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An Introduction to Technical and Vocational Education in China: Implications for Comparative Research and Practice on Internships

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Abstract

Internship plays an important role in students' career preparation and college-to-workforce transition. Although there are a large body of studies on college student internships, there were relatively fewer on that of technical and vocational education and training (TVET) students. Such a critical topic worth more attention and exploration. This report focuses on TVET system in China considering that China has the largest but under-developed TVET system in the world which prioritizes economic development and social mobility as its main missions. The aim of this report is to systematically introduce the TVET and its internship policies in China. The report presents the unique structure, the history, and development of China's secondary and higher TVET. Notably, along with a downward trend of the secondary TVET since 2010, there had been an upward trend of the higher TVET since the late 1990s' in contrast. Overall, issued policies largely influence the direction of Chinese TVET development, especially in regard to regulating internship activities in aspects of internship organization, management, assessment. Implications for research and policymaking for internships in China and the U.S. were discussed. This report provides insights to international scholars who are interested in conducting comparative studies on internship in TVET systems.

Keywords: China, internship, technical and vocational education, the U.S.

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Introduction

Technical and vocational education and training (TVET) has attracted worldwide attention as a form of education that could help to alleviate poverty, promote peace, conserve the environment, improve the quality of life for all, and help achieve sustainable development (the United Nations Educational, Scientific and Cultural Organization – International Center for TVET, UNESCO-UNEVOC, 2004). Additionally, TVET is an essential component of national education systems that addresses student employability, unemployment, sluggish economic growth, poverty, inequalities and human underdevelopment (Marope, Chakroun, & Holmes, 2015). To facilitate the development of TVET around the world, UNESCO put forward a five-year strategy from 2016 to 2021 aimed to provide all youth and adults with the skills required for 'employment, decent work, entrepreneurship and lifelong learning' (UNESCO, 2016, p. 6). Clearly, TVET is an important feature of secondary and postsecondary educational systems in the early 21st century.

At the heart of many national policies governing TVET is a form of experiential education called work-based learning (WBL), where students visit workplaces and engage in authentic tasks under the supervision of an expert in the field. Various forms of WBL exist including apprenticeships, coop programs, and internships. Internships in particular are a familiar part of the educational landscape in countries such as the United States (U.S), Germany and Australia. For instance, internships are one of the most widely promoted forms of WBL in the U.S., where they are considered one of the "high-impact" practices that facilitates equal access to labor market opportunities (Becker, Lauf, & Lowrey, 1999) as well as positive career outcomes (Parker, Kilgo, Sheets, & Pascarella, 2016; Hora, Chen, Parrott, & Her, 2019).

Yet considerable differences exist in national systems of TVET, which complicates comparative analyses and the degree to which nations can learn from one another and adopt practices from one another. For instance, Germany and Switzerland have well-established vocational tracks starting in middle school, with strong coordination among government, employers and the educational community. Furthermore, in these nations, TVET programs are respected and are generally viewed as an acceptable career pathway for young people, leading many advocates of TVET in nations such as China and the U.S. to look up Germany and Switzerland as examples of educational systems to emulate. However, considerable social, cultural, political and economic differences across nations make such comparisons problematic, limiting the potential for identifying and adapting promising practices to other national contexts. Consequently, it is important to document the unique features of national TVET systems, particularly in countries where TVET programs are under-developed and a central part of strategies aimed at economic development and social mobility.

Such a situation exists in China, a nation with one of the world's fastest-growing economies and postsecondary educational systems, and where TVET is a critical yet under-developed feature of national reform initiatives. In fact, China has the largest number of vocational and technical education students in the world, with more than 23 million students and approximately 11.7 thousand vocational and technical schools and colleges in 2018 (Editorial Board of Education Annual Report, 2018). More importantly, the number of China's TVET students will likely continue to grow in the future due to a serious shortage of skillful technicians in a variety of trades and industries and across regions (i.e., the eastern vs. the western China), firms sizes (i.e., small, medium vs large) and firms with different ownership types (i.e., privately held company, state-owned enterprise, companies limited by shares, limited liability company, and foreign or Hong Kong, Macau or Taiwan investment enterprise)

(Li & Yuan, 2016; Tang & Shi, 2017). Chinese workers may also be one of the main sources for skilled labor in the entire world by 2022 (United Workers of the World, 2012), underscoring the importance of a strong and effective TVET system for China and the world.

Unfortunately, despite the attention of the Chinese government, TVET receives less attention from education researchers than the secondary and higher education systems, which has resulted in a general lack of familiarity with the structure and development of TVET in China. While the TVET systems in China is unique, just a few studies have offered descriptions of the structure of the TVET from an uncomprehensive way (e.g. Tang & Shi, 2017; Wang & Guo, 2019; Wu & Ye, 2018). The lack of knowledge about China's TVET system hinders international scholars to conduct comparative studies not only of the TVET system between China and other countries but also of different types of vocational and technical schools/college within this educational system. It also hinders the ability of practitioners, educators, and policymakers to improve academic and career development programming within this rapidly growing sector. Furthermore, acquiring an accurate and thorough understanding of this system is particularly urgent and important in the case of China, because the TVET system has been facing considerable challenges. There is a pressing need to further improve the TVET structure, the institutional system, the quality of school running and personnel training, the cooperation between schools and companies, and the internship arrangement and quality etc. (Chan, 2017; The State Council (TSC), 2019).

In this research brief we introduce the complex and unique China's TVET system from a comprehensive and historical perspective, aiming to provide researchers and educators with an in-depth and in-breadth insight into this topic. Then, we consider the implications of the structure of the China's TVET system for internship practices and policies, which is one of the primary research interests of the Center for Research on College-Workforce Transitions (CCWT) at the University of Wisconsin-Madison. In fact, one of our future research goals is a comparative analysis of internship programs in the U.S. and China, with the intent of identifying promising features of these WBL programs that can be used to improve internships in both countries. Thus, the objectives of this research brief are to (a) introduce the structure of vocational and technical education systems in China, (b) compare the number of technical and vocational education students and schools at secondary and tertiary TVET levels from 2010 to 2018, (c) review the history and policies of the secondary and higher vocational and technical education systems in China, (d) review the internship policies in the TVET system, and (e) consider the implications of these findings for internship policymaking and practice in both the U.S. and China.

