School-enterprise Cooperation in China’s Vocational Education and Training

Zhiqun Zhao
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1. Introduction to school-enterprise cooperation in VET

To explore training models based on school-enterprise cooperation has now become an important issue of the vocational education and training (VET) reform that aims at improving the quality of education.
In China, such terms are interrelated:

- “school-enterprise cooperation”
- “combination of industry and education”
- “integrating working and learning”
- “combination of production, learning and research”

They mean that by making use of varied education resources and business contexts of schools and enterprises, vocational schools and industry cooperate in terms of teaching, technology development and transfer, on the job training, teacher training, employment and the like for a win-win training model between schools and enterprises.
To make it simple, this paper will use “school-enterprise cooperation”, which refers to the cooperation between vocational schools and enterprises in its narrow sense and joint efforts made by educational institutions and the industry in training, technology development and service.
The development of “school-enterprise cooperation” in China has gone through three major stages:

- The industrialization in the 19th century speeds up the development of vocational schools in China and witnesses the birth of the earliest school-enterprise cooperation mechanism.
- The establishment of the China Vocational Education Association advocated and promoted the idea of “Part work, Part Study”, e.g. integrating education and production.
- This was primarily aimed for the purpose of enlightenment and promotion of literacy, focusing on work but also including study (Di, 2007)
The development of “school-enterprise cooperation” in China has gone through three major stages:

- In the 1950s when the PR. China was just founded, the education system couldn’t meet the need of the economical and social development: graduates from schools lacked practical skills and thus couldn’t obtain what they wanted, work- and life-wise; children from poor families could hardly afford school education.

- In this context, the then President LIU Shaoqi started advocating and implementing “the Part-Work-Part-Study education alongside with the full-time in-school education” (Chen, 2004).
The development of “school-enterprise cooperation” in China has gone through three major stages:

- Following the introduction of “Open and Reform” policy in 1980s, the “school-enterprise cooperation” idea received more and more attention.
- In 2005, the State Council states clearly in Decision on Vigorously Developing the VET that “the model of integrating working and learning.
- So far, “integrating working and learning” and “integrating schools and enterprises” have become the two of the top terms in the discussion of vocational education.
The development of “school-enterprise cooperation” in China has gone through three major stages:

- In 2006, the MoE published a paper entitled *Views on Improving the Education and Teaching Quality of Higher Vocational Education*. It argues that work-integrated learning should be regarded as an entry point of the reform in the higher vocational education.
- This triggered a nation-wide interest in exploring how to train personnel through cooperation and work-integrated learning.
In 2010, the Chinese government issued The National Guideline for Mid- and Long-term Education Reform and Development, which signals the kick-off of the all-round education reform and sets tones for the education development in the next ten years. It is determined to include “integrating working and learning” and “school-enterprise cooperation” in the list of the main reform trials within the national VET system.
2. School-enterprise cooperation - content and means

In China’s current VET system, school-enterprise cooperation can be summarized from three aspects:

- Administrative measures implemented by governments or sector organizations at all levels
- Cooperation between vocational schools and enterprises
- “Vocational education group”
Administrative measures implemented by governments/sector organizations

- Although the government has adopted many policies to support school-enterprise cooperation, these **policies are still relatively vague in general.** For example, some provisions prescribe the enterprises’ obligation in VET, but do not state the legal consequences of violation.
- **Public policies have not provided sufficient protection to school-enterprise cooperation.**
- So far, **no school-enterprise cooperation mechanism has been established at national level.** Governments and sector organizations use administrative measures or establish projects to create a necessary external environment for school-enterprise cooperation.
Administrative measures implemented by governments/sector organizations

For example, the city of Changzhou issued in 2007 Guidelines on Strengthening School-enterprise Cooperation in VET which specified a number of related policies such as:

1) to establish Guidance Committee for School-enterprise Cooperation in VET by the Bureau of Education, Labour, Finance and other administrative offices to make plans and policies regarding the development of school-enterprise cooperation, and solve the problems that come up in the practice;

2) to support school-enterprise cooperation in terms of funding and tax incentives, e.g. set up fund for VET development, cut tax for enterprises which support VET, pay students for their internship etc.
Administrative measures implemented by governments/sector organizations

In 2008, the city of Ningbo issued Regulations for Promoting School-enterprise Cooperation in Ningbo’s VET, the first regional law to promote school-enterprise cooperation in China.
Administrative measures implemented by governments/sector organizations

Most of China's sector organizations were set up at the end of last century during the transformation from a planned to market economy by relevant line ministries through institutional reconstruction. They have played an important though limited part in VET because of a lack of legal function and role.
### Administrative measures implemented by governments/sector organizations

#### Table: Sector Organizations and Their Roles in VET

<table>
<thead>
<tr>
<th>China Institute of Communication</th>
<th>China Association of Hydraulic Engineering</th>
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<tbody>
<tr>
<td>• to make plans for the VET development in communication sector;</td>
<td>• for participating in formulating views regarding VET development in the sector</td>
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<tr>
<td>• to organize training for VET teachers and administrative staff;</td>
<td>• promoting development of demonstration schools, and organizing skills and competitions.</td>
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<tr>
<td>• to develop textbooks, to formulate qualification standards, etc.</td>
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<tr>
<td>• to organize automobile maintenance skills contest for students and teachers;</td>
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<tr>
<td>• to formed an employment coordination group for vocational school graduates.</td>
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Cooperation between vocational schools and enterprises

School-enterprise cooperation mainly involves specific vocational schools and enterprises. Its current patterns can be summarized as the following according to varied combination of time, space and organizational factors:

1. Dividing school years (xue nian fen duan)
2. Half-work-half-study / work-study rotation (gong xue jiao ti)
3. Flexible arrangement (tan xing an pai)
4. “Training orders” (ding dan pei yang)
5. Work-study bases within the enterprises
6. Sector-led (hang ye zhu dao)
7. Teaching factories (jiao xue gong chang)
8. Enterprises’ program replacement (ke cheng zhi huan)
Cooperation between vocational schools and enterprises

1. Dividing school years (xue nian fen duan)

   There are two patterns: “2 +1” model and the "remote places" (yi di fen duan) model.

