



Construction of Applied Talents Training System for Automation Major in Local Undergraduate Universities

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Abstract: As an important supporting profession to ensure the optimization and transformation of the national economy, especially to promote the transformation and upgrading of the manufacturing industry, the automation profession has important practical value for the cultivation of automation professional application-oriented talents. However, the current training of automation professionals in local undergraduate universities cannot effectively follow the development needs of society and industry, and there is an urgent need for effective changes. Based on this situation, this article first analyzes the problems existing in the construction of the application-oriented talent training system for automation majors in local undergraduate colleges, and secondly, in response to these problems, it provides an application-oriented talent training system for automation majors.

Keywords: Automation Major, Training System, Local Undergraduate Universities

1. Introduction

With the continuous development of social economy, all industries in China are currently facing key tests and challenges of transformation and upgrading, as well as adjustment and optimization of industrial structure. As an important way to cultivate professional talents needed for economic and social development, undergraduate colleges and universities have important practical effects and values to construct a scientific and reasonable application-oriented talent training system^[1-3]. The automation major is an important supporting major to ensure the optimization and transformation of the national economy, especially to promote the transformation and upgrading of the manufacturing industry^[4]. The training of its relevant talents is to promote the matching of university talent training with the needs of social industries, and to promote the high-level and high-quality development of automation discipline. Both have great practical significance.

At present, local undergraduate colleges and universities still have many shortcomings and problems in the construction of the applied talent training system, which are manifested in the dislocation and disconnection between the level of talents and the quality of talents and the actual needs of society and the industry^[5-7]. This dislocation and disconnection has caused problems such as the fact that while local undergraduate colleges and universities have cultivated a large number of graduates, relevant enterprises and institutions cannot recruit the expected talents. Therefore, in the process of cultivating applied talents, local undergraduate colleges and universities should focus on the following aspects as shown in Figure 1 in the process of cultivating applied talents, especially in the process of automation majors, so as to lay a solid foundation for building a perfect talent training system Foundation.

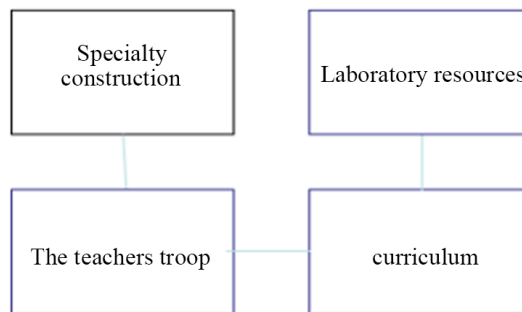


Figure 1 The focus of application-oriented talent training for automation majors.

In addition, the automation major is one of the majors commonly offered by local undergraduate colleges and universities in China, and different local colleges and universities can be divided into several types as shown in Table 1 below based on the differences in their educational positioning and characteristics. However, although there are differences in the types of automation majors opened by different local universities, these colleges have not been able to effectively create their own characteristics and brands in the cultivation of automation professional application-oriented talents, which has led to the gradual training of automation professionals. Shows the trend of homogeneity and lacks its own core competitiveness. In this context, as a more complicated system engineering of local undergraduate colleges and universities, the development of application-oriented automation talents requires exploration and research to build a long-term, scientific and benign training system, which has important practical value.

Table 1 Discipline positioning and characteristic classification of automation majors in local undergraduate universities.

Type	Characteristics	Application
Research leading	High requirements for knowledge and skills, focusing on academic research	Minority research-oriented local undergraduate colleges
Application of Engineering Research	Maximum social demand	Most general local undergraduate colleges
Application technology	Maximum social demand	Most general local undergraduate colleges

2. Problems in the construction of application-oriented talent training system for automation majors in local undergraduate universities

2.1. The practical dilemma of application-oriented talent training for automation majors in local undergraduate universities

First of all, most local undergraduate colleges currently lack the supply of applied talents. This is mainly manifested in the fact that most local undergraduate colleges have relatively average enrollment quality and it is difficult to find innovative talents with applied literacy. Moreover, the lack of resources for running schools in local undergraduate colleges and universities has further exacerbated the dilemma of application-oriented talent loss. Second, local undergraduate colleges and universities are facing the real dilemma of structural unemployment of graduates majoring in automation, which is mainly reflected in the continuous decline in the employment rate of local undergraduate college graduates, and not only are they at a disadvantage compared with key national colleges and universities, they are gradually being employed by higher vocational colleges. Institutions beyond, as shown in Figure 2 below. The main reasons leading to the structural unemployment of automation graduates in local undergraduate colleges and universities are that the problem of the mismatch between the curriculum teaching system of the automation major and social needs is more prominent, and the training positioning of automation professionals is not suitable for social needs.