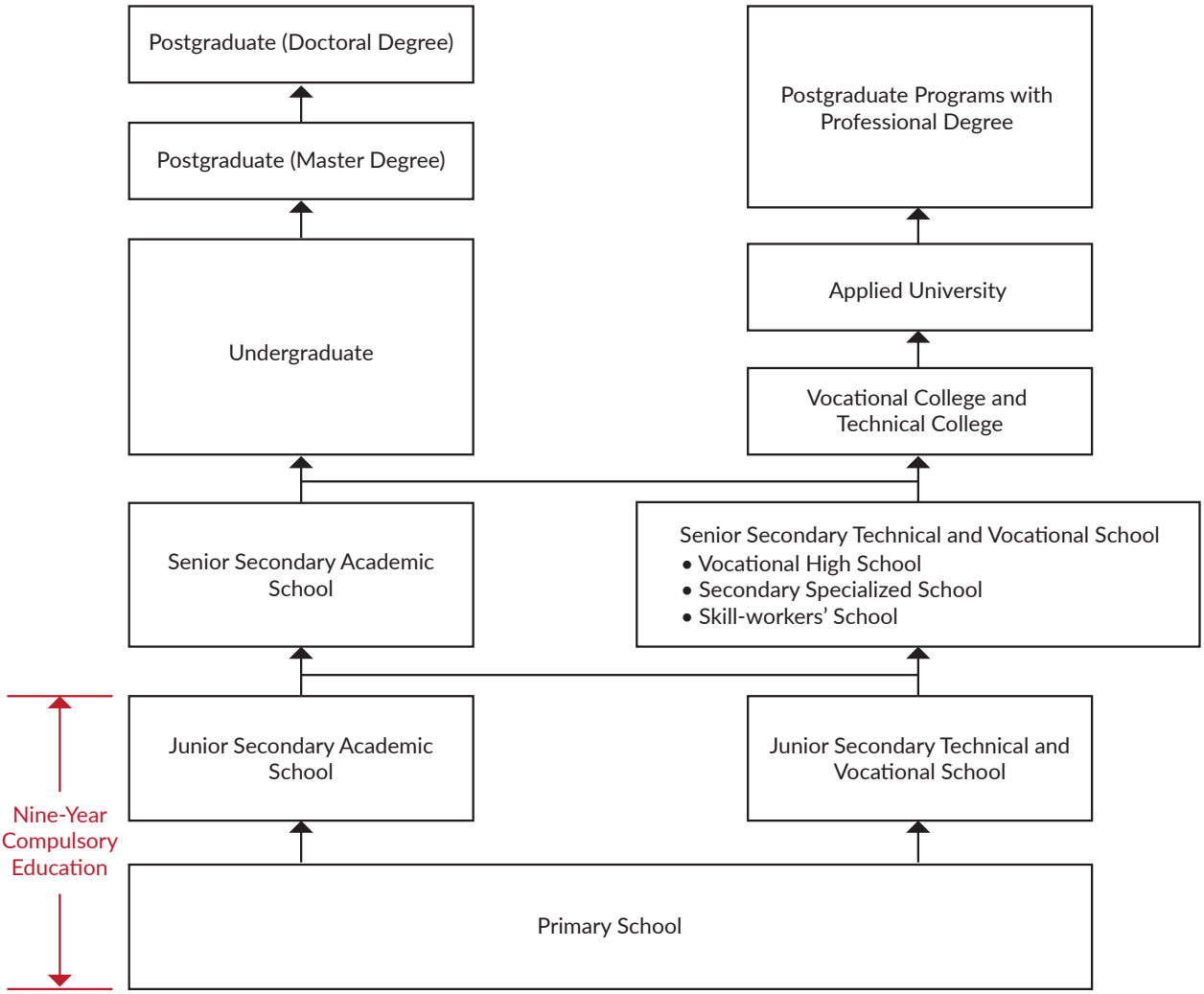
The Structure of TVET in China

When talking about vocational and technical education, there are three similar terms: vocational education, vocation and technical education, and technical and vocational education and training (TVET) (Wu & Ye, 2018). The third term is adopted by UNESCO and used in this report as it includes the most comprehensive information. As the structure of TVET in China is unique, it is necessary to introduce it briefly at the beginning of this research brief. As shown in Figure 1, there are several levels of TVET in China, including: a) junior secondary TVET (职业初中; see Appendix 1 for the Glossary of the English and Chinese version used in this Research Brief) for elementary school graduates; b) senior secondary TVET including vocational senior secondary school (also known as vocational high school, 职业高中), secondary specialized school (普通中专) and senior skill-workers' school (高级技工学校); and c) higher TVET, which includes higher vocational colleges and technical colleges (技师学院).

Notably, due to historical reasons, there are two main types of TVET in China, including *vocational education* (职业教育) and *technical education* (技工教育) which are taken charge of by either the Ministry of Education (MoE) or the Ministry of Human Resources and Social Security (MoHRSS) in China. Frist, the vocational education is overseen by the MoE. It is oriented to the enhancement of student knowledge and educational background (以知识、学历为导向) ("Strongly develop technical education", 2018, February 1). Within vocational education, there are junior secondary technical and vocational schools for elementary school graduates, which are phasing out because of the implementation of the national nine-year compulsory education. Moreover, there are vocational high schools and regular specialized secondary schools for junior secondary school graduates, and higher vocational colleges (职业技术学院) for senior secondary school graduates. All vocational education graduates are granted with diplomas (文凭). Additionally, those graduates from higher vocational colleges also receive an associate degree (大专). Some vocational schools and colleges also encourage students to pursue qualification certificates for junior and senior skilled workers or preparatory technicians based on their program types (TSC, 2019) (see Table 1). These students have access to pathways toward a higher-level program if they pass the entrance examination (see Figure 1).

The structure of TVET in China is unique, including two main types in terms of *vocational education* which is overseen by the Ministry of Education and *technical education* by Ministry of Human Resources and Social Security."

Figure 1. Progression of the Education System in China.



Note: The diagram was re-drawn with reference to Tang & Shi (2017) and Wang & Guo (2018). The two horizontal lines go both way of the educational paths.

The *technical education* in contrast, is administered by the MoHRSS. It is oriented to educate students' skill development and address employment issues (以技能、就业为导向). Within technical education, there are junior skill-worker's schools (中级技工学校) for junior secondary school graduates, and senior skill-workers' schools and technical colleges for both junior and senior secondary school graduates. In order to be granted with diplomas, students need to not only complete a learning program but also pass specific tests to be qualified for certificates at different levels basing on programs they enroll (see Table 1). Similar to vocational education, students with a junior level certificate have access to pathways to upgrade to a higher-level one under the condition of passing an entrance examination (see Figure 1).

There are three *levels* of TVET in China, including junior secondary TVET for elementary school graduates, senior secondary TVET for junior secondary school graduates, and higher TVET for senior secondary school graduates.

Table 1. Different Types of TVET schools in China

Types of schools	Administrator	Degree	Certificate
Skill-worker's schools & Technical colleges	Ministry of Human Resources and Social Security	N/A	Diploma and qualification certificate (junior, senior or preparatory technician qualification certificate)
Secondary vocational schools* & higher vocational colleges	Ministry of Education	Junior diploma/ Associate degree/ Bachelor's degree	Diploma and qualification certificate

Note. Secondary vocational schools include junior secondary technical and vocational schools, vocational high schools and regular specialized secondary schools ("Strongly develop technical education", 2018, February 1).

