

High-Quality Development Path of Guangdong Vocational Undergraduate Education: A Typological Education Perspective

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Abstract: Vocational undergraduate education stands as a standalone category in the vocational education ecosystem. It functions as a key platform that strengthens the modern vocational education framework, cultivates top-tier technical talent, and advances the transformation of local industries. Guangdong's pilot rollout of vocational undergraduate programs has yielded tangible progress over recent years. However, local higher vocational undergraduate universities are trapped in two dilemmas. Schools either mimic the operational logic of conventional four-year universities or remain locked into outdated junior-college vocational cultivation. This work grounds its analysis in the core tenets of typological education theory while weaving together Guangdong's provincial education strategy and the industrial cluster programme. The analysis sets out four core evaluative dimensions covering professional alignment, robust theoretical foundation, innovative potential, and cross-stakeholder collaborative governance. The paper unpacks the challenges of Guangdong's vocational undergraduate sector and traces their main drivers. The insights of this paper deliver actionable policy and management adjustments that local vocational undergraduate universities can adopt to lift their operational quality.

Keywords: vocational undergraduate education; typological education theory; professional alignment; innovative potential

0. Introduction

With the reform of vocational education typology, vocational undergraduate education has been officially established as an independent education type differentiated from general undergraduate education and junior college vocational education^[1]. It has become a key link in opening up the vertical progression pathway of vocational education and serving the development of new, quality productive forces. As a major province of vocational education in China, Guangdong Province took the lead in launching pilot programs for vocational undergraduate education. Relying on the location advantages of the Guangdong-Hong Kong-Macao Greater Bay Area and a complete industrial system, Guangdong has steadily improved the scale and quality of vocational undergraduate education, which forms an important base for cultivating high-end technical and skilled talents.

Nevertheless, vocational undergraduate institutions across Guangdong Province face unstable operational positioning during daily practice. Many newly upgraded colleges attach excessive importance to theoretical research and ignore practical technical application. This inappropriate orientation will push these institutions toward the homogenization of general undergraduate education^[2]. Alternatively, they continue the method of junior college vocational education and limit teaching to basic skills training, with obvious junior college path dependence, which deviates from the core positioning of vocational undergraduate education^[3]. In addition, past studies mainly focus on the interpretation of macro national policy^[4], yet few of them carry out systematic research tailored to the unique industrial tier gaps and the distinct operational traits of vocational undergraduate universities in Guangdong. Such a research gap leaves the field without sufficient theoretical support to match the province's real demands for advancing vocational undergraduate education to high-quality standards.

Against this background, this paper adopts the perspective of typological education to map the status and core dilemmas within Guangdong's vocational undergraduate education. The work

further explores the mechanisms that create these challenges. It puts forward a coordinated development framework together with supporting safeguard mechanisms that fit local educational realities in Guangdong. The outputs of this research can strengthen the integration between vocational undergraduate education and regional industrial layouts. It allows vocational education to deliver effective support for the province's high-quality economic growth.

1. Literature Review

1.1 Domestic Research

China has rolled out pilot schemes for vocational undergraduate education in recent years. A large body of academic work has emerged to discuss its core definition, developmental hurdles, and institutional construction plans^[5]. The field has reached a consensus on its fundamental positioning. Vocational undergraduate education should not only act as a degree upgrade for junior vocational colleges, but also depart from the academic talent training models adopted by general undergraduate universities. This educational track aims to cultivate senior front-line engineers. Such professionals can address sophisticated technical challenges and take part in technological innovation work.

Many scholars have summed up widespread bottlenecks facing domestic vocational undergraduate institutions^[6]. Some obstacles hold back sound institutional progress. Some schools adopt identical development orientations and lose unique typological vocational traits. Many teaching teams fail to maintain balanced dual-qualified staffing structures. Few teachers possess advanced capabilities for technical research and development (R&D). Practical teaching systems lack multi-level design standards. These systems cannot satisfy the training demands of innovative undergraduates. Many evaluation mechanisms borrow standards directly from general university systems. These standards ignore the intrinsic nature of vocational education. Most existing research puts forward solution sets from macro policy angles.