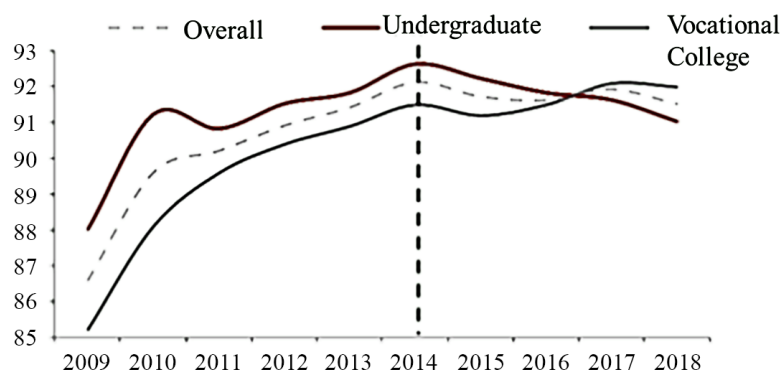


Figure 2 Changes in the employment rate of local undergraduate college graduates.

(Source: Mycos, Zhongtai Securities Research Institute)

2.2. Practical problems in the training of applied talents in automation majors in local undergraduate universities

The practical problems in the training of applied talents for automation majors in local undergraduate colleges are mainly manifested in the following aspects. First, as local undergraduate colleges continue to expand the scale of students, the training of automation professionals has gradually become popular. Secondly, the automation talent training programs formulated by most local undergraduate colleges and universities have outstanding problems such as unclear positioning and unclear goals, which leads to the lack of their own characteristics in the automation talent training system, and further enables them to train undergraduate automation graduates. There is no competitive advantage and position in the market. In addition, there is a structural imbalance in the automation talents cultivated by local undergraduate universities, and the graduates cultivated lack practicality and the ability to quickly engage in roles. This is mainly due to the fact that the automation courses offered by local undergraduate colleges and universities are too theoretical and too many theoretical courses, which leads to the lack of training of students' practical ability, which is not conducive to the development of students' career after graduation.

2.3. Reflections on the cultivation of applied talents in automation majors in local undergraduate universities

At present, the training of applied talents in automation majors in local undergraduate universities pays too much attention to the benefits and benefits brought by the expansion of the enrollment scale, while ignoring the establishment and guarantee of corresponding supporting projects as the number of students increases. For example, relevant practical equipment and automated experimental devices for cultivating students' practical abilities, etc., as the number of students increases and matches the corresponding ones, the students lack practical opportunities, or the practical courses are seriously insufficient. Secondly, the current automation majors in local undergraduate colleges and universities ignore the individual needs and characteristics of students, resulting in the lack of individual characteristics of the students trained and more like the same tool people. In addition, the current automation majors in local undergraduate colleges lack a unified and correct understanding of students' training goals. Many schools blindly seek for bigger ones while neglecting the construction of basic capabilities, which leads to poor and poor training of students. The inaccuracy of the self-positioning of local undergraduate universities makes it neglect the cultivation and guidance of students' individualized career development direction and ability, and restricts the effective display of students' professional ability.

2.4. The root cause analysis of the problem that the training of automation professionals in local undergraduate universities does not match the social needs

First of all, the lack of the expression and representation of the educational connotation in the training of automation professionals in local undergraduate colleges and universities has led to its educational philosophy ignoring the deep observation and feeling of society and student needs. Not only that, the lack of educational connotation makes most local undergraduate colleges and universities have a more prominent issue of homogeneity of professional construction. Most of them pursue large and comprehensive professional construction while ignoring the construction of their own

characteristics, the individualized thinking of students, and the promotion of the main body status. Secondly, there is a lack of innovation in the training of automation professionals in local undergraduate universities. This lack of innovation is not only reflected in teaching methods, teaching goals and teaching models, but also in the main practice and ability of teachers and students, and students' independent thinking , Practice development awareness and ability training. In addition, the process of training automation professionals in local undergraduate universities ignores the balance between educational socialization and students' individual needs, the balance between the passive acceptance of students and their main role, the development of the school under the market economy and the long-term goal of talent training Some objective issues and phenomena such as the balance between goals. The above aspects together constitute the root cause of the problem of the mismatch between the talent training of local undergraduate colleges and the social needs.

