

# Comparative Analysis of Vocational Education Systems in China and Malaysia

Jiali Dai

Wenzhou Polytechnic, Wenzhou, Zhejiang, 325000, China

## Abstract

As countries along “the Belt and Road”, China and Malaysia have their own unique vocational and technical education highlights, but there are also challenges and limitations. In this paper, vocational education will be comparatively analyzed from the perspective of the framework, management system, level upgrading and internationalization between China and Malaysia. Innovative measures and successful experience of Malaysia have a strong practical reference significance for China to build an educational framework and improve education internationalization. Two countries both need to improve in the management system and level upgrading of vocational education.

## Keywords

Vocational Education; China; Malaysia; Education Framework.

## 1. Introduction

“Technical and Vocational Education and Training (TVET)” is the name given to vocational and technical education in Malaysia. Tracing its history, TVET in Malaysia was introduced in 1964 by the Department of Technology Management, currently known as the Department of Polytechnic Education. Malaysia has established the legitimacy of vocational education in the entire Malaysian education system through the Education Act 1996 (ACT 550) [1], and regulated the standards of vocational and technical education through three laws and regulations: the “National Skills Development Act 2006” [2], the “Malaysian Qualifications Agency Act 2007” [3] and Technologists and Technicians Act 2015 (Act 768) [4]. In 2015, the Malaysian government announced the “11th Malaysia Plan 2016-2020”, which specifies vocational education development goals, including improving labour market efficiency to accelerate economic growth, transforming TVET to meet industry needs, strengthening lifelong learning for skills enhancement, and improving the quality of education for better student outcomes and institutional excellence [5].

In China, it has been more than 100 years since Mr Huang Yanpei, the pioneer of modern vocational education thought, founded the Chinese Vocational School in 1918, marking the beginning of modern vocational education. Since the 18th Party Congress, China's vocational education has shown a good trend of great reform and development. “The 14th Five-Year Plan” has put forward the key requirements of “implementing modern vocational education quality improvement plan” and “enhancing the adaptability of vocational and technical education”. The National Vocational Education Reform Implementation Plan also explicitly proposes to “promote the high-quality development of higher vocational education”, which indicates that high-quality connotation development will become the new direction and goal for the development of vocational education in China. General Secretary Xi Jinping's important instruction on vocational education points out that “building several high-level vocational colleges and majors, promoting the integration of vocational and general education, enhancing

the adaptability of vocational education, and accelerating the construction of a modern vocational education system"[6].

As countries along “the Belt and Road”, China and Malaysia have their unique highlights in vocational and technical education, but there are also challenges and limitations. In July 2016, the Ministry of Education of China issued the education action to promote the construction of "One Belt and One Road" , which clarifies that cooperation in the field of education in countries along the route is an important part of the "One Belt and One Road". This action file proposes that China will adhere to the principles of government guidance, private subjects, open cooperation, mutual benefit and win-win situation, join hands with countries along the route to build the "One Belt and One Road" education community [7]. In this paper, the characteristics and limitations of vocational education in China and Malaysia will be compared and analyzed in order to provide some reference for vocational education in China.

## 2. Comparative Analysis of Vocational Education Framework

Vocational education system framing can be divided into two levels, the first level is the framing relationship of vocational education with other types of education in the overall education sequence, and the second level is the internal framing of the vocational education system at different levels and learning styles. In this paper, the first level of vocational education framing has been discussed.

**Table 1.** Malaysian Qualifications Framework (MQF)

MQF Level	GRADUATING CREDIT	SECTOR		LIFELONG LEARNING
		ACADEMIC	TVET*	
8	No credit rating	PhD by Research		Accreditation of Prior Experiential Learning
	80	Doctoral Degree by Coursework & Mixed Mode		
7	No credit rating	Master’s Degree by Research		
	40	Master’s Degree by Coursework & Mixed Mode		
	30	Postgraduate Diploma		
	20	Postgraduate Certificate		
6	120	Bachelor’s Degree	Bachelor’s Degree	
	64	Graduate Diploma	Graduate Diploma	
	34	Graduate Certificate	Graduate Certificate	
5	40	Advanced Diploma	Advanced Diploma	
4	90	Diploma	Diploma	
3	60	Certificate	Certificate	
2	30	Certificate	Certificate	
1	15	Certificate	Certificate	

\*Technical and Vocational Education and Training

Source: Ministry of Higher Education of Malaysia (<https://www.mqa.gov.my/pv4/mqf.cfm>)

Drawing on the UK's National Qualifications Framework, the Malaysian Qualifications Framework (MQF) was first published in 2007 and its implementation was enforced in 2011

[8], which visualize the structural relationship of vocational education in the overall education. MQF currently has eight levels, with certificates at levels 1-3, diplomas and advanced diplomas at levels 4-5, and degrees at levels 6, 7 and 8 for bachelor, master and doctoral qualifications respectively, as shown in Table 1. MQF places the certificate and qualification levels that can be obtained from academic sector and TVET sector in the same qualification framework [9], this framework provides solid support and law for the interchange of learners between the two types of education and is also realized in Malaysian education.