The History and Policies of Secondary TVET in China

Despite that China currently has the largest TVET population in the world, it only has a very short history of the modern TVET instead. In order to provide insights for international scholars who are interested in doing comparative analysis on the TVET between China and other countries and regions, this report briefly introduce the history of China's TVET along with relevant policies.

The secondary TVET have been developed since 1949, but has an abrupt end during 1966 to 1976 result from the Cultural Revolution. It has been re-launched since 1978 and have kept an upward trend from 1980 to 2010 and then slumped ever since.

When People's Republic of China was founded in 1949, the industry production was so weak that most of its goods had to be imported. Half-century later, however, "made in China" is all over the world. Behind the earthshaking change is the persistency and painstaking efforts of hundreds of millions of Chinese skilled workers. In fact, there has been a sharp increase in the number of technical and vocational schools and of the enrollment of students in China since 1949: from1,174 schools with 231.5 thousand students in 1949 to 10.2 thousand schools and colleges (including adult secondary specialized schools) with more than 15.55 million students (Chinese Education Online, 2019; "Forging great artisans", 2019).

Looking back to the 1950s, China began industrialization. In order to quickly fill the talent gap, the nation has focused on establishing secondary vocational education featured by a short training cycle and a strong practice orientation. A number of secondary vocational schools were thus established by central and local authorities in charge of industry, transportation, agriculture, forestry, finance, and commerce to cultivate administrative managers for these public sectors. In the meantime, another type of TVET school, skill-workers' school, was founded by enterprises affiliated to the Ministry of Labor (now MoHRSS) to train skilled workers for production lines. As a result, the 1950s witnessed the rise of a number of secondary vocational and skill-workers' schools specializing on geology, mining, electrical appliances, railway transportation, and other trades and industries around the country ("Forging Great Artisans", 2019). Because of these historical orientations of the vocational and technical schools, the two types of schools have gone straight forward under two different administrations afterward whereas striving for a common goal of cultivating high-quality skilled workers and technicians for the economic development of the country.

The initial development of the secondary TVET had made a remarkable achievement. By 1965, there were 7,294 secondary vocational and technical schools with 12.67 million students, accounting for 53.2% of the total number of high school students at that time ("Forging Great Artisans", 2019). In that way, more people had accessed education and learning skills, which expended the coverage of vocational and technical education.

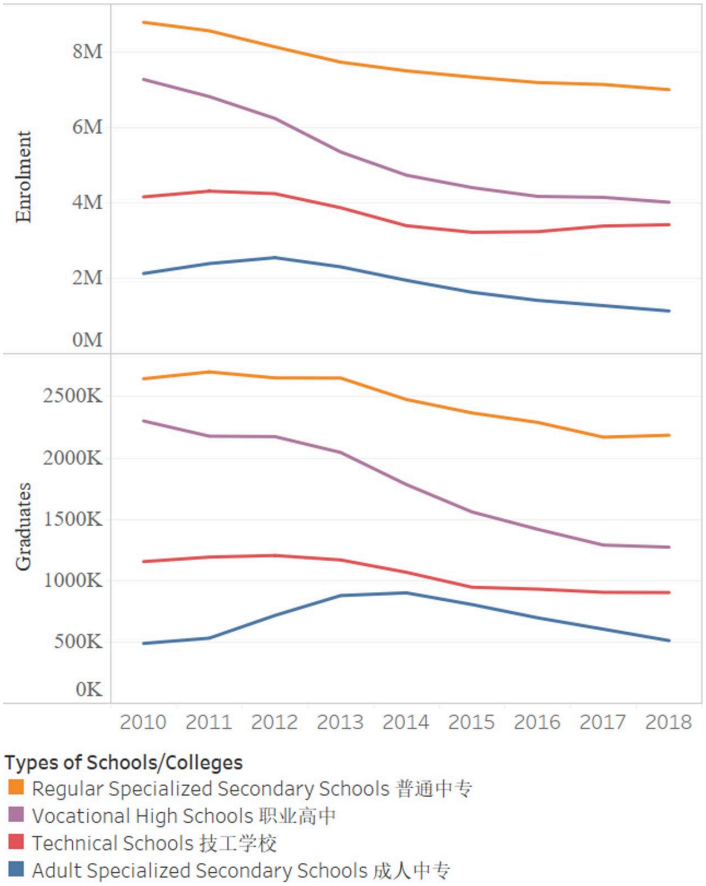
However, such an exploration of vocational and technical education came to an abrupt end in 1966 because of the Cultural Revolution taking place. Over the next one decade, a large number of schools were closed, merged or converted into regular secondary schools because vocational and technical education was suppressed during that time ("Forging Great Artisans", 2019).

By the time when President Deng, Xiaoping launched the Opening of China policy in 1978, there existed a serious imbalance in the structure of secondary education, with the secondary vocational and technical school students only occupying 7.6% of the total number of high school students, resulting in a dearth of technicians in the job market back then ("Forging Great Artisans", 2019). It was not until 1985 that the secondary TVET was resumed. A notable milestone was the Decision of the Central Committee of the Communist Party of China on the Reform of the Education System, which explicitly stated that the enrollment of secondary TVET should account for 50% of the total enrollment of the secondary education (The Central Committee of the Communist Party of China, 1985). This offered the secondary vocational education an opportunity to rapidly move forward again.

From 1980 to 1990, the main focus of the vocational education was still the secondary TVET (i.e. regular specialized secondary schools, skill-workers' schools and vocational secondary schools for junior secondary school graduates). Gradually the state started to establish vocational high schools in some provinces and cities such as Shandong Province, Beijing, and Shanghai, etc. (Chinese Education Online, 2019). The number of secondary vocational schools, including regular specialized secondary schools, skill-workers' schools, and vocational high schools rose up from 15,175 in 1985 to 23.085 in 2010, with the number of students significantly increased from 4.61 million in 1985 to 22.352 million in 2010 (Chinese Education Online, 2019; Editorial Board of Education Annual Report, 2010).

