Research on the Cultivation of Computer Network Technology Professionals Based on Huawei Certification in the Context of the Greater Bay Area

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Abstract. This paper focuses on the development needs of the ICT industry in the Guangdong-Hong Kong-Macao Greater Bay Area, the characteristics of regional economic development, and the orientation of higher vocational colleges. The curriculum system of Huawei vocational certification. Guided by Huawei's vocational certification standards, while introducing high-quality resources from Huawei, the school-enterprise cooperation has jointly cultivated students, jointly built a school-enterprise dual education platform, created a talent training system, and cultivated high-quality technical and skilled talents that can adapt to social development.

Keywords: Greater Bay Area · Huawei certification · network technology · school-enterprise duality · talent training

1 Introduction

With the deepening of the national strategy for the construction of the Guangdong-Hong Kong-Macao Greater Bay Area, the development of ICT in the Greater Bay Area has ushered in new opportunities for development, and at the same time brings new challenges to the training of computer network technology professionals. The vigorous development of the Greater Bay Area has put forward new requirements for network technology talents, and traditional talent training programs have gradually become inadequate. This paper combines the development needs of the new generation of information technology industry chain in the Guangdong-Hong Kong-Macao Greater Bay Area region, through school-enterprise cooperation, and Huawei Technologies Co., Ltd. to jointly build Huawei ICT Academy. Constructed a school-enterprise collaboration education system based on Huawei's vocational certificate, jointly carried out activities such as professional construction and collaborative education, and explored a vocational certificate-oriented talent training model, which was deeply integrated into the computer network. In the talent training plan for technical majors, a "three-in-one" high-quality technical and skilled talent training platform has been formed, which corresponds to

Huawei's HCIA, HCIP and HCIE certificates. professional quality and the ability to adapt to the economic and social development of the Guangdong-Hong Kong-Macao Greater Bay Area.

2   Research Background

The "Belt and Road" is another long-term strategic development plan of my country since the reform and opening up. It is of epoch-making significance for deepening exchanges and cooperation between Guangdong, Hong Kong and Macau, and building a new model of collaborative cooperation and development. In February 2019, the "Guangdong-Hong Kong-Macao Greater Bay Area Development Plan Outline" was officially released, marking that the economic construction status of the Guangdong-Hong Kong-Macao Greater Bay Area has risen to the national strategic level. Guangdong Province has made great efforts to implement the revitalization and development strategy around various regions, and the regional economic development gap in the province has narrowed, but this development status has not been fundamentally resolved. The "one core, one belt, one district" strategy has changed the original thinking, broke through the limitations of existing administrative divisions, clarified the strategic positioning based on the division of functional areas, and accelerated the construction of a "one core" consisting of the Pearl River Delta region and the coastal economic belt. The new pattern of regional development of "One Belt, One Area". However, the process of building the Guangdong-Hong Kong-Macao Greater Bay Area is an extremely complex process. One of the important factors in the development of the Greater Bay Area is the demand for talents. Higher vocational and technical education is an important support for serving the economic construction of the Greater Bay Area.

In the context of the new era, the Guangdong-Hong Kong-Macao Greater Bay Area has become one of the important areas with strong economic vitality, rapid development and high degree of openness in my country. With the advancement of the construction projects of the Guangdong-Hong Kong-Macao Greater Bay Area, the economies of Guangdong and Hong Kong and Macao have entered a stage of multi-level and diversified development. The development of ICT in Guangdong, Hong Kong and Macao has ushered in new opportunities. A new challenge comes. The vigorous development of the Greater Bay Area has put forward new requirements for network technology talents, and the traditional training model of computer network professionals has gradually become inadequate.

3   Analysis of the Current Situation of Talent Training

At present, world multi-polarization, economic globalization and social informatization are developing in depth, the reform of the global governance system and the international order is accelerating, and a new round of technological revolution and industrial reform is poised to take off. (hereinafter referred to as the "Outline") is the central government's "general mobilization" for the innovation-driven development of the nine cities in the Bay Area based on the accurate grasp of the geographical advantages, economic strength, innovation elements, and internationalization level of the Guangdong-Hong

Kong-Macao Greater Bay Area [1]. The "Outline" puts forward new requirements for computer network technology professionals in the construction of "advanced manufacturing and modern service industry bases" and the construction of "smart city clusters", and also provides greater career development space. It provides guidance for the training of computer network professionals in local higher vocational colleges in Guangdong.

