

Research on the Internationalization Model of Higher Vocational Education in Guangdong, Hong Kong, and Macao, China

Chaolin Peng, Jian Peng*

School of Economics, Shenzhen Polytechnic University, Shenzhen 518055, Guangdong, China

**Author to whom correspondence should be addressed.*

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: The development of higher vocational education in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) is undergoing rapid transformation, and how to effectively promote its internationalized school-running model has become a crucial topic at present. This paper clarifies the current status and challenges of the internationalized school-running model of higher vocational education in the GBA, analyzes the successful experiences of typical international school-running models abroad, and proposes innovative designs for internationalized school-running models such as the multi-level collaborative school-running model, the cross-border integrated school-running model, and the digitally enabled school-running model, taking into account the actual situation of the GBA. These designs aim to enhance the internationalization level of higher vocational education in the GBA, contribute more high-quality talents to regional economic development and social progress, and promote economic transformation and upgrading.

Keywords: Guangdong-Hong Kong-Macao; Higher vocational education; Internationalized school-running model; Multi-level collaboration; Digitally enabled

Online publication: September 17, 2026

1. Introduction

The internationalization of education has become a significant pathway for enhancing national competitiveness and promoting regional development. As a crucial component of the higher education system, the internationalization of higher vocational education not only impacts students' personal career development but also serves as a key factor in the transformation and upgrading of regional economies and innovation-driven development. The Guangdong-Hong Kong-Macao Greater Bay Area (GBA), being at the forefront of China's reform and opening-up and a vital engine for economic development, exploring and practicing internationalized school-running models for its higher vocational education holds great significance for advancing the internationalization process of China's higher vocational education and even the entire higher education system. In recent years, the Chinese government has attached great importance to the construction

and development of the GBA, with the “Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area” explicitly stating the need to “promote cooperative development in education, support cooperative school-running among universities in Guangdong, Hong Kong, and Macao, China, and encourage joint talent cultivation”^[1]. Under this backdrop, exploring the internationalized school-running models for higher vocational education in the GBA carries important theoretical significance and practical value for fostering regional educational cooperation, enhancing the quality of talent cultivation, and serving the economic and social development of the bay area.

The internationalization of higher vocational education and educational cooperation in the GBA have been hot topics in academia in recent years. The internationalization of higher education refers to the process of integrating international, cross-cultural, or global dimensions into the purposes, functions, and delivery of higher education. Some scholars have provided localized interpretations of the connotation of the internationalization of higher vocational education, believing that it should embody the unity of professionalism, applicability, and internationalism^[2, 3]. Han Yunpeng and Ji Lanlan (2024) argue that the connotation of the internationalization of higher vocational education in the new era involves multiple dimensions, including talent cultivation goals, activity forms, and the realization of processes and outcomes^[3]. Therefore, the main pathways for the internationalization of higher vocational education include student mobility, teacher exchanges, curriculum internationalization, and cross-border education. In this regard, Pu Guangqiong (2024) suggests that the development of the internationalization of higher vocational education needs to be aligned with China’s reality, emphasizing both “bringing in” and “going out” to achieve high-quality development in the internationalization of higher vocational education^[4]. Xie Yubing and Liao Suqing (2023) took higher vocational colleges in the GBA as research objects and explored possible pathways for cultivating international talents in terms of concept establishment, curriculum construction, faculty development, and educational cooperation^[5]. However, existing research specifically targeting higher vocational education is relatively scarce, particularly in-depth explorations of specific cooperation models.

Based on this, this study delves into the internationalized school-running models for higher vocational education in the GBA, considering the actual situation of the region and the background and trends of the internationalization of higher vocational education. The aim is to provide strong theoretical support and empirical evidence for the practice of the internationalization of higher vocational education in the GBA.

2. Literature review

2.1. Research on the internationalization of higher vocational education

The internationalization of higher vocational education refers to the process in which higher vocational colleges integrate international elements into their educational philosophies, training objectives, curriculum design, and teaching methods to cultivate high-quality skilled talents with an international perspective and cross-cultural communication abilities in response to economic globalization and the demand for internationalized talents. Scholars both domestically and internationally have conducted extensive and in-depth research on the connotation, motivations, pathways, and strategies of the internationalization of higher vocational education.

In terms of connotation, the internationalization of higher vocational education signifies the alignment of higher vocational education with international standards in aspects such as educational philosophy, training objectives, curriculum design, teaching methods, faculty, and international exchanges^[2, 6]. It requires higher

vocational institutions to adopt open and inclusive educational philosophies, emphasizing the cultivation of students' international perspectives and cross-cultural communication abilities. Simultaneously, it involves strengthening ties and collaboration with the international education market, introducing high-quality educational resources and services, and enhancing educational quality and international competitiveness. In this process, higher vocational institutions need to constantly adapt to the demands and changes of the international education market, adjusting and optimizing their educational resources and configurations to achieve seamless integration with international education.

Regarding motivations, the internationalization of higher vocational education is primarily driven by economic globalization, the trend of education internationalization, regional economic and social development needs, as well as personal development needs of students^[7-9]. Economic globalization has led to an increasing demand for internationalized talents by multinational corporations and international organizations, requiring higher vocational institutions to strengthen ties and collaboration with the international education market and cultivate high-quality skilled talents with international competitiveness. Meanwhile, the trend of education internationalization also necessitates higher vocational institutions to continuously enhance their internationalization levels to adapt to the changes and demands of the global education market. Additionally, regional economic and social development needs, as well as personal development needs of students, are important motivations driving the internationalization of higher vocational education.

In terms of pathways and strategies, scholars have proposed various pathways and strategies for the internationalization of higher vocational education^[10-12]. On one hand, higher vocational institutions strengthen ties and collaboration with the international education market, introduce high-quality educational resources and services, and enhance their educational quality and international competitiveness. On the other hand, by optimizing curriculum design and teaching methods, they focus on cultivating students' international perspectives and cross-cultural communication abilities to adapt to the demands and changes of the international education market. Furthermore, they can promote the internationalization process by strengthening faculty development, initiating international exchange programs, and other means.

2.2. Research on educational cooperation in the Guangdong-Hong Kong-Macao Greater Bay Area

As one of the regions with the highest degree of openness and strongest economic vitality in China, the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) has received widespread academic attention in recent years regarding its educational cooperation. Relevant research mainly involves the following aspects:

Firstly, research on the background and significance of educational cooperation in the GBA^[13-15]. Scholars generally believe that educational cooperation in the GBA is an inevitable requirement for national strategies and regional development, and it holds significant importance for promoting regional coordinated development, enhancing educational quality, and international competitiveness. Zhang Weikun (2023) points out that educational cooperation in the GBA is a crucial support for promoting regional integration and a conscious consideration to avoid unilateralism and closed-door policies within the region^[13]. Educational cooperation in the GBA not only facilitates the integration of educational resources across the three regions but also provides a demonstration for national educational reform and innovation^[14, 15]. These studies offer important perspectives for understanding the macro background of educational cooperation in the GBA.