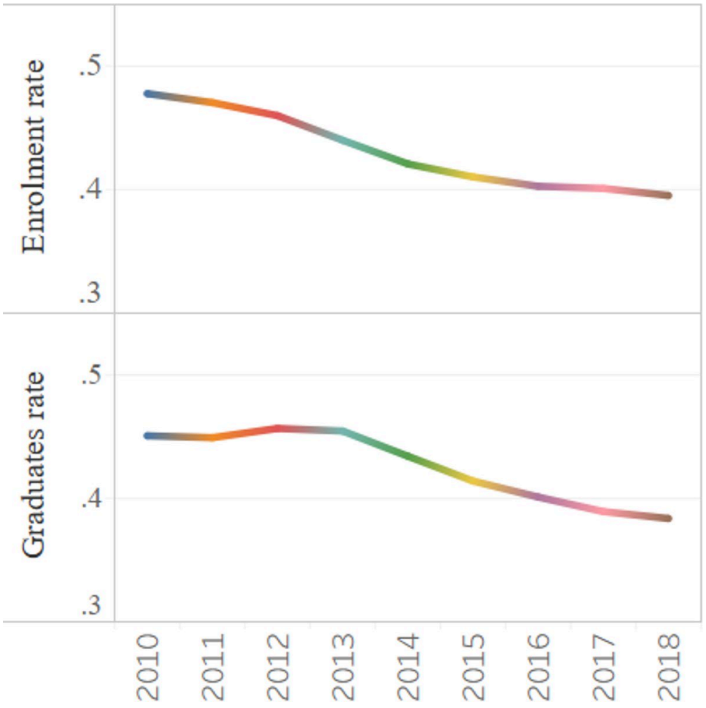
Two key points are identified from Figure 2. First, the number of students in skilled workers' schools is much smaller than that in other secondary vocational schools. Second, 2010 is a time point that the numbers of students enrolling and graduating from secondary vocational schools had started to decrease (Figure 2), even though the numbers of technical school students had remained constant. The reason of this change may partly due to the government's drawing their attention from secondary to higher vocational education since 2010 (see the next session for details). Figure 2 also shows that the number of students at skill-workers' schools and technician colleges is much fewer than those of students at regular specialized secondary schools and vocational high schools. In addition, the rates of the enrollment and graduates of the secondary TVET in the total senior secondary education had kept a downward tendency from 2010 to 2018, with arranges from 47.78% to 39.54% for graduates and 45.07% to 38. 37% for enrolments (see Figure 3).

Figure 2. The Number of Secondary Technical and Vocational School Students in China from 2010 to 2018.



Note: Data from the Editorial Board of Education Annual Report. Retrieved from http://www.MoE.gov.cn/ Data from 1980 to 2010 could be found in Wag and Guo (2018).

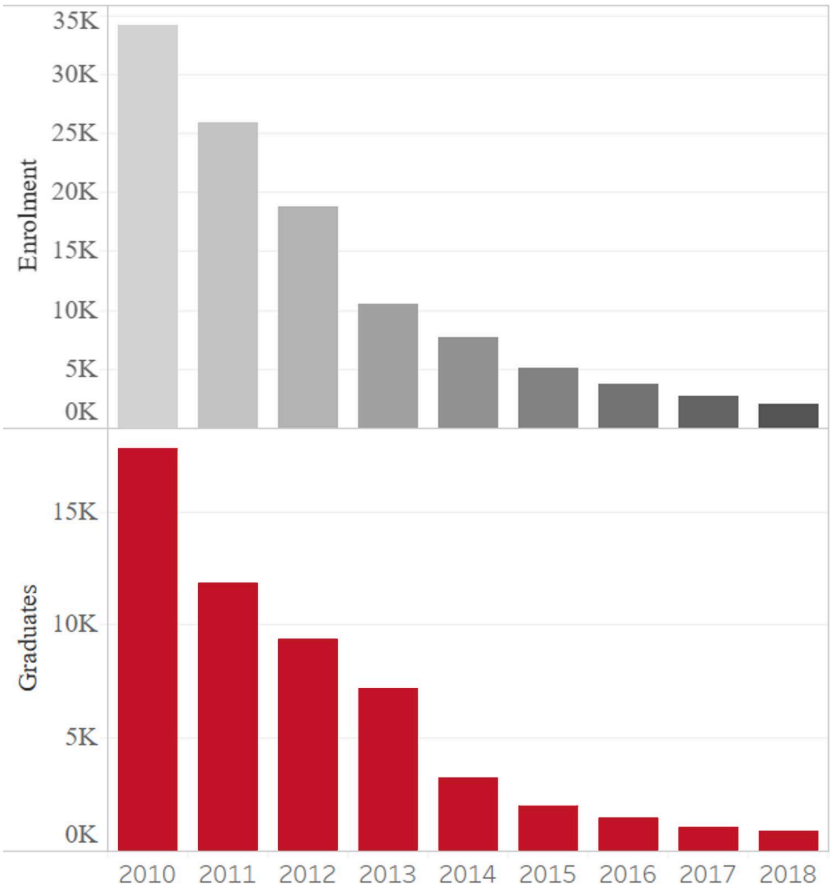
Figure 3. The Rate of Enrollment and Graduation of Vocational Secondary Schools in the Total Senior Secondary Schools from 2010 to 2018 in China.



Note Data from the Editorial Board of Education Annual Report. Retrieved from http://www.MoE.gov.cn/

Similarly, the number of junior secondary technical and vocational school students had experienced a sudden decline from 2010 to 2018, with the total number of enrollment only 2,050 in 2018 (See Figure 4). Learning from these figures and emerging trends in the past decade it can be declared that since 2000 the secondary TVET has become less attractive. In contrast, general senior secondary education has become more promising and competitive. However, the situation of the higher vocational TVET is quite the opposite, which is introduced in the following session.

Figure 4. The Number of Lower-secondary Technical and Vocational School Students in China from 2010 to 2018 (thousand)



Note: Data from the Editorial Board of Education Annual Report. Retrieved from http://www.MoE.gov.cn/ Data from 1980 to 2010 could be found in Wag and Guo (2018).

The History and Policies of Higher TVET in China

Unlike the secondary TVET which have been developed since 1949, the development of the higher TVET has only occurred much later since 1980. Despite a late start, the higher TVET has developed fast due to several significant policies that have been issued and implemented to guarantee the development of a qualified higher TVET. Here we review some of the milestones of in the timeline of higher TVET, which may provide new insights into the comparison of the higher TVET between China and other regions.

It was not until the Opening of China (1978) that the concept of higher vocational education had been clearly put forward. Two years later in 1980, the first 13 vocational colleges were founded, and Jinling Vocational College (now Jinling Institute of Technology) was the first higher vocational college in China (Chinese Education Online, 2019). Later in 1996, the development of higher vocational education was written in the Vocational Education Law of the People's Republic of China ("Forging Great Artisans", 2019). Since then, higher vocational education has developed rapidly.

It was not until the Opening of China (1978) that the concept of higher vocational education had been clearly put forward. Two years later in 1980, the first 13 vocational colleges were founded.

At the same year in 1999, the State Council issued the *Decision of Deepening the Education Reform and Comprehensively Promoting the Quality Education*, which clearly put forward, for the first time, that there was a great need of developing the higher vocational education and cultivating a large number of specialized personnel with necessary theoretical knowledge and strong practical ability ("Forging Great Artisans", 2019).