Current research still bears three obvious drawbacks. Most published papers focus on macro analysis alone. They rarely launch microscopic investigations into the root drivers of institutional alienation and internal governance improvement. Existing research perspectives remain scattered without unified logical frameworks. No integrated analytical system covers talent cultivation, industry-education integration, faculty development, and practical teaching. Most research findings serve universal national contexts. The academic circle still lacks localized differentiated research matched with regional industrial characteristics and institutional operation realities.

1.2 Local Research in Guangdong

Guangdong Province stays at the forefront of vocational undergraduate practice nationwide. Local research works can be sorted into three groups. The first group targets individual characteristics of vocational undergraduate universities. Its research scope covers campus industry-education integration, teacher cultivation mechanisms, and digital campus transformation^[7]. These studies accumulate abundant practical experience within single campuses. Their research results cannot extend to all vocational undergraduate schools of varied regions and operation types within the province. The second one centers on basic statistical data compilation. Researchers analyze enrollment and employment data without a solid theoretical background from typological education. Such research cannot reveal the essential hidden troubles in school operations. The third group copies developmental models from other provinces with rigid reference logic. Few studies connect local industrial cluster layouts and coordinated growth features of the Guangdong-Hong Kong-Macao Greater Bay Area.

There are three core gaps in local research in Guangdong. First, it lacks a systematic analysis of the formation mechanism of the two core problems of general undergraduate homogenization and junior college path dependence from the perspective of typological education. Second, no

hierarchical development path has been designed based on the industrial gradient differences between different regions in Guangdong. Third, vocational undergraduate development plans rarely align with the overall provincial educational development framework. The mismatch leads to weak compatibility between research outputs, local policy documents, and institutional practical demands.

2. Situation Analysis of Vocational Undergraduate Education

2.1 Core Positioning

From the perspective of typological education, vocational undergraduate education is a characteristic education type independent of general higher education and junior college vocational education, with differentiated school-running boundaries and talent cultivation logic. Compared with general undergraduate education, it weakens basic theoretical research and academic talent cultivation. It focuses on the application of complex industrial technologies, technological improvement, and process innovation in the front line of industries, and serves the high-quality development of the real economy. In contrast to junior college vocational education, it is concentrated on high-level ability cultivation, such as complex project processing, technological R&D, and achievement transformation. It realizes the upgrading of technical talents from the operational type to the innovative and compound type.

This study draws on typological education theories and local vocational operation experience from Guangdong Province. It highlights four dimensions that drive the improvement of vocational undergraduate education. The first one is professional alignment. The major cultivation program highly depends on the labor demands of local industries. This proxy is estimated by the degree of matching between graduates' major and their position requirements. The second dimension lies in the theoretical foundation. The knowledge architecture should be customised around actual production workflows and technical practices. It is beneficial for the long-term career development of students. As for measurement, the coverage of professional and thematic courses across the entire curriculum can be examined. Next, the effect of innovative potential can be highlighted. It can be measured by the number of technology improvement projects and patent outcomes. The scenarios transform research outputs into operational solutions. It helps students keep pace with industrial technology iteration. The last dimension refers to multi-stakeholder partnerships. Long-term collaboration connects educational institutions with government agencies, industry associations and manufacturing enterprises so that traditional resource bottlenecks can be broken. It can be evaluated by the depth of industry-education integration and the scale of shared industrial and educational resources. These quantifiable indicators turn abstract high-quality development goals into operable evaluation standards.

2.2 Practical Problems

Based on the investigation of vocational undergraduate universities in Guangdong, the core dilemmas of current vocational undergraduate education in Guangdong are reflected in two aspects. On the one hand, the tendency of general undergraduate homogenization is prominent. Affected by the provincial unified university assessment system, some newly upgraded colleges blindly copy the curriculum system, teaching mode, and evaluation criteria of general undergraduate education. Academic papers are prioritized over technical practice, which deviates from the vocational attribute of vocational education and disconnects talent cultivation from the demands of high-end industrial technical posts. On the other hand, the path dependence of junior college education is obvious. Most colleges continue the school-running mode of junior college education, with insufficient hierarchical training systems, backward teacher capabilities, and homogenized curriculum content.