Secondly, research on the current status and issues of educational cooperation in the GBA^[16-18]. Higher vocational colleges in the GBA have promoted the sharing and optimization of educational resources through joint

school operations, curriculum co-construction, and teacher-student exchanges. For example, the “Guangdong-Hong Kong-Macao Greater Bay Area Vocational Education Industry-Education Alliance,” jointly established by universities in the three regions, has taken shape, driving the development and internationalization of higher vocational education within the region. However, educational cooperation in the GBA still faces numerous challenges. On the one hand, there are significant differences in the internationalization levels of higher vocational colleges within the region, with some institutions lacking awareness and capabilities in international cooperation and exchanges, which restricts the overall improvement of educational quality. On the other hand, despite the introduction of some supportive policies by the government, effective coordination and guidance are still lacking in the implementation process, resulting in the waste of educational resources. Additionally, cultural differences and variations in laws and regulations among the three regions also affect the smooth progress of educational cooperation to a certain extent.

Thirdly, research on the modes and pathways of educational cooperation in the GBA. Scholars have explored feasible modes for promoting educational cooperation in the GBA based on different theoretical perspectives. Zhan Zehui (2022) suggests adopting development modes such as the USE mode, USER mode, and USERS mode to promote the coordinated development of education between Chinese Hong Kong, Macao, and the mainland ^[19]. Dong Lingbo (2023) proposes pathways for advancing higher education cooperation in the GBA from the perspective of the rule of law, including scientific planning, improving policies and regulations, and legalizing regional cooperation ^[16]. Chen Zhiyuan (2023), based on the perspective of collaborative innovation, proposes concepts for GBA educational cooperation such as exchange student programs, collaborative class operations, mutually establishing advantageous majors, mutually establishing branch campuses, and jointly building research centers to promote resource sharing and collaborative innovation ^[17].

In summary, existing research provides an important theoretical foundation and practical reference for understanding the internationalization of higher vocational education. However, there are still several deficiencies: First, research on the internationalization of higher vocational education from a regional perspective is insufficient, particularly research targeting the specific region of the GBA. Second, research on the school-running modes of the internationalization of higher vocational education is not deep enough, lacking systematicness and specificity. Therefore, this study focuses on the school-running modes of the internationalization of higher vocational education in the GBA, aiming to address the deficiencies in existing research and provide new ideas for promoting the development of regional higher vocational education internationalization.

3. Current status and challenges of internationalized school running modes in higher vocational education in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA)

With the continuous development of the Guangdong-Hong Kong-Macao Greater Bay Area, higher vocational education in this region has explored and implemented diversified school running modes in the process of internationalization, forming a favorable situation where multiple cooperation modes coexist and mutual benefit and win-win results are achieved.

3.1. Current status of internationalized school running modes in higher vocational education in the GBA

3.1.1. Joint school running: Innovating mechanisms, deepening cooperation

Joint school running, as an important form of higher education cooperation in the GBA, focuses on integrating and sharing educational resources by jointly establishing new teaching institutions. The joint school running between Shenzhen Institute of Information Technology and Hong Kong Metropolitan University covers various aspects such as teaching, research, exchanges, training, and cooperative school running. Particularly in the aspect of joint student cultivation, students will have the opportunity to adopt a “1+1+1” or “1.5+1.5” model, alternating their studies between the two places, and upon graduation, they will be awarded two associate degree certificates from both institutions. While maintaining their own characteristics, this cooperation mode actively explores the connection with international advanced educational concepts, jointly cultivates high-quality talents who can adapt to future social needs, promotes the internationalization process of higher vocational education in the GBA, and also provides valuable experience for universities in the GBA and even nationwide.

3.1.2. Cooperative school running: Project-driven, win-win development

The cooperative school running mode pays more attention to cooperation on specific projects between universities in the two regions. By establishing joint cultivation projects, it provides students with a more diversified and internationalized learning experience. Guangdong Industry Polytechnic and the Vocational Training Council (VTC) of Hong Kong have carried out in-depth cooperation in multiple fields, including student exchanges, teacher visits, and course development. Both parties jointly explore new modes and methods of vocational education, aiming to cultivate high-quality technical and skilled talents with an international perspective and cross-cultural communication abilities. This “1+1>2” cooperation effect not only improves students’ comprehensive qualities and international perspectives but also brings opportunities for academic exchanges and teacher visits to both schools, promoting the joint improvement of education quality.

3.1.3. Joint construction of teaching platforms: Technology empowerment, resource sharing

With the rapid development of information technology, the joint construction of online and offline teaching platforms has become a new trend in higher education cooperation in the GBA. To promote resource sharing and complementary advantages among universities in the GBA, and to enhance the quality and coverage of online open courses, the Guangdong Provincial Department of Education, along with multiple universities, has established the Online Open Course Alliance for Universities in the Guangdong-Hong Kong-Macao Greater Bay Area. The content covers course resource development and sharing, credit recognition and course selection, teacher exchanges and training. Through the joint construction of teaching platforms, it promotes the sharing and application of high-quality teaching resources, facilitating the integrated development of higher education in the three regions of Guangdong, Hong Kong, and Macao, China. The teaching mode of jointly constructed teaching platforms transcends geographical boundaries, promotes the innovation of teaching methods and content, and provides students within the region with higher-quality, flexible, and diversified educational services.

3.1.4. Construction of internationalized curriculum systems: Integration and innovation, cultivating global competitiveness

The construction of internationalized curriculum systems is a mode in which universities in the two regions jointly design and construct internationalized curriculum systems, which is a key aspect of improving higher education quality. Guangdong Polytechnic of Science and Technology has signed a school-enterprise cooperation agreement with Macao Skilled Vocational Education Co., Ltd. to promote Guangdong-Macao vocational education cooperation jointly. Both parties, based in the GBA and facing the world, aim to create a benchmark and exemplary cooperation model of “institute-enterprise-school” integration for vocational education and talent cultivation. Through cooperation, both parties jointly develop professional courses and promote the cultivation of internationalized applied talents. Shunde Polytechnic and the Hong Kong Institute of Vocational Education have initiated cooperation, and the two schools will establish a normalized cooperation mechanism to promote the joint cultivation of innovative talents. In terms of specific professional course development, both parties may combine their respective professional advantages and regional industrial needs to jointly design and develop courses that meet international standards and have regional characteristics. The construction of internationalized curriculum systems facilitates the innovation of educational content, leads the transformation of educational concepts and modes, and accelerates the economic and social transformation and upgrading of the GBA.

