

Globalizing Vocational Education in Alignment with Chinese Railway Enterprises—A Case Study of Guangzhou Railway Polytechnic

Liu Xingfeng

Guangzhou Railway Polytechnic, Guangzhou, Guangdong Province, 510000, China

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Abstract: In recent years, Guangzhou Railway Polytechnic (GRP) has adhered to the strategic vision of “broadening horizons, driving development, fostering cooperation, and enhancing capabilities”. By implementing its strategy of “connecting the north, empowering the south, integrating with the west, and expanding to the east”, GRP has established an internationalized vocational education framework comprising industry-education alliances, Tianyou Academies, training bases, and education-training centers. It established the South China Alliance for Belt and Road Rail Transit Industry and Education Integration in collaboration with Chinese enterprises expanding overseas and domestic and international universities, creating a platform for international vocational education cooperation. It has launched two joint education programs with the Belarusian State University of Transport to train globally oriented railway professionals. It has also developed nine Sino-foreign cooperative education programs and operates two Tianyou Academies, focusing on cultivating local technical talent. In addition, through a dual approach of “going out and bringing in” for faculty and students, GRP has strengthened collaboration with overseas universities and institutions, further expanding its global network of partnerships.

1. Introduction

The opening-up of education is a vital part of China’s reform and opening-up initiative. Enhancing the quality and level of education opening-up requires balancing domestic needs with the international context [1]. The Opinions on Promoting High-Quality Development of Modern Vocational Education, issued by the General Office of the CPC Central Committee and the General Office of the State Council, calls for efforts in three key areas: enhancing the quality of Sino-foreign cooperative education projects, expanding platforms for international cooperation and exchange, and promoting the global presence of China’s vocational education to build vocational education brands with Chinese characteristics[2]. Higher vocational institutions, particularly those included in the Double High-Level initiative aimed at developing high-level vocational schools and majors, are expected to take an active role in creating a more comprehensive, broader, and multi-tiered framework for proactive education opening-up[3]. In recent years, Guangzhou Railway Polytechnic (GRP) has

adhered to the strategic vision of “broadening horizons, driving development, fostering cooperation, and enhancing capabilities”. By implementing its strategy of “connecting the north, empowering the south, integrating with the west, and expanding to the east”, GRP has established an internationalized vocational education framework comprising industry-education alliances, Tianyou Academies, training bases, and education-training centers. It established the South China Alliance for Belt and Road Rail Transit Industry and Education Integration in collaboration with Chinese enterprises expanding overseas and domestic and international universities, creating a platform for international vocational education cooperation. It has launched two joint education programs with the Belarusian State University of Transport to train globally oriented railway professionals. It has also developed nine Sino-foreign cooperative education programs and operates two Tianyou Academies, focusing on cultivating local technical talent. In addition, through a dual approach of “going out and bringing in” for faculty and students, GRP has strengthened collaboration with overseas universities and institutions, further expanding its global network of partnerships.

2. School-Enterprise Collaboration: Innovating the Guangzhou Railway Polytechnic Model for Overseas Education

GRP positions its overseas education as “a platform, a calling card, and a hub”—a platform for cultivating local technical and skilled talent, a calling card for showcasing China’s vocational education solutions, and a hub for sharing China’s advanced railway technology. It strives to be a promoter of Chinese railway technology and Chinese vocational education standards[4].

2.1 Following the Railway Expansion Abroad: Establishing Overseas Education Bases

To address the shortage of localized railway talent during the international expansion of China’s railway projects, GRP collaborated with AVIC International Complete Equipment Co., Ltd., and the Egyptian Higher Institute of Transport Technology to establish the Egyptian Tianyou Academy. This initiative includes joint overseas education programs, training for teachers and employees, and the cultivation of localized talent for the “10th of Ramadan City” railway project, while sharing China’s railway technology.