3. The construction strategy of the application-oriented talent training system for automation majors in local undergraduate universities

3.1. Improve the applied characteristics of automation majors in local undergraduate colleges

First of all, at the positioning level of the training of applied talents for automation majors in local undergraduate colleges and universities, local undergraduate colleges must accurately position the construction goals and directions of automation majors based on their own conditions and the relevant development needs of society and industry. Secondly, at the level of innovation in the curriculum system of automation majors and disciplines, on the one hand, it is necessary to actively cultivate students' theoretical knowledge literacy and improve their professional knowledge reserves; on the other hand, to cultivate students' engineering practice ability and improve their skills as shown in Figure 3. The overall quality of the several aspects shown. In addition, the construction of the application-oriented characteristics of the automation major needs to cultivate students' engineering practice concepts and thinking, and help them establish scientific engineering application concepts by increasing the proportion of practical courses and practical courses to help them improve their future career development capabilities.

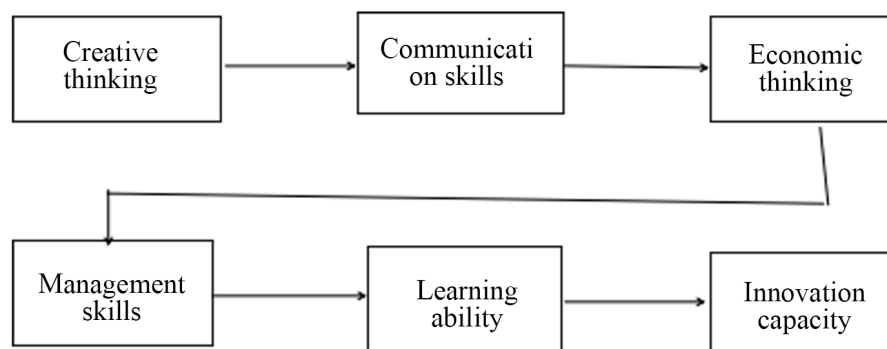


Figure 3 The architecture of the network information management system.

3.2. Develop a scientific and effective automation professional teaching system

Local undergraduate colleges and universities should strengthen the teaching and research of automation majors, promote the construction and reform of disciplines, for example, make full use of and give full play to the role and functions of modern information technology, and use multimedia technology to vividly and intuitively demonstrate the difficulties and key points of automation majors. Strengthen students' application and understanding of automation. Secondly, local undergraduate colleges and universities should carry out targeted teaching practice optimization based on the individual needs of students, build a scientific and high-efficiency teaching system, and carry out targeted practical course exercises for the specific application of problems in engineering practice. Help students adapt to professional needs as soon as possible. Secondly, it is necessary to build an objective and professional automation subject teaching quality evaluation system, optimize the design for the weak links in teaching activities, timely feedback and iterative optimization of problems and information, help promote the positive construction and development of automation subjects, and promote The teaching level continues to rise.

3.3. Build a complete application system for training automation professionals

First of all, the training objectives and positioning level of automation professionals should aim at improving the engineering applicability of automation graduates, construct a scientific and reasonable top-level talent training plan, and actively integrate the latest concepts of the automation industry in the discipline and professional settings. , Frontier technology development trends and future development directions, etc., so as to meet the needs of students not to be out of touch with the development needs of the automation industry after graduation in the future. Secondly, at the level of building the practical teaching system of automation disciplines, it is necessary to strengthen the evaluation and assessment of students' engineering practice courses, establish a school-enterprise cooperation platform and a directional training mechanism for internships, and help students have more opportunities to get in touch with engineering practice in the automation industry Specific application. In addition, strengthen the promotion of application-oriented automation talent training guarantee and supporting measures, set up an organic innovation mechanism in each link of production, learning, and research, promote the integration of students' theoretical thinking and practical ability, and ensure the ultimate goal of training automation talents achieve.

5. Conclusion

In short, there are still many shortcomings and problems in the construction of the application-oriented talent training system in local undergraduate universities. The specific manifestation is that the level of talents cultivated and the quality of talents are misplaced and disconnected from the actual needs of society and the industry. This paper analyzes the existing problems in the construction of the application-oriented personnel training system for automation majors in local undergraduate colleges, and studies the practical dilemma and root causes of the application-oriented personnel training for automation majors in local undergraduate colleges. Then, in view of the outstanding problems and shortcomings in the training of automation professionals, this article gives the construction strategy of the application-oriented talent training system for automation majors in local undergraduate colleges, that is, local undergraduate colleges should improve their own application-oriented characteristics of automation majors and formulate scientific and effective The automation professional teaching system and the establishment of a complete automation professional talent training application system, so as to ensure the achievement of the application-oriented talent system construction goals in multiple dimensions and at multiple levels.

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