China has so far failed to establish a relatively sound educational framework. However, with the introduction of the National Implementation Plan for Vocational Education Reform, vocational education has changed from a "level" of education to a "type" of education, which means that the structure of the education system needs to be adjusted and optimized. Higher vocational education needs to break the hierarchical view that vocational education is specialized education. Due to the lack of a sound educational framework, there are currently difficulties in the interchange between academic and vocational education in China, and there is a lack of linkage.

China's National Vocational Education Conference proposed that the overall task of the new phase of vocational education reform is to "build a modern vocational education system that is vertically coherent and horizontally integrated", and that the construction of a modern vocational education system should actively adapt to the diversified educational needs of the people, provide more diversified learning platforms and opportunities for students, help reduce people's prejudice against vocational education, relieve educational anxiety, promote educational equity, and adapt to the employment and entrepreneurial needs of workers [10].

In this regard, China can learn from the development experience of the Malaysian Qualifications Framework (MQF) and rationalize the matching relationship between general education and vocational education in China through the construction of a qualifications framework, which is also the premise and cornerstone of building a modern vocational education system. The launch of the education qualifications framework system can improve and strengthen the organic connection and conversion between vocational education and general education in the top-level design and build up general education and vocational "overpass".

### **3. Comparative Analysis of Vocational Education Management System**

Vocational education is responsible for training highly skilled personnel, skilled workers, modern farmers and other workers, and is closely connected with enterprises and industries, so vocational education management has a "duality" character, which is more "social" than general education management and more "educational" than general public management [11]. In Malaysia, vocational and technical education programs are offered at various levels by different departments such as the Ministry of Education, Ministry of Higher Education, Ministry of Youth and Sports, and Ministry of Human Resources. Specifically, the Ministry of Education is responsible for formal TVET programs in secondary schools, as well as developing and coordinating TVET policies and curriculum. The Ministry of Higher Education oversees TVET programs in public and private universities, polytechnics, and community colleges. The Ministry of Youth and Sports offers basic, intermediate and advanced levels of industrial skills training programs in training centres and the Youth Advanced Skills Training Center. In addition to the above major departments, the National Vocational Training Council, the Council of Trust for the Indigenous People, and the Human Resources Development Council also provide vocational skills training for different industries or groups.

The involvement of multiple ministries in providing TVET programs has resulted in overlapping responsibilities and unclear division of labour. For example, because training is provided by different ministries, agencies, and organizations (both public and private) with

multiple certifications, standards, and curricula, the various systems in different sectors often lead to overlapping curricula and institutions, which create confusion for students and employers. At the same time, because vocational skills certificates can be issued by public and private institutions and departments, there is a lack of uniform standards. Certificates are difficult to be truly recognized by industries, which reduces the effectiveness of certificates and the quality standards of training.

In China, the organizational structure of vocational education management is similar. Horizontally, different levels of governments manage schools at different levels, and each government at the same level runs its vocational education, which is isolated from enterprises and training; vertically, local governments and institutions belong to different higher authorities [11]. At the same time, pre-vocational education and post-vocational training are artificially divided, resulting in the potential risk of multiple management of vocational and technical education.

In the face of this common challenge, both countries first need to optimize the organizational structure of vocational education management, which requires effective integration to achieve synergy and cooperation, rationalize the responsibilities of management bodies at various levels, and coordinate the division of labour and cooperation among various sectors. In China, for example, the government can play a macro-control function, with the education department as the lead department coordinating the planning and development of various types of vocational education. Industries and enterprises cooperate with education departments to develop talent training plans, participate in the assessment and supervision of vocational education in this industry, and promote the integration of vocational education with industry sectors in industry and education. Labour and personnel departments, in conjunction with industry departments responsible for the management of various types of vocational training, the development of industry job standards, job specifications, the organization and implementation of skills assessment, examination and certificate issuance [12].

#### **4. Comparative Analysis of Vocational Education Level Upgrading**

In Malaysia, TVET has been perceived by the general public and parents as a career option for the less academically qualified, with the impression that TVET is for school dropouts rather than as an important strategy for training higher-level skills [13], Chinese vocational education faces the same low social recognition. The main reason for the above solidified impression is that vocational and technical education has an obvious restriction of academic level, it is an education that lacks the prospect of academic advancement.