3.2. Challenges of international education models in higher vocational education in the Guangdong-Hong Kong-Macao Greater Bay Area

The Guangdong-Hong Kong-Macao Greater Bay Area, endowed with unique geographical, industrial, and cultural advantages, offers vast opportunities and space for the international development of higher vocational education. However, compared to other regions globally, international higher vocational education in the Guangdong-Hong Kong-Macao region still faces several challenges.

3.2.1. Lack of systematic planning in international education models

As the forefront of China’s economic development, the Guangdong-Hong Kong-Macao region exhibits strong momentum in the development of international higher vocational education. Nevertheless, some vocational colleges have merely stayed at the preliminary “cooperative education” model on the path of international education, lacking sufficient exploration and integration of more profound and diversified models such as “overseas study” and “overseas education”. “Cooperative education”, as an initial form of international education, has indeed introduced high-quality foreign educational resources to a certain extent, enhancing teaching standards and international perspectives. However, it largely remains at the superficial level of course introduction and faculty exchange, lacking careful consideration for cultivating students’ international competitiveness. Comparatively, the “overseas study” and “overseas education” models, which emphasize students’ international experiences and practical ability cultivation, are crucial pathways to elevate the international level of higher vocational education. Yet, the application of these two models in the Guangdong-Hong Kong-Macao region is still inadequate, and there is a lack of effective integration mechanisms. Therefore, how to organically integrate different international education models to form a more efficient and effective international education system, and how to select and integrate them based on one’s own characteristics and needs to optimize resource allocation and maximize benefits, is a problem that requires in-depth research and exploration^[20].

3.2.2. International cooperation and exchange mechanisms need improvement

International cooperation and exchange have become significant drivers for the development of higher education. Higher vocational education in the Guangdong-Hong Kong-Macao region has made notable progress in international cooperation and exchange. However, there are still issues such as incomplete exchange mechanisms and significant lags in key aspects of international cooperation in higher vocational education ^[21]. Specifically, the lack of effective international cooperation platforms is a crucial factor constraining international cooperation and exchange in higher vocational education in the Guangdong-Hong Kong-Macao region. International cooperation platforms serve as vital bridges connecting domestic and foreign educational resources and promoting academic exchange and collaboration. Currently, however, the international cooperation platforms in the field of higher vocational education in the Guangdong-Hong Kong-Macao region are not yet perfect, lacking influential and effective exchange platforms, which hinders the effective advancement of international cooperation projects and the full sharing of international educational resources. Secondly, the inadequate international faculty exchange mechanism is also a significant constraint on international cooperation and exchange. Faculty members are the core force in education and teaching, and international faculty exchange is of great significance for improving teaching quality and broadening international perspectives. However, there are still many obstacles to international faculty exchange in vocational colleges in the Guangdong-Hong Kong-Macao region, such as obstructed communication channels and insufficient policy support, which make it difficult to effectively enhance the international level of faculty members and thoroughly implement international cooperation projects. Thirdly, the lack of an evaluation mechanism for international education achievements is also a crucial factor restricting the improvement of international cooperation and exchange mechanisms. Evaluation mechanisms are important tools for measuring the effectiveness of international education and guiding educational reforms. However, there are still gaps in the evaluation of international education achievements in vocational colleges in the Guangdong-Hong Kong-Macao region, lacking scientific and comprehensive evaluation systems and standards, which makes it impossible to accurately measure the effectiveness and deficiencies of international education and provide strong data support for educational reforms.

3.2.3. Urgent need to improve the quality of international talent cultivation

The cultivation of international talents has become an important topic in higher education. The Guangdong-Hong Kong-Macao region actively responds to international development trends and engages in the cultivation of international talents. However, in the field of higher vocational education, there is still a certain gap in the quality of talent cultivation, and a series of key issues need to be addressed ^[22-24]. Specifically, some vocational colleges have not yet formed a complete system regarding the concept of international talent cultivation. Internationalization means introducing foreign educational resources and courses, but it also involves profound changes in educational philosophy, cultivation goals, teaching methods, and other aspects. Currently, some institutions' understanding of internationalization still remains at a superficial level, lacking deep systematic thinking and planning, which makes it difficult to form a sustained and stable driving force for international talent cultivation. Secondly, teaching content and methods lack international elements. In the era of globalization, students need to possess cross-cultural communication skills, international perspectives, and global competitiveness. However, the teaching content of some vocational colleges is still too localized, lacking cutting-edge knowledge and practical skills that align with international standards. At the same time, teaching methods are also too traditional, lacking innovation and interactivity, making it difficult to stimulate

students' interest and potential. Thirdly, there is a lack of an effective evaluation system for international talent cultivation. Evaluation systems are important tools for measuring educational outcomes and guiding educational reforms. However, in terms of international talent cultivation, some vocational colleges have not yet established scientific and comprehensive evaluation systems, which makes it impossible to accurately assess students' international abilities and levels, nor provide strong data support for educational reforms.

4. Comparative study on internationalization models of higher vocational education in typical countries

4.1. The EU model

The internationalization model of higher vocational education in the EU is an integral part of its education integration strategy, aiming to enhance the international competitiveness of European higher education institutions and cultivate technical talents with an international perspective and cross-cultural communication skills through cross-border educational cooperation and exchange ^[25, 26]. This model not only promotes the sharing of educational resources and student mobility within Europe but also provides a beneficial example for the internationalization of global education.

4.1.1. Credit recognition mechanism: Facilitating student mobility and enhancing educational quality

The establishment of the European Credit Transfer and Accumulation System (ECTS) provides students with the convenience of cross-border learning, breaking down educational barriers between countries. By establishing a unified credit calculation standard, ECTS makes it easier for students to transfer their learning experiences among different countries and educational institutions. Students can engage in cross-border learning among universities in different countries according to their personal study plans, accumulate credits, and ultimately obtain a unified European higher education diploma. ECTS not only promotes student mobility but also enhances educational quality, as students need to study and communicate among universities in different countries, which requires universities to continuously improve their teaching quality and internationalization level, thereby forming a virtuous cycle.

4.1.2. Unified qualification framework: Enhancing comparability and mutual recognition of academic and vocational qualifications

The establishment of the European Qualifications Framework (EQF) provides EU member states with a unified standard and system for evaluating vocational qualifications, enabling the alignment of vocational education qualifications among different countries and improving the comparability and mutual recognition of academic and vocational qualifications. By setting eight levels of qualification standards, EQF provides a unified reference frame for vocational qualifications in different education systems. The introduction of this framework enhances the comparability and mutual recognition of academic and vocational qualifications within Europe, helps break down educational barriers between countries, and promotes the free flow of talents. The implementation of EQF is of great significance for promoting the internationalization of higher vocational education in Europe and enhancing the overall attractiveness of the European education system.

