

Research on the Effective Connection between Automobile Application-Oriented Talent Cultivation and Enterprise Requirements

—Taking Guangzhou College of South China University of Technology as an Example

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Abstract—With the purpose to analyze corporate demand for the ability of applied talents, this paper made investigations on college teachers and students, graduates and employers, and accordingly set up the professional personnel training scheme to satisfy the enterprise demand. This improved the application ability of graduates, increased the employment rate, and achieved mutual benefits by guaranteeing the talent resources for the corporate.

Keywords—*Application-oriented Talents; Talent Cultivation; Enterprise Requirements; Employment Rate*

I. RESEARCH BACKGROUND

With the development of modern industry and science and technology, the traditional training program for application-oriented talents in colleges and universities can no longer meet the modern enterprise requirements.

Application-oriented talents refer to a special type of talents who can apply professional knowledge and skills to the professional social practice that they are engaged in. Such talents can master their knowledge and skills required for social production or social activities and they are mainly technical talents engaged in front-line production. During the development of modern society, there is a wide range of demands for application-oriented talents.

The knowledge structure of application-oriented talents is designed based on the actual need of front-line production. In the fundamental parts, such as curriculum setting and textbook construction, the emphasis is on basic, mature and applicable knowledge and the ability to use what students have learned. The ability system of application-oriented talents mainly aims

at the practical need of front-line production. In the ability training, the proficiency and flexible application of basic knowledge are highlighted, and the ability to analyze and solve problems is emphasized to cultivate application-oriented talents that can quickly accustom to their positions with great potentials.

Guangzhou College of South China University of Technology aims to build itself as a top-quality university with distinctive feature that leads by the requirements for talents in the advanced manufacturing industry, modern service industry and information industry in Guangdong and the Pearl River Delta. The university mainly focuses on engineering meanwhile coordinates its development with economy, management, literature, science and art. The university puts students first and teaching to the core place. Meanwhile, the university uses scientific research to promote teaching and puts efforts on cultivating application-oriented talents. Among all majors in the university, the establishment of vehicle engineering, traffic engineering, logistics engineering in School of Automotive Engineering are based on the rapid development of the automobile industry, rail transport and e-commerce logistics in the Pearl River Delta. During cultivation of talents, the characteristics of application-oriented undergraduate talents should be highlighted to build "practical, complex, innovative and entrepreneurial" senior professionals.

II. CHARACTERISTICS OF APPLICATION-ORIENTED TALENTS CULTIVATION MODE

With progress and development of the society, many colleges and universities in our country began to attach importance to the cultivation of application-oriented

talents[1]. According to actual social needs, the cultivation of application-oriented talents in the universities combines with the actual situation of companies, and orients by production. It requires students to master relevant theory and be capable of practical skills so that they can transform what they learn and the skills into practical results. However, due to the fast development of the industry, the rapid update of professional technology and the relatively backward teaching reform and other factors, application-oriented talents cultivated is not "practical" enough to meet requirements of the enterprises. Therefore, the following parts should be paid attention during the process of cultivating application-oriented talents:

First of all, for the cultivation of application-oriented talents in colleges and universities, we should emphasize more on the practicability of talents [2]. General education is the foundation. Through the understanding of market demand for talents in colleges and universities, we need to focus on students' abilities and technical training, and also pay more attention to the ability of the students' comprehensive quality. In that way, students can be cultivated in an all-round way. Under the training mode of application-oriented talents, the traditional education mode that only focuses on test score is changed and more attention is paid to the improvement of students' practical ability. In the training process of application-oriented talents, we attach more importance to the combination of theory and practice so as to improve students' innovative and practical ability. Therefore, the proportion of practical teaching courses should be larger than that of traditional theoretical teaching. Theoretical teaching is set for students to foster practical ability, and practical teaching is a way for students to transform theoretical knowledge into practical production ability. Therefore, coordination and cooperation between theoretical teaching and practical teaching are needed to improve students' practical and innovation ability through scientific adjustment of course structure. The number of application-oriented talents needs to be adjusted in line with the market demand for talents. In the application-oriented talent training mode, we should teach students in accordance with their aptitude, and suitable learning plans and course contents should be made according to the characteristics and direction of the major. Under the application-oriented training model, students must experience the training process of basic knowledge learning, professional knowledge training, professional practical ability training and adopt a more scientific evaluation mechanism, so that teachers and students can get scientific learning effect feedback and improve the quality of courses in time then finally master the knowledge.

In order to improve students' engineering practical ability, courses should be guided by social needs to reform the training mode, perfect the theory of curriculum and set up various internship practice content, form and time node reasonably [3]. At the same time, we should endeavor to set up off-campus employment and internship bases. Through the joint efforts of universities and enterprises, these two sides work together to cultivate qualified undergraduates with practical skills for the enterprises. The establishment of off-campus employment and internship bases for college students is a key factor in training application-oriented talents. Based on the cooperation with local automobile manufacturing enterprises and after-sales

service enterprises, this paper studies the construction of the internship bases in terms of resource sharing, operation and management of the internship base, the construction of teachers and the construction of achievements.

III. CURRENT PROBLEMS IN EFFECTIVE CONNECTION WITH ENTERPRISES:

1. At present, colleges and universities generally pay attention to theoretical teaching, but the features and importance degree of practical teaching are not enough. The strength and effect of practical teaching are not enough and the specialty features are not distinct.