Specifically, in 2000, the MoE issued the *Setting Standards for Higher Vocational Schools (Interim)*, aiming at standardizing the basic running conditions of higher vocational colleges. Later in 2002 and 2005, for realizing the significance of the skilled technicians, and for transferring the huge population pressure into advantaged human resources, the Chinese government decided to further strive to develop the TVET (TSC, 2002; 2005). In 2005, the China's State Council issued a decision on the estimation of 100 national model higher vocational colleges (TSC, 2005). Four years later in 2010, the MoE and MoF issued another decision on the foundation of another 100 national key higher vocational colleges. In the same year, the government released the *Outline of the National Medium- and Long-Term Talent Development Plan (2010-2020)*, which offered a prospect of cultivating a large number of completely diverse, skilled personnel teams with technician, senior technician, and other highly skilled personnel. In 2011, the MoE issued a notice on supporting higher vocational schools to improve their abilities of providing professional services and promoting the industry development, which aimed to further improve the running quality of higher vocational education (MoE, 2011).

The MoE proposed a reform to transform existing universities into 'applied universities' in 2014, which is a remarkable reform for a building of a multi-level higher vocational education system.

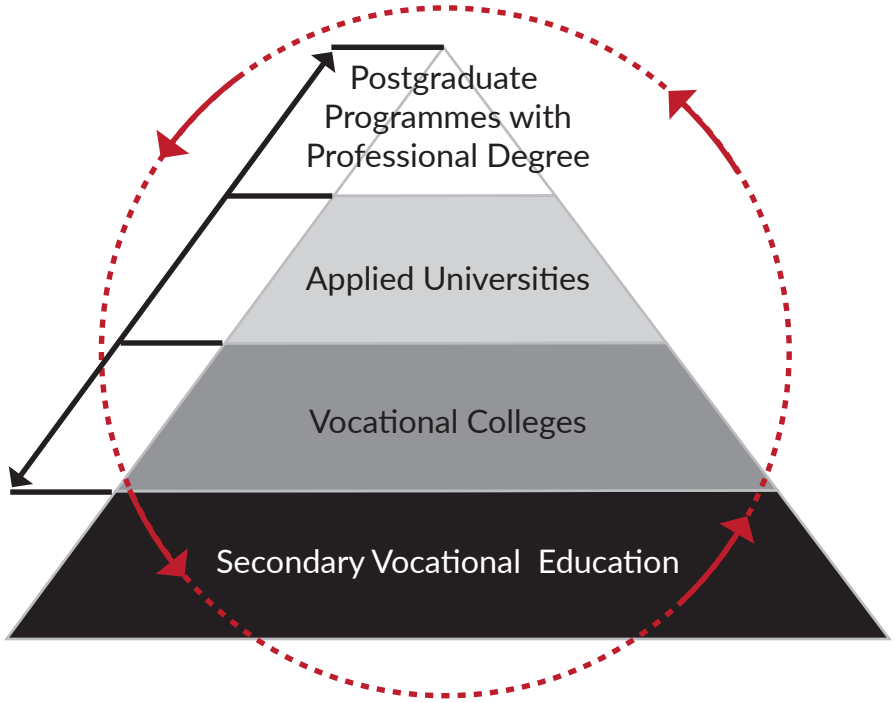
It is worthy of mentioning that in 2014 the MoE proposed a reform to transform existing universities into 'applied universities'. It is a remarkable reform indicating that students will be able to transit from

higher vocational colleges to a 4-year undergraduate or postgraduate level, a postgraduate program with a conferred degree named Professional Degree. It is the highest level of vocational education ever since (Figure 1). This reform also suggested that in the future a multi-level higher vocational education system, including vocational colleges, applied universities, and postgraduate programs of professional degree, will be established (Figure 1).

In 2015, the MoE issued the *Action Plan for Innovation and Development of Higher Vocational Education (2015-2016)*, which aimed to further improve the level of higher vocational education (MoE, 2015). In 2018, a document was released, emphasizing on deepening cooperation between schools and enterprises and developing technical education vigorously. In 2019, the State Council successively issued the *Implementation Plan of the National Vocational Education Reform* (TSC, 2019), which, for the first time, pointed out that vocational education is as important as the general education. As mentioned in this Implementation Plan, the level of the modernization of vocational education will be greatly promoted in 5 to 10 years. Specifically, by 2022, teaching conditions of vocational education will be further improved, and a large number of ordinary undergraduate colleges will transfer to application-oriented ones. Another ambition in this Implementation Plan is that 50 high-level higher vocational colleges and 150 key majors will be established (TSC, 2019).

Vocational education is stated as important as the general education for the first time in a policy document in 2019, indicating the significant status of TVET for the state.

Figure 5. Multi-level higher vocational education system (Source: Tang & Shi, 2017)



Regarding to further development of technical education, the MoHRSS proposed several suggestions for the promotion of the reform and innovation of technical colleges in 2014. Later in 2016, MoHRSS issued the *Thirteenth Five-Year Plan* for technical education. Notably, it was the first five-year plan for technical education, which provided specific guidelines for building up high-quality technical education in the coming five years (2016-2021) (MoHRSS, 2016).

Being guaranteed by the policies of higher TVET educational reform in the past two decades, the number of higher TVET students keeps increasing. At that time in 1998[1], there was only 0.73 million enrollment and 0.22 million graduates, but the number of enrollment reaches to 3.69 million in 2018, that is five times higher than that in 1998, and that of graduates was 3.66 million in 2018, which is 16.6 times higher than that in 1998 (Editorial Board of Education Annual Report).

Along with a downward trend of the secondary TVET since 2010, there has been an upward trend of the higher TVET since the late 1990s' in contrast.

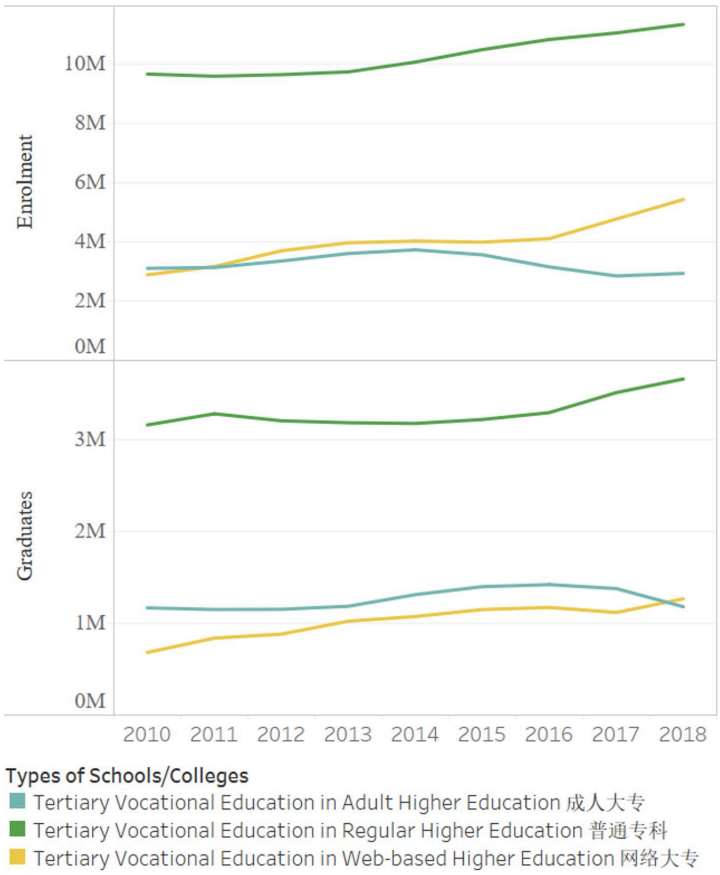
With a closer look at the trend of the number of higher TVET students it is found that the number of student entrants had a sharp increase from 1998 to 1999, as a policy of the great expansion of higher education had been issued in 1999. Specifically, the number of entrants rose dramatically from 0.29 million in 1998 to 0.40 million in 1999, which is almost 40% of an increasing.