4.1.3. Multilateral cooperation projects: Promoting cooperation among institutions and talent cultivation

The Erasmus+ program is one of the largest education and training programs in the EU, aiming to promote cross-border exchanges and cooperation among students, teachers, and universities, and drive the internationalization of education. By providing financial support and policy guidance, this program encourages universities to carry out cross-border cooperation projects, such as student exchange programs, teacher exchange programs, and joint projects. These projects provide students with opportunities for cross-border learning and exchange and offer universities a platform for international cooperation, promoting cooperation among institutions and the internationalization of talent cultivation.

4.1.4. Quality assurance mechanism: Ensuring consistency in cross-border educational quality

The EU has established the European Quality Assurance Register for Higher Education (EQAR) to ensure consistency in cross-border educational quality and maintain the reputation of European higher education. By assessing and certifying universities, EQAR ensures that the teaching quality and management level of universities meet EU standards, providing confidence for students and educational institutions and laying a solid quality foundation for the internationalization of higher vocational education in the EU.

4.2. The Singapore model

As a city-state, Singapore has unique advantages and experiences in the internationalization of higher vocational education. Its model distinctly reflects the concepts of government leadership, resource introduction, bidirectional openness, and industry-education integration, and has achieved remarkable results, providing references for the internationalization of higher vocational education in other countries ^[4,11,15].

4.2.1. Government leadership: Clear strategic planning and strong support

The Singapore government has formulated detailed strategies for the internationalization of education, clarifying the goals, directions, and paths for the internationalization of higher vocational education and providing clear guidance for its development. In 1997, 2003, 2009, and 2015, the Singapore government launched four versions of the Masterplan for IT in Education, which explicitly aimed to enhance the internationalization level of Singapore's higher education and proposed specific action plans. Meanwhile, through policy and financial support, the government encourages and supports universities in carrying out international cooperation projects, including student exchange programs, teacher exchange programs, and joint projects. The government also provides financial support to universities, helping them introduce advanced educational concepts and courses and improve teaching quality.

4.2.2. Resource introduction: Integration of advanced concepts and courses

Singapore actively introduces high-quality resources from world-class institutions and multinational corporations, integrates advanced educational concepts and courses into its domestic higher vocational education system, and enhances the internationalization level of higher vocational education. This includes encouraging universities to collaborate with world-class institutions, introducing advanced educational concepts and courses, and improving the level of domestic higher vocational education. For example, Nanyang Polytechnic (NYP) in Singapore has established partnerships with vocational institutions in Germany, Japan, and other countries, carrying out student exchange programs and introducing advanced

vocational education concepts and teaching methods. At the same time, the Singapore government encourages universities to collaborate with multinational corporations, introduce advanced technologies and equipment, and cultivate internationally skilled talents. For instance, NYP has collaborated with multinational companies such as Siemens and Bosch to establish joint laboratories, providing students with an international practical environment.

4.2.3. Bidirectional internationalization: Promoting talent flow and cultural exchange

Singapore's internationalization model of higher vocational education not only attracts international students to study in Singapore but also encourages local students to go abroad for exchanges, achieving bidirectional talent flow and cultural exchange. Firstly, Singapore actively attracts international students to study in the country, enhancing the internationalization level of its higher vocational education. This includes providing preferential policies for international students, such as scholarships, accommodation, and living allowances. At the same time, the Singapore government strengthens the management and services for international students, providing them with a good learning and living environment. Secondly, the Singapore government encourages local students to go abroad for exchanges, enhancing their international perspective and cultural qualities. This includes encouraging students to participate in overseas internship programs and exchange programs, and providing financial support to help them cover the costs of overseas exchanges.

4.2.4. Deep industry-education integration: Cultivating internationally skilled talents

Singapore's internationalization model of higher vocational education emphasizes deep industry-education integration and cultivates internationally skilled talents, contributing to Singapore's economic development and social progress. The Singapore government encourages universities to collaborate with multinational corporations, establish training bases, and provide students with an international practical environment. For example, NYP has collaborated with multinational companies such as Siemens and Bosch to establish joint laboratories, providing students with an international practical environment. At the same time, it focuses on cultivating internationally skilled talents who contribute to Singapore's economic development and social progress. By collaborating with multinational corporations, it cultivates students' practical abilities and professional qualities in an international environment, providing high-quality skilled talents for enterprises.

4.3. The Australian model

The internationalization model of higher vocational education in Australia is renowned for its market orientation and flexibility. Its unique features and successful experiences provide valuable lessons for the internationalization of higher vocational education in other countries. Australia integrates market mechanisms with education quality assurance and actively expands its international education space, forming a dynamic and vibrant system for the internationalization of higher vocational education ^[27-29].

4.3.1. Market-oriented operation: Flexible response to international market demand

Australian higher vocational education institutions enjoy a high degree of autonomy, enabling them to adjust their curricula and teaching content based on market demand and independently carry out international cooperation. This autonomy and flexibility provide impetus and vitality for the internationalization of higher vocational education and enable it to better adapt to changes in the international market. Meanwhile, Australian higher vocational education institutions actively interact with the international market, pay attention

to changes in international market demand, and adjust their curricula and teaching content accordingly. For instance, Australian vocational education institutions incorporate emerging industries and technologies into their curricula based on global economic trends and collaborate with international enterprises, providing momentum and vitality for the internationalization of Australian higher vocational education and establishing a prominent position in the global higher vocational education sector.

4.3.2. Standardized curriculum system: Ensuring quality and international recognition

Australia has established a comprehensive quality assurance system for vocational education, ensuring the quality and international recognition of vocational education through the Australian Qualifications Framework (AQF) and Training Packages, thus laying a solid foundation for the internationalization of higher vocational education. The AQF provides unified standards and frameworks for vocational education and training in Australia, ensuring the quality and international recognition of vocational education. The AQF categorizes vocational education into different levels, each with corresponding learning outcomes and standards, providing important safeguards for the internationalization of Australian higher vocational education. Training Packages are a crucial component of the Australian vocational education and training system, defining skill standards and learning outcomes for each occupation and providing references for curriculum development and teaching in vocational education institutions, thus offering standardized and normalized safeguards for the internationalization of Australian higher vocational education.