The regional differences in education remain prominent in Guangdong. Educational institutions located in the Pearl River Delta region can easily access abundant industrial resources, but

the integration of industry and education is still at the primary stage. Few stable channels have been established for internships or employment. In contrast, schools in the eastern, western and northern parts of Guangdong are confronted with a series of development obstacles. The educational outcomes are negatively influenced by the backward industrial base, teacher shortage and insufficient financial allocation. As Guangdong does not have a specific assessment framework for vocational undergraduate education, the boundary between general undergraduate and vocational education is ambiguous. The local reliance on the traditional patterns of vocational colleges remains high. It seriously restricts the high-quality development of vocational undergraduate education.

2.3 Cause Analysis

There is a lack of an exclusive evaluation mechanism in vocational undergraduate education. The evaluation standards are ambiguous in distinguishing between general and vocational undergraduate education^[8]. The similar perception excessively elevates the importance of academic achievements in universities. This puts vocational undergraduate universities at a disadvantage. Additionally, the public has a biased cognition of vocational undergraduate education, generally regarding it as an upgraded junior college or low-end general undergraduate education, which further exacerbates the wavering of school-running positioning. The institutional and cognitive factors jointly create a misplaced institutional orientation for vocational undergraduate universities. Colleges with vague positioning either blindly copy general undergraduate training models or simply retain junior college skill training frameworks. Neither mode can fit the unique talent cultivation logic and further restrain the overall operation quality of vocational undergraduate education.

As for teachers and resources, the current provincial identification standards for dual-qualified teachers do not differentiate between junior colleges and undergraduate levels. Many teachers are suitable for vocational instruction but undertake undergraduate teaching tasks at the meantime. The upgrade of the school has allowed them to take on multiple roles. Their abilities in scientific research and innovative teaching do not have enough time to be cultivated. As for the infrastructure, some private colleges and universities lack sufficient funds and provide the outdated equipment. It is hard to support the cultivation of undergraduate talents. Particularly, the history of most vocational undergraduate universities is relatively short in China. Their immature institutional design has not updated the traditional operation of vocational colleges^[9].

3. High-Quality Development Paths

3.1 Talent Cultivation

In response to the challenges of vocational undergraduate universities, this study developed a differentiated framework for talent cultivation. This design considers the unbalanced industrial development among different regions in Guangdong. The Pearl River Delta possesses high-value industrial clusters in manufacturing and the digital economy. It is smooth to promote industry transformation and upgrading. The courses of vocational undergraduate universities should include the content of frontier industrial technologies and commercial designs. Graduates can have expertise in technological innovation and application. With respect to the eastern, western and northern regions of Guangdong, the lower-end traditional industries account for the majority. The orientation of local vocational education focuses on practical skills. The priority is given to equipment assembly and maintenance. Graduates can fill local vacancies for operators and engineers soon. It is suggested that the teaching teams restructure the course scheme. The updated syllabus should highlight the establishment of practical skills and appropriately reduce the proportion of complex theoretical courses.

3.2 Industry-Education Integration

Based on the successful cases in Guangdong, this study extracts the key factors of industry–education integration. This study confirms the core role of vocational undergraduate universities in the formulation of industry standards, R&D, and social benefits. Authorities build a two–way support mechanism that connects schools and enterprises. Enterprise technical specialists join curriculum design and regular classroom instruction under this mechanism, and school teachers and students take part in enterprise technical upgrades and research activities. The work forms a multi–layered industry–education system that links joint talent training, shared technical research, mutual outcome access, and coordinated industrial growth. This system connects education sequences, talent supply pipelines, industrial layouts, and innovation channels in a unified whole.

3.3 Teacher Team Building

Targeting the connection fault of teacher standards between junior college and undergraduate vocational education, this paper constructs an exclusive identification, cultivation, and assessment system for dual–qualified teachers in vocational undergraduate education to realize the hierarchical and professional development of teachers. Exclusive access standards for undergraduate dual–qualified teachers, different from junior college teachers, are formulated, focusing on assessing teachers’ capabilities of high–level technological research, project tackling, and innovative teaching. A two–way college–enterprise teacher cultivation platform is built to organize teachers to participate in high–end enterprise technological projects on a regular basis, and introduce senior enterprise technicians and skill masters as part–time teachers to optimize the teacher team structure. Meanwhile, the teacher assessment mechanism is reformed by reducing the weight of academic indicators such as papers and educational background, and increasing the weight of core indicators, including technological achievement transformation, school–enterprise cooperative projects, and innovative talent cultivation, so as to build a high–level dual–qualified teacher team adapted to the educational needs of vocational undergraduate education.