According to Figure 5, since 2010[2] the number of students increased stably. Specifically, the number of student enrollment in regular higher education increased from 9.66 million in 2010 to 11.34 million in 2018, so as that of graduates from 3.16 to 3.66 million (Figure 5). Moreover, student enrollment at web-based colleges also had a dramatic growth from 2.89 million in 2000 to 5.43 million in 2018, so as that of graduates from 0.68 million in 2000 to 1.27 million in 2018. In contrast, the number of college students who enrolled in adult higher education had remained stable from 2000 to 2018.

[1] The year of 1998 is one of the earlies years when we could check the number of higher TVET students in the MoE website

[2] Year 2000 is the year when the MoE website provided detailed information on different types of higher TVET institutions as listed in Figure 5.

Figure 6. The Number of Students in Higher Vocational Colleges in China from 2010 to 2018 (million)



Note: Data from the Editorial Board of Education Annual Report. Retrieved from http://www.MoE.gov.cn/

Internship Practices and Policies

Workplace learning experiences are considered as an essential feature of training programs in TVET, and are also found as efficient ways that link schools and workplace (Gamboa et al., 2020). Internship, as one of the important workplace learning experiences, has been showed effective in helping vocational college students cultivate a new self-identity and seek the meaning of life (Hou et al., 2020). Although important, students, institutions and employers reported challenges and issues, which were related, but not limited to the quality of internship, student internship rights, the responsibility of the three stakeholders (i.e. students, institutions and employers), etc. (Chan, 2017; China Education Newspaper, 2016). Therefore, the Chinese government have issued several policies to ensure a high-quality management of the internship in the TVET system, and among these there are two remarkable milestones: the issue of the Guideline for the Management of the Internship of the Secondary Vocational Schools in 2007 (Department of Vocational and Adult Education (DVAE), 2007) and

an updated guideline for vocational schools and colleges one decade later (DVAE, 2016). In these 2007 and 2016 Guidelines, several important terms were highlighted, including internship that is mandated; the mandate of a special department for internship; the school's role in internship evaluation and its implication for granting a degree; and the incremental nature of the curriculum (*pre-*, *partial*, and *complete internship*), etc. (DVAE, 2007, 2016).

Specifically, in the first issue of the Guideline for the Management of the Internship of the Secondary Vocational Schools in 2007 (DVAE, 2007), it requires that: (a) internship should be a mandatory part of curriculum for senior students; (b) institutions and employers should ensure physical safety and mental health of interns; (c) positions with high exposure to occupational hazards should not be open to students; (d) schools should establish a management system for student internship with a specified internship management department; (e) schools should facilitate the development of an internship guidance teacher team; (f) employers should provide paid internships; (g) either schools or employers should provide personal accident insurance for interns, etc.

Despite that the guideline has ensured most of the rights and interests of intern students in many important aspects, new issues and challenges appeared as the economy and society developed. For example, some scholars criticized that interns were cheap labor force (Chan, 2017; China Education Newspaper, 2016). Additionally, students' professional knowledge and skills cannot meet the job needs (China Education Newspaper, 2016). Moreover, students complained that the internship positions were not closely related to their academic majors (China Education Newspaper, 2016). Other issues were relevant to insufficient internship payment, overtime, unsecured rights of interns' physical safety, etc. (China ducation Newspaper, 2016). Therefore, one decade later in 2016, another Internship Guideline for VTET students (hereinafter refers to as 2016 Internship Guideline) was issued as a replacement of the previous one, which strongly extended the contents of the 2007 Internship Guideline from 17 items (DVAE, 2007) to 39 items (DVAE, 2016a), covering internship in both secondary and higher vocational and technical schools and colleges (China Education Newspaper, 2016).

The 2016 Internship Guideline (DVAE, 2016) includes four chapters with 39 items that are more specific and operational. The four chapters refer to *Internship Organization*, *Internship Management*, *Internship Assessment* and *Safety Responsibilities*. In the first chapter, *Internship Organization*, three types of internship are defined, namely *Pre-internship*, *Partial Internship* and *Complete Internship*. Here *Pre-internship* refers to activities of visits, observations and experience organized by vocational schools and colleges that help students form a preliminary understanding of their employers and related positions. *Partial Internship* refers to activities that students partially participate in the internship under the supervision of professionals, as they are not capable to carry out tasks independently or cannot fully meet the requirements of internship positions. *Complete Internship* refers to activities that students independently perform in their corresponding internship positions. The followings are some example items in this chapter. First, institutions should establish an administrative department to take charge of student internship programs. The responsibilities of such a department should include selecting and evaluating appropriate employers, designing and implementing specific internship programs, arranging internship guidance teachers and professionals to supervise students during the internship process, etc. Second, the duration of *complete internship* should be at least six months. Additionally, the 2016 Internship Guideline clearly stipulates the employee-intern ratio of a *complete internship*. Specifically, the

number of *complete internship* students shall not exceed 10% of the total number of employees in the company, and the number of *complete internship* students in specific positions should not be higher than 20% of the total number of employees in those positions (DVAE, 2016a).

The chapter of *Internship Management* specifies details of managing student internship and of coping approaches to safety issues and emergencies during an internship (DVAE, 2016a). The followings are some example items in this chapter. First, before the internship, students, institutions and employers should sign an Internship Agreement, the contents of which are specified in the 2016 Internship Guideline in details. Second, student interns under the age of 18 should only take internships with parents' consent. Third, internship compensation should not be lower than 80% of the salary standard of the same position when it is at the probation period, and should be paid timely to interns in full amount in the form of currency in accordance with the Internship Agreement. Additionally, institutions and employers are forbidden to (a) arrange internships to students who are freshmen and/ or under 16 years old, (b) organize internships that are harmful to student physic and mental health, and (c) request students to work overtime or on night duty. There are also other specific items in the 2016 Internship Guideline (DVAE, 2016a).

The chapter of *Internship Assessment* mentioned that institutions and employers should work together on specific methods and standards to assess a *partial and complete internship*. There are four levels of the assessment results of a partial and complete internship — excellent (优秀), good (良好), pass (合格) and fail (不合格). Those who fail in an internship assessment will not be granted the degree (DVAE, 2016a).

