulation and human-computer interaction are adopted. The two sides cooperate and invest to jointly develop and build the school 's training base. It can also establish a smart transportation application training center, a virtual simulation training center, and an application research and development center, aiming to create a fully functional and service-rich course group training base that integrates ' production, learning, and research '. The base aims to meet the diverse needs of the course group in practical teaching, scientific research, technical services and social training, and strive to become the leading high-quality course group training base in the country. It is also necessary to cooperate with excellent enterprises to create an off-campus practical teaching base with demonstration and leading role, integrate the resources of the intelligent transportation industry, and create a multi-functional comprehensive training base for training, internship and employment with demonstration and leading role in the region. Taking the well-known brand training base as a model, we jointly create an off-campus training practice base, and employ technical experts and big country craftsmen from outside the school as part-time teachers of the training base, so that teachers will jointly carry out teaching work according to industry standards and job skills requirements [5].

5. Conclusion

In order to cultivate applied talents in intelligent transportation, colleges and universities should implement output-oriented, realize the construction of curriculum group, and implement the combination of multiple disciplines. However, the development of the construction of the intelligent transportation course group is not achieved overnight, but a gradual process. It is necessary for managers and teachers in colleges and universities to always adhere to the output-oriented, implement the implementation of the construction mechanism and organization construction of the course group in the development of intelligent transportation teaching, the construction of the teaching team, and actively carry out the course teaching content design of the traffic engineering major in local undergraduate colleges and universities and integrate the teaching resources of the valuable moral course group, so as to promote the smooth development of the output-oriented intelligent transportation teaching work.

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