2.2 Tripartite Collaboration: Co-construction for Mutual Benefits and Optimization of Cooperative Education Mechanisms

The Egypt Luban Workshop aims to achieve “win-win outcomes for all four parties,” forming a new collaborative framework of “school-enterprise-school” for joint construction, management, and talent development. GRP is responsible for developing teaching standards, curriculum standards, and talent cultivation plans, building faculty teams, and creating bilingual Chinese teaching materials and related resources. AVIC International Complete Equipment Co., Ltd. identifies talent needs, provides Chinese railway technical standards, practical teaching equipment, and training venues, and hires qualified graduates. The Egyptian Higher Institute of Transport Technology is tasked with student recruitment and management, providing teaching facilities, and sharing Chinese railway technology, standards, and educational resources. The Egyptian Tianyou Academy has achieved “satisfaction for five stakeholders”: Firstly, the Egyptian Railway Authority is pleased with the initiative, which has cultivated a “non-transferrable team” dedicated to Egypt. This team now possesses the technical skills and expertise necessary for independently advancing railway transportation. Secondly, the Egyptian Higher Institute of Transport Technology is satisfied, having been actively involved in the entire educational process. The institute has trained faculty members, built facilities, gained valuable experience, and developed the capacity for talent cultivation. Thirdly, the Egyptian trainees are

satisfied as they have become localized employees for the “10th of Ramadan City” railway project. Their robust skill sets and rapid personal growth have enabled them to secure high-quality employment opportunities. Fourthly, AVIC International Complete Equipment Co., Ltd. is satisfied, having collaborated to train nearly 200 local technical talents. This effort has addressed talent shortages, reduced operating costs, and bolstered railway safety in Egypt. Lastly, GRP is content with its achievements, having established a bilingual teaching team, created a brand for overseas vocational education, and enhanced its international educational capabilities.

2.3 Aggregating Resources and Progressive Training for Bilingual Teaching Staff

Based on the principles of teacher competency development and aiming to enhance bilingual teaching capabilities, GRP has designed a progressive training program. It includes foundational teaching ability building, specialized English proficiency enhancement, and technical English skill strengthening. The institute has conducted three sessions of bilingual teaching capability training, advancing the development of “bilingual + dual-qualification” teachers. By December 2024, GRP had trained over 100 teachers in bilingual teaching and completed the development of 52 bilingual courses. It has pioneered a bilingual teacher training pathway characterized by “teaching-focused approach, progressive training methods, and practical bilingual application.”

2.4 Standards-Led Development and Menu-Based Customization of High-Quality Teaching Resources

Taking the job competency requirements of “going-global” railway enterprises as the starting point and grounded in Chinese railway technical standards and vocational job standards, GRP has focused on modular and menu-based training course development. It has formulated four professional teaching standards, such as for railway locomotives and railway power supply, and 45 course standards, including those for railway locomotive operation and maintenance technicians. This has resulted in a bilingual resource package integrating job standards, teaching standards, course standards, bilingual textbooks, and high-quality teaching resources. These resources showcase China’s railway technical standards and provide a solid foundation for cultivating high-quality localized railway talent.

2.5 Tri-Teacher Collaboration and Phased Implementation for Joint Cultivation of Local Railway Talent

Leveraging resource co-construction and sharing, the Egyptian Tianyou Academy has implemented a “tri-teacher” collaboration model involving Chinese teachers, enterprise engineers, and foreign teachers. This model fosters school-enterprise cooperation to advance the cultivation of local railway talent. Firstly, in the primary model, Chinese teachers act as lead instructors, foreign teachers serve as assistant instructors learning alongside and assisting with classroom management, and enterprise engineers provide guidance for internships and practical training. Secondly, in the advanced model, Chinese teachers handle teaching coordination and management, foreign teachers take on the role of lead instructors, and enterprise engineers oversee on-the-job internships. Additionally, by leveraging modern information technology and the institute’s leadership in developing two national and four provincial professional teaching resource libraries, as well as the country’s first industry-education integrated rail transit training base equipped with real railway lines, Fuxing high-speed train simulators, and National Railway Administration examination centers, the academy has overcome spatial constraints, enabling learners to access on-demand education anytime.