4.3.3. Transnational education: Exporting educational services

Australia actively engages in overseas education, exporting its vocational education experience and resources to other countries and contributing to the internationalization of global higher vocational education. Australian vocational education institutions actively conduct overseas education, exporting their experience and resources to other countries, including establishing branches, partner institutions, and training centers overseas to provide high-quality vocational education and training services to local students.

4.3.4. International student services: Providing comprehensive support and assistance

Australia has established a comprehensive international student service system, offering language training, career guidance, cultural exchange services, and other support to international students to facilitate their learning and living in Australia. Firstly, language training services are provided to international students to overcome language barriers and help them adapt to the learning and living environment in Australia. Secondly, career guidance services are offered to help students understand the local job market, enhance their employability, and find suitable job opportunities. For example, many educational institutions in Australia have international student offices that provide comprehensive services including visa consultation, accommodation arrangements, and health insurance, ensuring support for international students' learning and living in Australia.

4.4. Lessons and inspiration

The internationalization of higher vocational education is a complex systematic project that requires the joint participation and collaboration of multiple stakeholders, including governments, institutions, and enterprises. In constructing an internationalization model for higher vocational education, it is necessary to combine government guidance with market mechanisms, establish unified standards and quality assurance systems,

adopt diversified international cooperation models, deepen industry-education integration, promote personnel mobility, and emphasize local characteristics.

4.4.1. Combining government guidance with market mechanisms

The internationalization of higher vocational education requires top-level design and policy support from the government, while also leveraging the role of the market in resource allocation to form an operational mechanism that combines government guidance with market mechanisms. Firstly, top-level design by the government is essential. The government needs to formulate clear strategies and policies for education internationalization, providing direction and support for the internationalization of higher vocational education, including formulating relevant laws and regulations, establishing mechanisms for international cooperation, and providing financial support. Secondly, market adaptability should be enhanced. Market adaptability can promote effective resource allocation and improve the efficiency and quality of education. Universities and enterprises can independently carry out international cooperation based on market demand and adjust their curricula and teaching content according to market changes.

4.4.2. Establishing unified standards and quality assurance systems

Establishing unified standards and quality assurance systems is fundamental to promoting the internationalization of higher vocational education, enhancing the international recognition of education, and providing safeguards for international cooperation. This includes formulating unified teaching standards, evaluation standards, and quality assessment systems, as well as pursuing international mutual recognition; establishing a comprehensive quality assurance system to ensure the quality and safety of education, such as establishing an evaluation and certification system for universities and assessing and supervising their international cooperation.

4.4.3. Diversified international cooperation models

The internationalization of higher vocational education requires adopting diversified international cooperation models, which involve both importing high-quality resources and exporting distinctive educational services to achieve two-way interaction and promote international development. On the one hand, cooperation with internationally renowned universities, enterprises, and institutions can be established to import high-quality educational resources, including advanced educational concepts, curricula, and technologies, thereby enhancing the level of domestic higher vocational education. On the other hand, distinctive educational services can be exported, including conducting overseas education and providing vocational training services, to expand the scope of international cooperation. Establishing overseas branches, partner institutions, and training centers to export distinctive educational services and provide high-quality vocational education and training to local students.

4.4.4. Deepening industry-education integration

Industry-education integration is an important path for the internationalization of higher vocational education. By collaborating with multinational enterprises, talents with international skills and competencies can be cultivated, promoting the internationalization of higher vocational education. Joint educational institutions can be established with multinational enterprises to cultivate talents with international skills and competencies, including setting up joint laboratories, training bases, and internship bases to provide students with an

international practical environment. Collaborating with multinational enterprises to jointly formulate talent cultivation programs, including student exchange programs, teacher exchange programs, and joint projects, can cultivate students' practical abilities and professional qualities in an international environment.

4.4.5. Emphasizing local characteristic innovation

The internationalization of higher vocational education needs to be aligned with local realities to form a distinctive internationalization model and avoid unthinkingly copying models from other countries. While drawing on international experience, it is essential to consider local realities and develop a distinctive internationalization model. For example, distinctive internationalization development strategies and policies should be formulated based on factors such as the country's economic and social development, cultural traditions, and educational resources. Innovative explorations should be conducted based on international experience to develop a distinctive internationalization model, including developing new educational models and teaching methods that leverage the country's strengths and characteristics to promote the internationalization of higher vocational education.

5. Innovative design of international education models for higher vocational education in the Guangdong-Hong Kong-Macao Region

5.1. Multi-level collaborative education model

5.1.1. Government level: Institutional coordination and policy support

As the macro-regulator of educational development, the government should play a guiding and supportive role, creating a favorable policy environment for the internationalization of higher vocational education. Firstly, establish a coordination mechanism for higher vocational education in Guangdong, Hong Kong, and Macao, China. Establish a cross-regional coordination committee for higher vocational education, comprising educational administrative departments of the three governments, relevant industry associations, experts, and scholars, responsible for overall planning and coordination of international development strategies, plans, and policies for higher vocational education in the three regions. This committee should build an efficient communication and coordination mechanism to address issues and challenges encountered in cross-border education and regularly assess the effectiveness of internationalization. Secondly, formulate an integrated policy framework. Develop unified policies and standards in areas such as credit recognition, qualification certification, and quality standards to promote interconnection and interoperability of higher vocational education in the three regions. For example, explore the establishment of a credit recognition mechanism that allows students to freely choose courses and earn credits among universities in the three regions, facilitating student mobility and academic exchanges. At the same time, actively promote the mutual recognition of vocational qualification certificates to facilitate graduate employment in the three regions. Thirdly, establish special funds. The three governments should jointly establish an international development fund to support higher vocational colleges in conducting international cooperation projects, introducing international faculty, and building international training bases, providing adequate financial support for the internationalization of higher vocational education. Fourthly, improve legal protection. Formulate laws and regulations regarding cross-border education, student mobility, teacher exchanges, etc., clarifying the rights and obligations of all parties, providing legal protection for international education, and establishing and improving dispute resolution mechanisms to safeguard the legitimate rights and interests of all parties.

5.1.2. Institution level: Cooperative education and resource sharing

As the main body of international development, higher vocational colleges should actively engage in cooperative education to achieve resource sharing and complementary advantages. Firstly, establish a Guangdong-Hong Kong-Macao Higher Vocational Education Alliance. Form an alliance to build an information-sharing platform, regularly organize academic exchange activities, carry out joint research projects, and promote deep cooperation among higher vocational colleges in the three regions. Secondly, launch joint education programs. Institutions in the three regions can collaborate to offer international majors and courses, introduce advanced foreign educational concepts and teaching methods, and optimize the allocation of educational resources. For example, jointly offer bilingual teaching courses, cross-border learning programs, and international cooperative education projects to provide students with more diversified learning options. Thirdly, jointly build international training bases. Institutions in the three regions should cooperate in building international training bases, introduce internationally advanced equipment and technology, and conduct joint training and teaching to provide students with a real international working environment. Fourthly, teacher exchanges and training. Implement a cross-regional teacher exchange program, encourage teachers to study, further their education, and conduct collaborative research at overseas universities, and regularly organize international teacher training to enhance teachers' international perspective and teaching abilities.