The final chapter, the *Safety Responsibilities* stipulates the safety and health matters of student interns that need attention during an internship, such as insurance issues, and occupational accident compensation issues. The responsibilities for the student interns' safety are also specified (DVAE, 2016a).

In addition to the 2016 Internship Guideline, the MoE also issued standards of the *complete internship* in a wide range of majors, such as Urban Rail Transit, Electronic Information Engineering Technology, Application of Numerical Control Technology, and Horticultural Technology, etc. (DVAE, 2016b, 2018). To sum up, the government is working hard to provide students 'a protective umbrella' for a safe and quality internship.

Implications for Research and Policymaking for Internships in China and the U.S.

According to the 2007 and 2016 Internship Guidelines (DVAE, 2007, 2016), China's technical colleges are (or are required to be) proactive in collaborating with employers in providing standardized and batched internships. They play a key role in monitoring internship processes in terms of finding appropriate employers, designing internship programs, providing internship supervision, and evaluating outcomes (DVAE, 2016), which may be different from the role of TVET in the U.S. With the facts clarified in this document, several insights are provided as follow for international researchers who are interested in TVET and its internship in China.

First, for international comparative studies that involve China's TVET system and its internship participation, it is imperative to identify comparable institutes in different cultures. For example, before conducting research on TVET in China, it is essential to clarify specific types and levels of institutions being studied in advance, which

could help researchers better understand the background and issues within the system, and prevent an over generalization of research results when doing relevant research on internship of TVET students.

Second, it is crucial to specify the context of schools/colleges being studied. Given regional disparities of the economic growth in China (Fan, Kanbur, & Zhang, 2010), school quality may vary across regions. For example, factors such as the amount of financial support from local government, the number of employers that are capable of hosting internships, the quality of school-enterprise cooperation, and the quality and mobility of teachers who are willing to work at high-education institutions may differ across economic regions. All these factors may affect implementations and qualities of student internship programs. As such, internship programs may achieve better quality and student outcomes in eastern and southern China where the economic is more developed than those at northwestern China, especially for the fact that TVET in eastern and southern China obtain more financial support from the local government and technical support from enterprises (Chen, 2007). The issue of the regional inequality of the TVET internships should be addressed in the future, which may help better understand and promote TVET internships.

Third, although TVET student internships in China, different from the TVET in the U.S., are required programs guaranteed by the government's Internship Guideline (DVAE, 2016), internship quality may still be one of the biggest concerns (Chan, Pun, & Selden, 2015; Hou et al., 2020) because of imbalanced labor supply and demand in China's labor market. Similar research questions regarding problems with internships that have been identified in the U.S. college internship study are raised here: is there adequate quality internship supervision available at TVET in China? Is a qualified internship accessible for all students? Is the internship program related to the academic program and how does such a relatedness influence students' internship satisfaction and career outcomes? Future investigations could focus on these issues, which may provide researchers, educators and practitioners more insights into how to facilitate internship quality in China's TVET.

Appendix 1. Glossary in this Research Brief

English	Chinese
Associate degree	大专
Diplomas	文凭
Higher technical vocational education	高等职业教育
Higher vocational college	职业技术学院
Junior skill-worker's school	中级技工学校
Key higher vocational college	国家骨干高职院校
Lower-secondary technical and vocational school	职业初中
Qualification certificates for junior skilled workers	中级技工职业资格
Qualification certificates for preparatory technicians	预备技师职业资格
Qualification certificates for senior skilled workers	高级技工职业资格
Regular specialized secondary school	中等专业学校/普通中专
Senior skill-workers' school	高级技工学校
Technical college	技师学院
Technical education	技工教育
Vocational education	职业教育
Vocational high schools	职业高中
Pre-internship	认识实习
Partial Internship	跟岗实习
Complete Internship	顶岗实习

References

Becker, L. B., Lauf, E., & Lowrey, W. (1999). Differential employment rates in the journalism and mass communication labor force based on gender, race, and ethnicity: Exploring the impact of affirmative action. *Journalism and Mass Communication Quarterly, 76*(4), 631-645.

Chan, J. (2017). Intern labor in China. *Rural China: an international journal of history and social science* (中国乡村研究).

Chan, J., Pun, N., & Selden, M. (2015). Interns or workers? China's student labor regime. *Asian Studies, 1*(1), 69-98.

Chen, S. (2007). Comparative Study on the Development Level of Higher Vocational Education in Different Areas in China. *Vocational and Technical Education. 497*(28), 5-10.

China Education Newspaper (Zhongguo Jiaoyu Bao). 2016. Vocational college internship farewells to the "sheep - herding" management (职业院校实习告别"放羊式"管理). http://www.moe.gov.cn/jyb_xwfb/xw_fbh/moe_2069/xwfbh_2016n/xwfb_160427/160427_mtbd/201604/t20160428_241238.html

Chinese Education Online. (2019, October 5). Chinese vocational education has a tremendous development in the seven decades (70年，职业教育从"量的发展"到"质的飞跃). Retrived from https://news.eol.cn/uni/201910/t20191005_1685652.shtml

Department of Vocational and Adult Education (DVAE), MoE. 2007. Management method of student practice in secondary vocational schools (中等职业学校学生实习管理办法). Retrieved from http://www.moe.gov.cn/srcsite/A07/moe_950/200706/t20070628_79114.html

Department of Vocational Capacity Building (职业能力建设司) [DDVC], MoHRSS, People's Republic of China. (2018, March). The Work Focuses of the Department of Development Vocational Capacity, 2018. Retrieved from http://www.mohrss.gov.cn/zynljss/ZYNLJSSgongzuodongtai/201803/t20180320_290073.html

DVAE, MoE. 2016a. Management method of student practice in vocational schools (职业学校学生实习管理办法). Retrieved from http://www.moe.gov.cn/srcsite/A07/moe_950/201604/t20160426_240252.html

DVAE. 2016b.A notice from General office, Ministry of Education on the publication of the first batch of the internship standards of majors (categories) at vocational schools (教育部办公厅关于公布首批《职业学校专业（类）顶岗实习标准》目录的通知). Retrieved from http://www.moe.gov.cn/srcsite/A07/moe_953/201607/t20160726_272978.html

DVAE. 2018.A notice from General office, Ministry of Education on the publication of the second batch of the internship standards of majors (categories) at vocational schools (教育部办公厅关于公布第二批《职业学校专业（类）顶岗实习标准》目录的通知). Retrieved from http://www.moe.gov.cn/srcsite/A07/moe_953/201802/t20180201_326302.html

Editorial Board of Education Annual Report. Retrieved from http://www.MoE.gov.cn

Fan, S., Kanbur, R., & Zhang, X. (2011). China's regional disparities: Experience and policy. *Review of Development Finance, 1*(1), 47-56.