2. The school lacks teachers with practical experience. Many university teachers do not have the employment experience in the professional companies and industries so that their own engineering practice ability is weak. Therefore, the ability to guide students in the off-campus employment practice base is insufficient.

3. Practice and training time is scattered. In the general undergraduate teaching plan, the internship in the off-campus employment practice base is generally cognitive practice, production practice and graduation practice. The off-campus internship in each stage is arranged in different semesters. The time of each kind of internship is between one week to three weeks. The time of internship and practical training is too scattered.

4. The internship positions provided by companies may vary and the duration and quality of the internship positions cannot be guaranteed due to the changes in the production cycle of the enterprise.

5. Some companies that can provide internship do not cooperate deeply enough to achieve long-term and stable cooperative relations. In terms of communication, due to the distance, the communication cost is relatively high.

IV. SOLUTIONS

In accordance with the requirements of application-oriented undergraduate talent training, the university should adhere to the focus of cooperative construction of off-campus employment and internship bases and promote the establishment of deeply integrated cooperative relationship and long-term education mechanism between the university and the industry, and comprehensively improve students' engineering application ability, employment ability and innovation and entrepreneurship ability [4]. The construction of off-campus employment practice base can be mainly carried out from three aspects: talent training mode, teacher team construction and practical teaching reform.

A. *Strengthen the reform of talent training mode and form major characteristics*

According to the motor vehicle manufacturing, automobile parts manufacturing and automobile service enterprises' requirements, universities can hire related experts in companies to discuss and revise this professional talent cultivation mode, [5] so that they can make talents cultivation plan and pay attention to improving students' engineering practice according

to talents cultivation goals and the core competence required by jobs.

B. Strengthen the practical competence of teachers

The training of application-oriented talents stresses on engineering practice ability, so it is necessary to strengthen the construction of double-qualified and double-capable teams. Schools can hire related professional workers or leaders in automobile manufacturing companies to provide practical guidance for teachers to improve their ability. We will implement projects to improve the quality of teachers in schools and formulate a career development plan for young and middle-aged teachers. Every year, we can arrange some young and middle-aged teachers to companies' credentials exercise, field practice and skills training to promote the construction of engineering teachers and encourage young backbone teachers to do scientific research work related to the automotive industry. Also, we encourage them to accept the new theory, new skills and new technology.

To strengthen the academic exchanges between universities and companies, we can realize the complementary advantages between companies' engineers and teachers.

C. Concentration of practice teaching time

In view of the scattered practice time, we can reasonably arrange the practice according to the content and try our best to arrange the time in a continuous period when making the talent training program. We can make full use of the summer and winter vacation, so that students who intend to practice and are competent can do internship in off-campus base. This arrangement can ensure sufficient time and improve students' interest in learning and practice.

D. Actively cooperate with enterprises to provide practical operation positions

University and companies can work together with detailed internship program according to internship time. Especially we should make sure that the students can engage in practice and be guided by companies' professional engineer and teachers who are encouraged to go deep into the companies' production line. At the same time, schools can invite companies' management personnel and technical personnel to give lectures in the school, and communicate with students and teachers about management technology, manufacturing technology, marketing service and other aspects from time to time.

E. Deepen integration and work for common development with enterprises

In accordance with the requirements of local regional economic development, we should closely contact the leading companies in the local automobile industry and provide suitable graduates for such companies [6]. Schools can choose students with employment intention according to company's demand in student's junior or senior year, and arrange a long period of continuous internship in companies. School and companies can manage together. Companies can arrange specific engineer guidance for students to improve internship quality. This also can improve quality of students' internship. At the same time, the graduation design can be arranged in companies. School-enterprise cooperation in this way can

promote the common development and cultivate talents for companies.

Take the students of Class 2018 in the School of Automotive Engineering as specific implementation objects. The results after the specific adjustment and implementation are as followed (TABLE I)

TABLE I. COMPARISON OF OUTCOMES OF EFFECTIVE CONNECTION BETWEEN AUTOMOBILE APPLICATION-ORIENTED TALENT CULTIVATION AND ENTERPRISE REQUIREMENTS

| Comparison of employment rates in 2016-2018 | | | | | | |
|---|---------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|
| Class | Number of graduates | 2016.12.10 | | Number of graduates | 2018.12.10 | |
| | | Final employment rate | | | Final employment rate | |
| | | The number of jobs | Final employment rate | | The number of jobs | Final employment rate |
| Vehicle class 1 | 42 | 41 | 97.62% | 49 | 49 | 100.00% |
| Vehicle class 2 | 45 | 43 | 95.56% | 47 | 47 | 100.00% |
| Vehicle class 3 | 45 | 44 | 97.78% | 49 | 49 | 100.00% |
| Vehicle class 4 | 40 | 40 | 100.00% | 47 | 45 | 95.74% |
| Vehicle class 5 | 38 | 38 | 100.00% | 44 | 44 | 100.00% |
| Vehicle class 6 | 40 | 40 | 100.00% | 44 | 44 | 100.00% |
| Auto service class 1 | 50 | 49 | 98.00% | 55 | 55 | 100.00% |
| logistics Class 1 | 42 | 41 | 97.62% | 47 | 47 | 100.00% |
| Combined meter | 342 | 336 | 98.25% | 382 | 380 | 99.48% |

V. CONCLUSIONS

The effective connection between talents cultivation mode and the need of companies improves the employment rate and quality in school. This is a long-term and valuable task that meets the demand of companies and also cultivates a great amount of professional talents for the society. Moreover, it helps increase the employment rate and quality in school and lays a good foundation for development of society.

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