5.1.3. Industry level: School-enterprise collaboration and talent cultivation

Higher vocational education should be closely integrated with industry demands, actively engage in school-enterprise collaboration, and cultivate high-quality technical and skilled talents that meet the needs of international development. Firstly, build an international industry-education integration platform. Invite multinational corporations to participate in curriculum design, textbook compilation, and practical training guidance, and regularly organize students to intern and practice in enterprises, enabling them to access the latest industry technology and international working environments. Secondly, establish an international order-based cultivation mechanism. Sign talent cultivation agreements with multinational corporations, formulate talent cultivation plans based on enterprise needs, and conduct targeted cultivation to ensure precise alignment between talent cultivation and enterprise demands. Thirdly, build an international innovation and entrepreneurship platform. Leveraging the innovative resources of the Greater Bay Area, build a platform to provide students with entrepreneurship guidance, financial support, project incubation, and other services, encourage students to participate in international innovation and entrepreneurship competitions, and actively collaborate with overseas incubators and accelerators to provide students with an international entrepreneurship platform. Fourthly, jointly build overseas internship bases. Collaborate with universities and enterprises in countries along the "Belt and Road" to establish a network of overseas internship bases, providing students with overseas internship opportunities, enabling them to understand the cultural and industrial development of different countries, and enhancing their cross-cultural communication skills and international competitiveness.

5.2. Cross-border integrated education model

5.2.1. International integration of curriculum systems

The curriculum system is a core element of talent cultivation, and its international integration is key to achieving cross-border integrated education. Universities in the Greater Bay Area can proceed from the

following four aspects to promote the international integration of curriculum systems. Firstly, develop international curricula. Introduce internationally advanced curriculum systems, such as the International Baccalaureate (IB) or Advanced Placement (AP), to provide students with globally recognized educational standards. At the same time, integrate unique elements of the Greater Bay Area, such as technological innovation and cultural exchange, to help students maintain their local cultural identity and competitiveness in an international context. Secondly, implement multilingual teaching. Promote bilingual or fully English teaching to help students master the language tools for international communication, enhancing their competitiveness in the global job market and cross-cultural understanding. Thirdly, introduce international professional qualification certifications. Integrate internationally recognized professional qualification certifications into the curriculum system, such as Certified Financial Analyst (CFA) or Association of Chartered Certified Accountants (ACCA), to provide students with internationally recognized professional skills. Fourthly, establish a course inter-selection mechanism. Allow students to select courses across schools and borders, fully utilizing course resources and providing students with more diversified learning options. At the same time, establish a regional course inter-selection platform to achieve credit recognition and conversion, promoting resource sharing and academic exchanges among different educational institutions.

5.2.2. Cross-border exchange of faculty

A high-level international faculty is an important guarantee for achieving cross-border integrated education. Firstly, implement a “dual-qualified” international teacher training program. “Dual-qualified” teachers possess both solid theoretical knowledge and rich practical experience, making them ideal for vocational education and applied higher education. Universities in the Greater Bay Area should encourage teachers to obtain international professional qualifications and overseas work experience, cultivating “dual-qualified” teachers with an international perspective. For example, establish special funds to support teachers in participating in international professional qualification exams and training; establish partnerships with multinational corporations to provide teachers with overseas practical opportunities; encourage teachers to participate in international academic exchanges and collaborative research projects to expand their international perspective. Secondly, introduce international faculty. Hire foreign teachers and overseas Chinese experts to participate in teaching, providing students with diversified teaching perspectives. The introduction of international faculty can not only improve teaching quality but also promote the diversification of campus culture. Thirdly, establish a cross-border mobility mechanism for teachers. Universities in the Greater Bay Area can establish an institutional framework for cross-border teacher mobility, including formulating unified standards for teacher qualification recognition, simplifying administrative procedures for cross-border teaching, establishing incentive mechanisms for cross-border teacher mobility, incorporating cross-border teaching experiences into the teacher evaluation system, and providing necessary living support and academic support.

5.2.3. International pathways for student cultivation

Firstly, implement cross-border joint cultivation models such as “3+1” or “2+2”. Through cross-border joint cultivation models, students can complete their studies at institutions in different regions, helping them experience different educational environments and cultural backgrounds, broadening their international perspective, enhancing their ability to adapt to different cultures and environments, and enabling them to establish an international network of contacts, providing more opportunities for future career development. Secondly, carry out short-term exchange programs. Collaborate with internationally renowned institutions to

conduct short-term exchange studies for students, providing them with rich international learning opportunities and enabling them to experience different educational systems and cultures in a short period. Thirdly, establish an international internship system. Through collaboration with international enterprises and institutions, educational institutions can provide students with abundant internship resources, helping them develop their professional abilities and vocational qualities through practice, enriching their resumes, and assisting them in applying theoretical knowledge to practice. Fourthly, encourage participation in international competitions. Support students in participating in international vocational skills competitions, inspiring them to continuously challenge themselves and enhancing their international perspective and professional skills.

5.3. Digital empowerment of educational models

Digital empowerment is transforming traditional teaching models, providing new opportunities for the optimal allocation of educational resources, diversification of learning methods, and the realization of educational equity. Especially in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), the advancement of digital empowerment in educational models facilitates the integration of educational resources across the three regions, enhances overall educational quality, and cultivates innovative talents who meet the demands of the times.

5.3.1. Construction of online education platforms

Firstly, develop a cloud platform for higher vocational education in the GBA. This platform will integrate high-quality educational resources, including courses, teachers, teaching materials, and learning support services, from the Guangdong, Hong Kong, and Macao regions through advanced information technology, providing cross-border online learning services. Through the platform, students can access a wealth of educational resources anytime, anywhere, without geographical restrictions, enabling personalized learning. Secondly, introduce international MOOC courses. By introducing MOOC courses, educational institutions can expose students to the world's highest-quality educational resources, broaden their horizons, and enhance their overall quality in international competition. Additionally, MOOC courses are flexible and open, allowing adjustments according to students' needs to meet the specific demands of different learners. Thirdly, establish virtual learning communities. Create cross-border, cross-cultural online learning communities to promote communication and cooperation among students. In virtual learning communities, students can not only share learning resources and experiences but also engage in cross-cultural exchanges, enhancing their understanding and respect for different cultures. Through online discussions, sharing, and interactions, students' interest and initiative in learning are increased, while also cultivating their teamwork and communication skills. Fourthly, implement blended learning. The blended learning model combines online learning with offline practice, leveraging the strengths of both to improve teaching effectiveness. Students can conduct autonomous learning on online platforms, acquiring knowledge through watching videos and participating in online discussions. In the classroom, teachers can organize practical activities, discussions, and experiments to reinforce students' learning outcomes.