However, when most higher vocational colleges set up computer network majors, due to factors such as the diversification of student sources and the single talent training model, the teaching objectives of colleges and universities are not clear, the training orientation is unclear, and individualized training cannot be formed. In the process of teaching, there is a phenomenon of inconsistency between the teaching content and the major, failing to take into account the current situation of computer network development, resulting in the inability to connect the teaching content with the industry status quo. development speed [2]. The teachers in some colleges and universities are relatively weak, especially for the training of students' practical ability, which limits the improvement of students' ability. In the practical operation, due to the lack of understanding of the development of the industry, the students' learning content does not match the needs of enterprises. conducive to the development of students. It mainly includes the following aspects.

3.1 The Curriculum System cannot Meet the Goal of Talent Training

In higher vocational colleges, due to factors such as school-running conditions, faculty, and student diversity, students generally have poor learning ability, comprehension and cognitive abilities. The current curriculum system for students in higher vocational colleges cannot meet the needs of students, most of the courses still focus on the explanation of theoretical knowledge, and the practical hours are relatively small. Even if relevant practical teaching links are set up, the lack of participation of enterprises, the teaching content cannot be combined with the current needs of enterprises and social development, and the development effect is not ideal [3].

3.2 The Teaching Staff cannot Meet the Requirements of Vocational Education

In recent years, with the rapid expansion of the scale of vocational education, the state has also successively issued policies to encourage the development of vocational education. In order to export more high-skilled talents to the society, various higher vocational colleges have been expanding the number of enrollments, which has led to a serious shortage of teachers in colleges and universities, and the problem of teacher shortage has gradually emerged. However, various vocational colleges have neglected the ability training of new teachers while strengthening the teaching staff.

3.3 Insufficient Engineering Practice Ability of Students

In the traditional training process of computer network professionals, there is an emphasis on theoretical teaching and neglect of practical teaching. Due to the lack of sufficient corporate elements, the school's perception of market demand has declined, and the company's engineering project cases have not been added to the teaching process. Students

cannot learn the latest trends in technological development in a timely manner, which makes the cultivation of students' abilities and the demand for talents by enterprises. There is a large gap, and it cannot adapt to the needs of enterprises for computer network talents under the new situation and the new economic background [4].

3.4 Talent Training Model Lacks Innovation

At present, some computer network technology majors in higher vocational colleges lack awareness of the needs of enterprises and social talents for the training of students, cannot update and learn the current mainstream new technologies and new norms in time, and the teaching content is out of touch with society and enterprises. With the development of the new economic form and new industrial system in the Greater Bay Area, there are new requirements for the training of computer network technology professionals. The existing talent training program design is not reasonable enough, and the curriculum system is not perfect. The mechanism can no longer match the economic structure of the Greater Bay Area. It cannot adapt to the development of the Greater Bay Area.

4 Talent Training Reform Plan

4.1 Introduce Huawei Professional Certification to Reconstruct the Professional Curriculum System

In terms of curriculum system construction, based on Huawei's professional certification standards, and fully considering the needs of ICT talents' career development, Huawei's professional certification systems have been introduced: HCIA (primary), HCIP (intermediate), and HCIE (advanced) three-level certification systems. Combined with the construction tasks of the school's high-level professional groups, the professional curriculum system is reconstructed starting from three stages of education: basic ability stage education, professional technology stage education and advanced technology stage education. Complete the basic competency stage courses of the public basic courses required by the majors in the freshman semester, complete the professional and technical courses in the second semester, and complete the advanced technical courses in the third semester. As shown in Fig. 1, the curriculum system of the computer network technology major integrates the certification courses in the direction of Huawei Vocational Certification and Data Communication, which defines the career development path for students. Upon graduation, students can obtain a computer network technology graduation certificate and a vocational certification certificate from Huawei Information and Network Technology College.