Forging great artisans, foundationing 'made in China': 70 years of reform and development of vocational education in New China (锻造大国工匠 奠基中国制造 ——新中国70年职业教育改革发展历程) (2019, Sep. 27). *China Education Daily*. Retrieved from http://www.MoE.gov.cn/jyb_xwfb/s5147/201909/t20190927_401296.html

Gamboa, V., Paixão, M. P., Da Silva, J. T., & Taveira, M. D. C. (2020). Career Goals and Internship Quality Among VET Students. *Journal of Career Development*, 0894845320902269.

Hora, M. T., Chen, Z., Parrott, E., & Her, P. (2019). *Problematizing college internships: Exploring issues with access, program design, and developmental outcomes in three U.S. colleges. (WCER Working Paper No. 2019-1).* Retrieved from University of Wisconsin–Madison, Wisconsin Center for Education Research website: http://www.wcer.wisc.edu/publications/working-papers

Hou, L., Wang, C., Bai, X., & Tang, X. (2020). "Life is like this, not as good as poetry": The lived experience of a Chinese rural vocational school student in a mandatory quasi-employment internship. *Children and Youth Services Review, 109*, 104678. https://doi.org/10.1016/j.childyouth.2019.104678

Li, Q., & Yuan, Z. (2016). *New skills at work: Skills shortages in the Chinese labor market*. New York, NY: JP Morgan. Retrieved from https://www.jpmorganchase.com/corporate/Corporate-Responsibility/document/skillsgap-in-chineselabor-market-exec-summary.pdf

Marope, P.T.M., Chakroun, B., & Holmes, K.P. (2015). *Unleashing the Potential - Transforming Technical and Vocational Education and Training*. Paris, France: United Nations Educational, Scientific and Cultural Organization

Ministry of Education (MoE) and Ministry of Finance (MoF) 2010. Notice on Further Promoting the Implementation of the "National Model Higher Vocational College Construction Plan" 2010 (《关于进一步推进"国家示范性高等职业院校建设计划"实施工作的通知》. Retrieved from http://old.MoE.gov.cn/publicfiles/business/htmlfiles/MoE/s3876/201008/93891.html

Ministry of Human Resources and Social Security [MoHRSS], People's Republic of China. (2016). Ministry of Human Resources and Social Security issued the "thirteenth five-year plan" for technical education (《人力资源和社会保障部技工教育"十三五"规划》). Chinese Labour and Social Security Press. Beijing, China. Retrieved from http://www.chinajob.gov.cn/TrainingSkillAccrenitaTion/content/2017-01/25/content_1276825.htm

Ministry of Human Resources and Social Security [MoHRSS], People's Republic of China. (2014). Ministry of Human Resources and Social Security proposed several suggestions for the promotion of the reform and innovation of technical colleges (人力资源社会保障部关于推进技工院校改革创新的若干意见). Retrieved from http://www.mohrss.gov.cn/gkml/xxgk/201412/t20141226_147252.htm

MoE. 2011. Notice on supporting higher vocational schools to improve the ability of providing professional service and promoting the industry development (教育部发布《关于支持高等职业学校提升专业服务产业发展能力的通知》). Retrieved from http://www.MoE.gov.cn/srcsite/A07/s7055/201109/t20110930_171562.html

MoE. 2015 Action Plan for Innovation and Development of Higher Vocational Education (2015-2016) (教育部发布《创新发展行动计划(2015-2016)》). Retrieved from http://www.MoE.gov.cn/s78/A07/A07_gggs/A07_sjhj/201704/t20170424_303162.html

Outline of the National Medium- and Long-Term Talent Development Plan (2010-2020) (国家中长期人才发展规划纲要(2010－2020年)). (2010, June 6). Xinhua News Agency. Retrieved from http://www.gov.cn/jrzg/2010-06/06/content_1621777.htm

Parker III, E. T., Kilgo, C. A., Sheets, J. K. E., & Pascarella, E. T. (2016). The differential effects of internship participation on end-of-fourth-year GPA by demographic and institutional characteristics. *Journal of College Student Development*, *57*(1), 104-109

Strongly develop technical education in the new era with Chinese characteristics (突出中国特色大力发展新时代技工教育). (2018, February 1). Chinese Labour and Social Security News. Retrieved from http://www.mohrss.gov.cn/zynljss/gzjl/201802/t20180201_287813.html

Tang, N., & Shi, W. (2017). Youth Employment and Technical and Vocational Education and Training (TVET) in China. In *Vocational Education and Training in Times of Economic Crisis* (pp. 269-283). Springer, Cham.

The Central Committee of the Communist Party of China. 1985. 中共中央关于教育体制改革的决定. Retrieve from http://old.MoE.gov.cn/publicfiles/business/htmlfiles/MoE/MoE_177/200407/2482.html

The State Council (TSC),People's Republic of China. 2002. Decision of the State Council on Vigorously Enhance the Reform and Development of the Vocational Education (国务院关于大力推进职业教育改革与发展的决定). Retrieved from http://www.gov.cn/gongbao/content/2002/content_61755.htm

TSC, People's Republic of China. 2005. Decision of the State Council on Vigorously Developing Vocational Education (《国务院关于大力发展职业教育的决定》). Retrieved from http://www.gov.cn/zwgk/2005-11/09/content_94296.htm

TSC, People's Republic of China. 2019. Notice of the State Council on Printing and Distributing the Implementation Plan of the National Vocational Education Reform (国务院关于印发国家职业教育改革实施方案的通知). Retrieved from http://www.gov.cn/zhengce/content/2019-02/13/content_5365341.htm

UNESCO. (2016). UNESCO Strategy for Technical and Vocational Education and Training (TVET) 2016-2021. Paris, France: United Nations Educational, Scientific and Cultural Organization

UNESCO-UNEVOC. (2004, October 25-28). Bonn Declaration on Learning for Work, Citizenship and Sustainability. Conference proceedings of UNESCO International Meeting of Technical and Vocational Education and Training Experts. Bonn, Germany. Retrieved from http://www.unevoc.unesco.org/fileadmin/user_upload/pubs/SD_BonnDeclaration_e.pdf

United workers of the world. (2012, June 16). *The Economist*, *403*, 83. Retrieved from http://www.economist.com/node/21556974

Wang, A. & Guo, D. (2019) Technical and vocational education in China: enrollment and socioeconomic status, *Journal of Vocational Education & Training*, *71*(4), 538-555. DOI: 10.1080/13636820.2018.1535519

Wu, X., & Ye, Y. (2018). *Technical and vocational education in China.* Springer Singapore.

Yin, W. (2016). The talk of Mr. Yin, Weimin, the minister of the Ministry of Human Resources and Social Security at the 13th commendation Conference of high-skilled talents (尹蔚民部长在第十三届高技能人才表彰大会上的讲话). Retrieved from http://www.mohrss.gov.cn/SYrlzyhshbzb/zwgk/bld/ywm/ldjh/201612/t20161214_261980.html

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