5.3.2. Development of virtual simulation training bases

Firstly, establish a cross-border virtual simulation training center. The construction of a cross-border virtual simulation training center aims to utilize VR (Virtual Reality) and AR (Augmented Reality) technologies to simulate an international work environment, allowing students to practice in a safe environment, experience

real work scenarios, and improve their practical and adaptive abilities. Secondly, develop an intelligent training system. Using artificial intelligence technology, develop an intelligent training system that formulates personalized learning plans and training programs based on students' learning progress, interests, and needs, enhancing their learning effectiveness and helping them better grasp professional skills. Thirdly, construct a digital twin training environment. By constructing a digital twin training environment, students can perform simulation operations in a virtual space, intuitively understanding the application of professional knowledge and skills, thereby stimulating their interest in learning and promoting the cultivation of their autonomous exploration and innovation abilities.

5.3.3. Sharing mechanism for international digital resources

Establishing a digital educational resource library for the GBA is a crucial foundation for integrating and sharing educational resources across the three regions. By integrating high-quality digital educational resources from the three regions and internationally, educational institutions can provide students and teachers with abundant learning materials and teaching tools. The resource library not only includes textbooks, courseware, case studies, etc., but also covers various forms of resources such as online courses, video lectures, and experimental data. Through the digital educational resource library, teachers can more easily access and use high-quality resources, enhancing teaching effectiveness, while students can satisfy different learning needs through diversified resources, promoting autonomous learning. Meanwhile, by collaborating with international publishing institutions and incorporating local characteristics, develop international digital textbooks tailored to the needs of the GBA to meet the learning demands of different students. Furthermore, build an open resource sharing platform that allows teachers and students to freely upload and share teaching resources, facilitating the dissemination and exchange of knowledge. On the sharing platform, teachers can share teaching experiences, courseware, and cases, while students can share learning insights and resources, forming a good learning atmosphere. This enhances the utilization rate of educational resources, stimulates the creativity and initiative of teachers and students, and promotes the improvement of educational quality.

5.4. Innovative paths for deeply integrating ideological and political education into Sino-foreign cooperative education models

In the innovative exploration of internationalized educational models for higher vocational education in the GBA, integrating ideological and political education into Sino-foreign cooperative education models is not only a key aspect of enhancing students' comprehensive qualities but also an important guarantee for ensuring the correct direction of internationalized education and cultivating international talents with a sense of national belonging. Therefore, we need to further deepen the integration of ideological and political education with Sino-foreign cooperative education models based on digital empowerment to promote students' comprehensive development.

5.4.1. Deep integration of ideological and political education content into international curriculum systems

In the process of internationalizing higher vocational education in the GBA, ideological and political education content should be organically integrated into international curriculum systems. By designing cross-cultural ideological and political education courses, incorporate socialist core values, excellent traditional Chinese culture, and other content to enhance students' cultural self-confidence and value identification. At the same

time, encourage foreign teachers to participate in the design of ideological and political education courses, promoting deep exchanges and integration of Chinese and Western cultures, and cultivating students' global perspective and cross-cultural communication skills.

5.4.2. Empowering ideological and political education innovation through digital means

Leverage online education platforms and utilize digital technologies such as virtual reality and big data analysis to innovate ideological and political education forms. Develop teaching resources such as micro ideological and political education courses and online interactive classrooms, breaking through time and space constraints and providing students with personalized, convenient learning experiences. Through data analysis of students' learning behaviors, achieve precise delivery of ideological and political education resources, improving the pertinence and effectiveness of teaching. Meanwhile, establish cross-border ideological and political education exchange communities to promote ideological collisions and cultural exchanges among students.

5.4.3. Strengthen the construction of ideological and political education teacher teams in Sino-foreign cooperative education

Strengthen the construction of ideological and political education teacher teams in Sino-foreign cooperative education, enhancing teachers' cross-cultural communication skills and international perspective through international training, academic exchanges, and other means. Encourage teachers to participate in international educational research projects, draw on advanced international educational concepts and methods, and innovate ideological and political education models. Establish and improve teacher incentive mechanisms, stimulate teachers' enthusiasm and creativity in participating in ideological and political education, and ensure the high-quality implementation of ideological and political education.

5.4.4. Leverage the leading role of party and league organizations in ideological and political education

In Sino-foreign cooperative education, the political core role of party and league organizations should be fully leveraged. Establish and improve party and league organization systems, strengthen the educational management of student party members and league members, and enhance students' political identity and organizational belonging through rich party and league activities. At the same time, strengthen the connections and cooperation between party and league organizations and all sectors of society, forming a strong synergy for ideological and political education, and jointly promoting students' comprehensive development.

6. Conclusion and prospects

The international educational model of Guangdong-Hong Kong-Macao international higher vocational education requires drawing on advanced international experiences while innovatively designing based on its own characteristics. Through analyzing the internationalization models of higher vocational education in typical countries and regions, it is found that successful international educational models typically possess effective policy support, flexible cooperation mechanisms, and the ability to integrate high-quality educational resources. The Guangdong-Hong Kong-Macao region should establish a multi-layered collaborative educational mechanism to promote close cooperation among governments, institutions, and industries,

forming a synergistic force to advance the development of international education. Furthermore, the design of cross-border integration and digital empowerment will provide new development impetus and platforms for Guangdong-Hong Kong-Macao international higher vocational education, helping students adapt to the globalized professional environment.

The international development of Guangdong-Hong Kong-Macao international higher vocational education faces broad prospects and challenges. To achieve high-quality educational development, the government should increase its attention and investment in the internationalization of higher vocational education, promote flexibility and adaptability in the educational system, and drive the overall enhancement of Guangdong-Hong Kong-Macao international higher vocational education, cultivating more high-quality technical and skilled talents who meet international standards for regional economic development. Higher vocational colleges need to strengthen international cooperation, draw on the successful experiences of developed countries, and innovate educational and teaching models. Additionally, with technological advancements, digital empowerment will become an important driving force for promoting educational reform. The Guangdong-Hong Kong-Macao region should actively explore paths for digital transformation, enhance the flexibility and accessibility of education, and cultivate more technical talents with an international perspective and competitiveness.