The highest level of vocational and technical education in Malaysia is currently a bachelor's degree. Malaysia Technical University Network (MTUN), which provide higher vocational and technical education, consists of four technical universities: Universiti Tun Hussein Malaysia, Universiti Malaysia Perlis, Universiti Teknikal Malaysia Melaka, and Universiti Malaysia Pahang. In addition to this, Malaysian Technical Colleges and Community Colleges can also award graduates with an Advanced Diploma of the same standard as the undergraduate level. The MTUN aims to develop highly skilled manpower through synergy and strategic linkages with industries to support the country's sustainable development and competitive advantage. In the face of the advent of Industry 4.0, the MTUN is responding to the changing skills requirements arising from the rise of digital industrial technology and is progressively implementing the Education 4.0 initiative to restructure education and introduce new teaching methods to develop new soft skills, hard skills, technical skills and digital skills for students to meet 21<sup>st</sup>-century industry needs [14]

In China, on the other hand, the country is currently in the stage of implementing vocational education at the undergraduate level. In February 2019, the State Council of China issued the

National Vocational Education Reform Implementation Plan, which explicitly proposed to "carry out pilot vocational education at the undergraduate level". As of July 2021, the Ministry of Education in China has approved 33 schools to carry out pilot vocational undergraduate education. Vocational education at the undergraduate level has become a development goal of China's vocational education, marking a new stage of high-quality development of China's vocational education to improve quality, cultivate excellence and add value to empowerment. Currently, Malaysia is relatively mature in vocational education at the undergraduate level but has not yet broken through vocational education at the postgraduate level, which is one of the main reasons for the low social recognition of vocational education in both China and Malaysia. Therefore, there is room for upward mobility in vocational education at the educational level in both countries. China's preliminary study suggests that the legal system of vocational education needs to be improved, researchers pointed out that new contents such as higher vocational education at undergraduate and graduate levels, higher vocational education degree system, and vocational undergraduate programs organized by higher vocational colleges should be added to the Vocational Education Law in China [10]. A sound legal system of vocational education is a prerequisite and guarantee for vocational education to make a breakthrough in the vertical direction. At the same time, the two countries can learn from the excellent practices of European countries regarding vocational education. For example, Switzerland has indicatively established a higher vocational education degree system with type-specific features, adopting a "dual pathway parallel" development route, awarding degrees at different levels for higher professional schools and federal examinations based on the principle of "equal level", with distinctive Swiss characteristics [15].

## 5. Comparative Analysis of Internationalization of Vocational Education

As early as 1991, the Malaysian government issued the "Malaysia Way Forward (Development Plan 2020)", put forward the ambitious goal of creating a higher education hub in Asia for the first time [16]. For more than 20 years, Malaysia has striven to promote the internationalization of higher education and foster the healthy development of the higher education ecosystem and has become one of the leaders in the internationalization of higher education in Asian countries. Malaysia has taken a unique path to internationalize its education through dual degrees, establishing overseas university branches, and supporting research universities to enhance international visibility. Malaysia is characterized as a student-based "international education hub" to enroll many international students and build a reputation for international education to attract more international students, create a low-cost destination for internationally recognized degrees, and further enhance its attractiveness and competitiveness in international education [17]. The internationalization of education in Malaysia is characterized by two main aspects: transnational cooperation of educational institutions and internationalization of qualification frameworks. Vocational education, as a part of the education system, also presents corresponding characteristics in Malaysia. Firstly, Malaysia has made efforts to attract investment from foreign higher education institutions to promote the internationalization of education in the country through the establishment of overseas branches by them independently or with local partners. As of 2020, there are 19 universities from 8 countries with overseas campuses in Malaysia [18]. Secondly, the second edition of the Malaysian Qualifications Framework (MQF), which was revised and released in December 2017, align the national qualifications framework with the international qualifications framework more actively and encourage flexible mobility of university students through mutual recognition of academic qualifications from both countries [13] [19]

In October 2021, the State Council of China issued "the Opinions on Promoting the High-Quality Development of Modern Vocational Education", which proposed to "build a brand of vocational

education with Chinese characteristics, actively build several high-level international vocational schools, and launch several professional standards, curriculum standards, and teaching resources with international influence". China is currently facing the problems of the low value of its brand of higher education, low international recognition of various qualifications, and imperfect qualification framework for vocational education, which cannot provide a strong guarantee for the interconnection of highly skilled talents with the international market. At present, economic globalization, cultural pluralism, social informatization, world multi-polarization and the impact of the COVID 19 are intensifying the change of international order and the reorganization of the political landscape [20]. How to build an international brand of vocational education with Chinese characteristics is both an opportunity and a challenge for China.

China can learn from the successful experience of Malaysia's education internationalization, the government and universities of China should further improve the policies of higher education opening to the outside world, strive to highlight the international reputation of higher education, and seek wider international recognition [21].

Firstly, to enhance the international universality of vocational education qualifications, and to introduce and go out on a dual-track. On one hand, actively participate in the development of vocational education standards in the international community, such as aligning qualification standards with the technical standard systems of enterprises in "Belt and Road" countries and regions; On the other hand, the vocational education training system, curriculum resources, and student assessment standards of developed countries can be "imported" to China, and vocational qualification certification programs with international standards can be established in China, and internationally recognized talent training standards and industry enterprise standards can be integrated into the process of cultivating talents for vocational education in China.

Secondly, China should consider the degree system of higher vocational education in the context of economic globalization and the construction of "One Belt and One Road", and develop a degree system that is in line with the characteristics of higher vocational education and the international standard based on the international essence [15], to provide international recognition for Chinese vocational and technical education types as well.

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