3. Outstanding Achievements: Gradually Establishing the “Guangzhou Railway Polytechnic Strength” in Overseas Education

3.1 Remarkable Achievements in Overseas Education with Continuous Improvement in Internationalization

In recent years, the school has collaborated with universities in countries along the “Belt and Road” initiative, such as Belarus, Laos, Malaysia, and the Philippines, to carry out nine joint education programs covering five disciplines, including Railway Transportation Operation and Management, cultivating nearly 400 students to date. Among these, the China-Malaysia Railway Locomotive Application and Maintenance Program was successfully selected as an ASEAN-China Featured Flagship Cooperation Project by the Ministry of Education. In collaboration with Southwest Jiaotong University and other domestic universities, the school has undertaken 13 overseas training projects, such as the Indonesian Jakarta-Bandung High-Speed Railway EMU Ground Technician Training Program, serving leading enterprises such as AVIC International in their global expansion efforts. These training programs have provided over 15,000 person-days of overseas employee training, including for the 10th of Ramadan Railway Project in Cairo, Egypt. The school also completed the “Future Technology, Skills, and Cultural Exchange Talents” project initiated by the China Center for International People-to-People Exchange and was honored with the 2024 “Belt and Road” Vocational Education Internationalization Outstanding Contribution Award, the Second Prize of Guangdong Provincial Teaching Achievement Award in 2021, and recognition as one of the “Top 50 Influential Asia-Pacific Vocational Colleges in 2020”. Additionally, the school’s internationalization efforts have been featured in two cases included in the 2022 and 2023 Annual Report on the Quality of Vocational Education in China and six cases listed in the 2019, 2020, and 2022 Annual Report on the Quality of Vocational Education in Guangdong. The school has also been approved for several key reform projects in building a modern vocational education system in Guangdong Province, including the cultivation of internationally influential vocational education standards, resources, and equipment.

3.2 Demonstrating Leadership and Enhancing Brand Influence

The school’s overseas education achievements have been widely reported by major domestic and international media, such as Egypt’s Al-Ahram, China Education Daily, and Education and Vocation. School leaders have delivered more than 20 keynote speeches at major conferences such as the China Annual Conference & Expo for International Education (CACIE). The school also hosted the first training program for faculty at the Egyptian Higher Institute of Transport Technology, with 96 faculty members participating in the training.

4. Conclusion

There is a promising future for vocational education. Guangzhou Railway Polytechnic will continue to build the “GRP Brand” in Overseas Education. The school aims to align its efforts with the international expansion of Chinese railway enterprises, deepen cooperation, integrate education with the industry, and establish a robust international platform for railway vocational education. By focusing on countries participating in the Belt and Road Initiative, the school will cultivate localized technical and skilled talents, acting as both a global advocate for Chinese railway technology and a facilitator of Chinese vocational education. Firstly, the school will improve its systems and mechanisms, optimizing the “GRP Model” for overseas vocational education to ensure steady and sustainable development. Secondly, it will enhance professional and curriculum standards, promote the development of high-quality bilingual teaching resources, lay a solid foundation for cultivating

localized technical and skilled talents, and support international industrial capacity cooperation. Thirdly, the school will strengthen follow-up and feedback mechanisms and share compelling success stories of vocational education going global. In this new era and on this new journey, Guangzhou Railway Polytechnic will continue to enhance its brand of overseas education, contributing to the overseas education and training programs for vocational colleges.

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References

- [1] *Remarks on Vocational Education: A Dialectical Interpretation of the Vision and Reality of the “New Double First-Class” Initiative for Higher Vocational Institutions* [EB/OL]. (2024-06-07).
- [2] *General Office of the CPC Central Committee and the General Office of the State Council, Opinions on Promoting High-Quality Development of Modern Vocational Education* [EB/OL]. (2021-10-12) [2021-10-12].
- [3] Peng Binbai, *Director of the Department of Vocational and Adult Education, Ministry of Education: Investigating China's Practices in the Internationalization of Vocational Education Development* [EB/OL]. (2024-07-18).
- [4] *National Development and Reform Commission, et al. Notice on the Issuance of the Implementation Plan for the Action to Empower and Enhance Industry-Education Integration in Vocational Education (2023–2025) (Development and Reform - Social* [2023] No. 699) [EB/OL]. (2023-06-08)