Funding

The Research on Guangdong-Hong Kong-Macao Greater Bay Area International Higher Vocational Education Demonstration Zone (Project No.: 2021GXJK124); The Research on the Innovative Pathways for Integrating Ideological and Political Education into the Sino-Foreign Cooperative Education Model in Guangdong's Higher Vocational Colleges from the Perspective of Digital Empowerment (Project No.: 2024GXJK764)

Disclosure statement

The authors declare no conflict of interest.

References

- [1] Xinhua News Agency, 2019, The Central Committee of the Communist Party of China and the State Council Issue the "Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area." Government of China, 2019.
- [2] Yu C, Wu S, 2023, Connotation, Value Adherence, and Practical Paths of International Evaluation of Higher Vocational Education in the New Era. *Modern Educational Management*, 2023(11): 98–106.
- [3] Han Y, Ji L, 2019, A Review of Research on the Internationalization of Vocational Education – Based on Statistical Analysis from the CNKI Database. *Vocational Education Forum*, 2019(11): 13–20.
- [4] Pu G, 2024, Exploration of the Path for the International Development of Higher Vocational Education under the Belt and Road Initiative. *Modern Vocational Education*, 2024(07): 21–24.
- [5] Xie Y, Liao S, 2023, Exploration of the Path for International Talent Cultivation in Higher Vocational Colleges in the Guangdong-Hong Kong-Macao Greater Bay Area under the Background of Building an International Education Demonstration Zone. *Journal of Guangdong Communication Polytechnic*, 22(3): 116–119.

- [6] Kang H, 2023, The Concept, Elements, and Current Situation of the Internationalization of Higher Vocational Education in China. *Journal of Xinjiang Vocational University*, 31(02): 5–11.
- [7] Dai Y, 2023, Practice and Strategy Research on the International Development of Higher Vocational Education in China under the “Double High” Background, thesis, Tianjin University of Technology and Education.
- [8] Du Y, 2022, Realistic Logic and Path Selection for the Internationalization of Higher Vocational Education in the New Era. *Journal of Social Science of Jiamusi University*, 40(5): 67–69, 73.
- [9] Ma J, 2021, A Review of Research on the Internationalization of Higher Vocational Education. *Journal of Guangdong Communication Polytechnic*, 20(2): 102–108.
- [10] Zhu C, Wu L, 2022, The Turn, Challenges, and Path of the International Development of Higher Vocational Education in China in the New Era. *Modern Educational Management*, 2022(03): 91–98.
- [11] Mai L, 2018, The International Development of Singapore’s Higher Vocational Education: History, Initiatives, and Characteristics. *Modern Educational Management*, 2018(10): 94–99.
- [12] Yang J, Shao J, 2018, The Path of International Development of Higher Vocational Education under the “First-Class Vocational College” Strategy. *Heilongjiang Research on Higher Education*, 2018(01): 108–111.
- [13] Zhang W, 2023, Collaborative Teacher Training in the Guangdong-Hong Kong-Macao Greater Bay Area: Logic, Obstacles, and Paths. *Higher Education Exploration*, 2023(02): 5–11.
- [14] Li J, Xie A, Fan D, 2020, Higher Education Cooperation in the Guangdong-Hong Kong-Macao Greater Bay Area from a Regional Development Perspective: Foundations, Dilemmas, and Prospects. *Fudan Education Forum*, 18(01): 84–90.
- [15] Xie A, Li J, Liu Q, 2019, Integrated Development of Higher Education in the Guangdong-Hong Kong-Macao Greater Bay Area: Background, Foundations, and Paths. *China Higher Education Research*, 2019(05): 58–63.
- [16] Dong L, 2023, Promoting Higher Education Cooperation in the Guangdong-Hong Kong-Macao Greater Bay Area through the Rule of Law: Current Situation, Deficiencies, and Implementation Paths. *Journal of Education of Renmin University of China*, 2023(06): 98–109.
- [17] Chen Z, Liu C, Chen H, 2023, Exploration of the Path for Collaborative Innovation and Development of Higher Vocational Education in the Guangdong-Hong Kong-Macao Greater Bay Area. *Higher Education Exploration*, 2023(3): 122–128.
- [18] Yu L, Chen J, 2022, Evaluation and Improvement Strategies for the Research Productivity of Higher Education Clusters in the Guangdong-Hong Kong-Macao Greater Bay Area. *Higher Education Exploration*, 2022(6): 11–19.
- [19] Zhan Z, Zhong B, Li K, et al., 2022, Collaborative Innovation and Development Model of STEAM Education in the Guangdong-Hong Kong-Macao Greater Bay Area. *Modern Distance Education Research*, 34(1): 48–55.
- [20] Yin Y, Ma Z, 2024, Reality and Reconstruction of Interface Management in Cooperative Education between Guangdong, Hong Kong, and Macao Universities – Based on the “Structure-Scenario-Element” Perspective. *Higher Education Exploration*, 2024(03): 31–38.
- [21] Lin Z, Liu J, 2018, Practice and Reflection on International Cooperation and Exchange Mechanisms of Higher Vocational Colleges under the Belt and Road Initiative. *Southern Vocational Education Journal*, 8(01): 69–73.
- [22] Yang J, 2023, Logical Thinking and Practical Approaches to the International Talent Cultivation of Vocational Education in China under the Belt and Road Initiative. *Jiangsu Higher Education*, 2023(05): 120–124.
- [23] Zheng Y, Wei J, Zhang H, et al., 2021, Problems and Paths of Cultivating Compound International Talents in Higher Vocational Colleges. *China Higher Education Research*, 2021(12): 92–96.
- [24] Chen Z, 2021, Current Situation and Reform Directions of Music Talent Cultivation Models in Universities in the

- Guangdong-Hong Kong-Macao Greater Bay Area. Higher Education Exploration, 2021(1): 44–50.
- [25] Mai L, 2015, The Internationalization of Higher Vocational Education and the Construction of First-Class Vocational Colleges. Vocational and Technical Education, 36(4): 19–23.
- [26] Zhang X, Li Z, 2012, The Internationalization of Higher Vocational Education from the Perspective of Alliances. Xuehai, 2012(06): 190–193.
- [27] Zhu X, Zhou H, 2017, Crisis and Opportunity of Higher Vocational Education in the New Wave of Social Economy. Academic Monthly, 2017(03): 74–78.
- [28] Su Z, Wang A, 2011, Exploring the International Development Strategy of Higher Vocational Colleges through Reference and Innovation. China Higher Education, 2011(05): 41–42.
- [29] Su Z, Wei H, 2010, Theoretical Framework of Evaluation Index System for the International Development of Higher Vocational Colleges. Heilongjiang Research on Higher Education, 2010(07): 84–86.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.