3.4 Practical Teaching Framework

The study constructs a progressive practical teaching framework. The aspects of project–based training, corporate rotational internships, and research work are integrated. This framework abandons obsolete schemes that only deliver repetitive basic skill drills. Universities renovate their practical facilities into high–standard training bases aligned with the technical specifications of Guangdong’s regional industrial clusters. Such bases can meet the demands for cultivating undergraduates with independent innovation abilities. Moreover, colleges expand the scope of rotational internships. Students are encouraged to participate in real production workflows and technical renovation projects operated by partner firms. They can accumulate practical experience through these real enterprise assignments. Besides, an innovation platform can be established that unites academic resources from higher education institutions and industrial practice resources from partner corporations. The collective efforts help to develop new technologies and tackle intricate industrial challenges.

4. Long–Term Guarantee Mechanisms

4.1 Classified Evaluation System

Provincial education authorities initiate reforms of the regional education assessment system and establish categorized evaluation indicators for vocational undergraduate education. This set of indicators eliminates the homogeneous evaluation orientation. The academic evaluation indicators for general undergraduate education and basic skill evaluation indicators for junior college vocational education are eliminated. Core evaluation indicators, including technological achievement transformation, high–end skilled talent output, enterprise technical services, industry–education integration effectiveness, and innovative talent cultivation quality, are taken as the main assessment criteria. The evaluation encourages the realignment of school–running

positioning and the improvement of school-running quality. Meanwhile, differentiated assessment rules are formulated for public and private colleges based on their differences in school-running foundation and resource endowments to improve the scientificity and adaptability of the evaluation system.

4.2 Talent Growth Guarantee

Dual channels for vertical further study and horizontal employment of vocational undergraduate talents are opened to build a complete growth chain for technical and skilled talents. A direct pathway can be connected with the professional degree postgraduate cultivation system. It is established for further study of vocational undergraduate students to improve the cultivation mechanism of skilled talents. The cooperation between vocational undergraduate universities and local enterprises can be tightened so that graduates can understand the job content in advance and be smoothly competent for job positions. The employment barriers from educational background and academic degree can be eliminated by the communication and cooperation between both parties. Then, the employment data and feedback will gain public recognition of vocational undergraduate qualifications. In return, higher social acceptance will attract more students to choose vocational undergraduate education.

4.3 Policy and Resource Guarantee

Consistent with the provincial blueprint for education development, regional administrative institutions in Guangdong can issue more supportive policies for vocational undergraduate education. The scale of financial subsidies and hardware facilities should be increased. Especially, financial support is suggested to be allocated more to vocational undergraduate universities in the eastern, western, and northern parts of Guangdong than before. It helps to narrow the regional gap in educational development. The administrative department can also be the regulatory authority to guarantee and improve the utilization efficiency of corporate resources. Multiple institutions can jointly establish industry colleges and R&D centers. Under the governance of government regulatory agencies, the resources of leading enterprises and vocational undergraduate universities can be tightly integrated. This cooperation ensures the high-quality development of vocational undergraduate education. Under official endorsement, verified educational experience can be quickly disseminated.

5. Conclusion

Vocational undergraduate education plays a key role in the education system of Guangdong. It produces skilled talents and meets the needs of local industries. This study refers to typological education theory and defines its core positioning. Two dilemmas, such as education homogenization and path dependence, are highlighted. Based on the industrial spatial layout in Guangdong Province, this study summarizes four high-quality development paths and provides specific advice, including talent cultivation, industry-education integration, teacher team building, and a practical teaching framework.

This study expands the application scenarios of vocational undergraduate education. It provides a feasible solution for the construction and governance of vocational undergraduate universities in Guangdong. This research provides reference for other provinces with similar education and economic conditions. Subsequent research may collect pilot operational data from vocational undergraduate universities, then revise the development roadmap and evaluation framework.

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