4.2 School-Enterprise Cooperation to Build a Platform for Educating People

Based on the diversity of students in higher vocational colleges and the differences of individual students, build a community of interests that closely surrounds students and integrates the characteristics of schools, enterprises, majors and teachers. From the perspective of students, with the purpose of cultivating high-quality talents, Keeping up
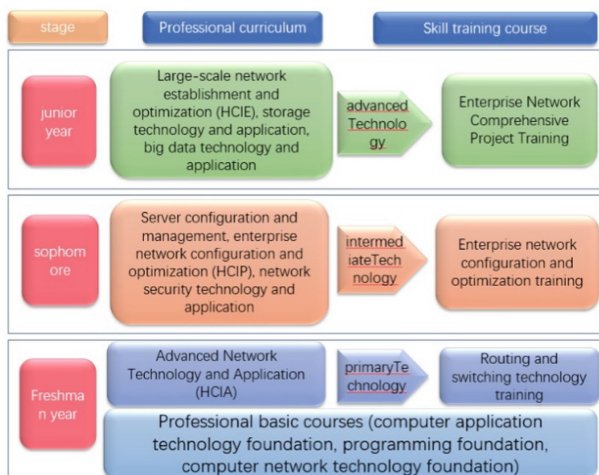
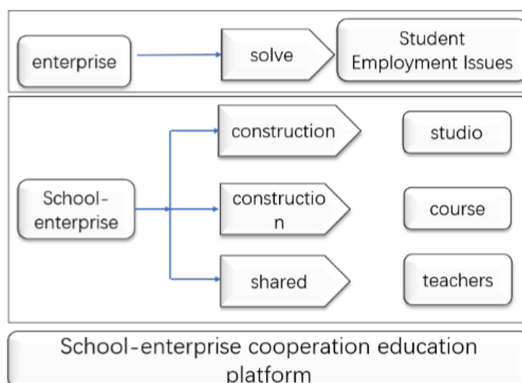**Fig. 1.** Professional curriculum system diagram

Fig. 2. School-enterprise education platform

with the development needs of the ICT industry in the Guangdong-Hong Kong-Macao Greater Bay Area, combined with the curriculum system of the vocational certification in the direction of routing and switching of Huawei ICT Academy, build a school-enterprise dual education platform, and jointly build a talent training system with enterprises, to make Huawei's technology and services leading The advantages are combined with the advantages of localized innovation and application talent training, and through cooperation in courses, teachers, training venues and student employment, etc., to cultivate high-quality technical and technical talents with strong professional comprehensive quality and adaptable to social development (Fig. 2).

4.2.1 Co-construction of Courses and Sharing of Teachers

Schools and enterprises jointly formulate the requirements for the construction of professional teams. Professional courses are jointly held by school and enterprise teachers. Enterprise teachers should complete pre-job training such as teaching standards and teaching abilities stipulated by the school before taking up their posts. Enterprise teachers regularly participate in new technology training, and regularly practice with enterprises to improve their professional and technical skills. Through mutual recruitment and assignment between schools and enterprises, a team of professional backbone teachers will be jointly cultivated.

4.2.2 School-Enterprise Co-construction Studio

School-enterprise cooperation builds network technology professional studios, and equips studios with corporate mentors. According to the working scene of the enterprise, the school and enterprise cooperate to build a studio teaching and practice place. By introducing the school-enterprise dual-tutor education model and actively expanding off-campus training bases, it provides a strong guarantee for students to participate in practical activities such as enterprise technological transformation, process innovation, and graduation practice, and creates a good professional teaching environment [5].

4.2.3 Use the Advantages of Enterprises to Solve the Problems of Internship and Employment

In terms of employment, taking advantage of the social advantages of enterprises, the enterprises will lead the internship and employment issues, recommend excellent enterprises for double selection, and the school-enterprise dual tutors will jointly guide students in their internships and thesis. Excellent graduates who have obtained Huawei vocational certification are recommended by enterprises to participate in the ICT talent double-selection meeting organized by Huawei Technologies Co., Ltd., and work in Huawei-related third-party industry chain enterprises, mainly engaged in the design, implementation, maintenance and operation of enterprise network systems, cloud Implementation and maintenance of new technology projects such as computing and big data.

5   Conclusion

Focusing on the characteristics of economic development in the Greater Bay Area, this project combines the current situation of computer network technology majors in higher vocational colleges, introduces high-quality resources from Huawei in the process of professional talent training, deepens school-enterprise cooperation, reforms the existing talent training model, and promotes academic certificates and careers. The effective connection of skill level certificates, school-enterprise joint training of high-quality talents suitable for the economic and social development of the Greater Bay Area. It strengthens students' knowledge, practice and literacy ability, and provides new ideas for colleges and universities to cultivate talents in the direction of computer network.

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