   The “2 +1” model means that for a three-year vocational training programme, student spends the first two years in school and the third year in enterprise for internship (which is normally employment-related). This is the most common way of cooperation in China.

   The “remote places” model is meant for instance, students may spend their first studying at a school in the rural regions, second year in a school in the city, and the third year for internship in an enterprise.
Cooperation between vocational schools and enterprises

2. Half-work-half-study / work-study rotation (gong xue jiao ti)

   Schools and companies jointly develop training programs under which the students rotate work in businesses and study in schools (for a certain period of time or in each semester).

   This model is helpful to facilitate combination between theoretic study and practice. It also helps students from poor family to complete their study successfully.

3. Flexible arrangement (tan xing an pai)

   It means to flexibly arrange learning process according to the seasonal and periodical features (e.g. tourist season, exhibition period, and construction project) of the cooperative enterprises.

   This model is very helpful to the related businesses and is welcome.
Cooperation between vocational schools and enterprises

4. “Training orders” (ding dan pei yang)
   According to their own needs, enterprises may book in advance a certain number of graduates, which is often accompanied by joint curriculum development, teaching and learning organization, and generally requires the businesses to pay for part of the training expenditure. Title class – for example “Haier class” or “Siemens class” is a common form of such model.

5. Work-study bases within the enterprises
   Enterprises set up a separate training workshop for students with multi-functions of teaching, training and practice and full-time management and instructors from the businesses. Such model is generally only found in big enterprises in high-tech sectors, Digital China Group for example. The enterprises play a dominant role.
Cooperation between vocational schools and enterprises

6. Sector-led (hang ye zhu dao)

In a sector consists of mainly small and medium-sized businesses, an individual company has not the conditions for cooperation with the school alone. Sector organizations take the lead to build the platform for school-enterprise cooperation, organize a number of enterprises to jointly provide internships and provide part-time teachers for the schools, and jointly make training orders. For example, the cooperation between over 1000 small and medium firms under Henan Supply and Marketing Cooperatives and five business schools right falls into this model.
Cooperation between vocational schools and enterprises

7. **Teaching factories (jiao xue gong chang)**
   
   Schools set up their own enterprises, or the other way round, enterprises move their workshops into the schools. For instance, the school entered a contract with the enterprise by purchasing its teaching equipments. With the main body of the production still being the enterprise, the production site was transferred to the campus, and the production was imbedded into the teaching and learning process. This model is not only convenient for students, but help schools to have more control over the training process.
Cooperation between vocational schools and enterprises

8. Enterprises’ program replacement (ke cheng zhi huan)
   Many vocational schools introduce programs directly from enterprises while the enterprises provide for them new curricula, equipments, personnel and even financial support. Enterprises can not only help improve the training quality, but also promote their own products and technologies. This model is popular among ICT businesses (e.g. Huawei, CISCO, etc.) and automotive manufacturers (e.g. GM and Toyota, etc.).
From the early 1990s on, there is a new model of school-enterprise cooperation, i.e., the formation of so-called “vocational education group” (zhi jiao ji tuan) in the course of vocational schools redistribution and resource integration.

Under the guidance of government and on the principle of voluntary participation, it is a VET organization that is led by elite schools, combined between schools and enterprises of the same region or sector with shared resources, complementary strengths and common development.

Its goal is to form a platform of multi-schools and multi-enterprises for cooperative workforce training (Gao, 2010).
Functions of “Vocational education group”

- **To integrate educational resources.** Within the group, schools of different levels can be better linked up in offering specialties, so as to realize teachers flow and hardware resources sharing.

- **To build a network of industry and schools.** Companies within the group are united with the schools: the schools provide training conditions for the enterprises whereas the enterprises provide for the schools training bases and corporate trainers, and participate in curriculum and learning materials development.

- **To promote employment and joint project development.** In the group, companies offer internships and employment opportunities to students of the vocational schools while the schools join the enterprises for product development, and thus extend the group’s education and business functions (Guo, 2010).
3. The promotion of school-enterprise cooperation and the achievements
Achievements and problems

- Currently, there is no comprehensive statistics on the coverage of school-enterprise cooperation in VET except some sample data.
- According to a Research Report, those students who participate in “training orders” account for one third of the total students in 2006.
- In 2007, a sample survey of 39,585 students in Jiangsu Province showed that 90% of the students had participated in internships.
- In 2006, a sample survey indicated that 23% of the internship positions fit in with the students’ specialty exactly and 59% fit in generally; assembly line (low-skilled) job positions accounted for 57% (Wang, 2007).
- Statistics also show that the first batch of 28 national demonstration vocational colleges have signed cooperation agreement with a total of 5,009 companies, establishing 5,334 off-campus practice bases, and employing 5,349 part-time teachers from enterprises.
Achievements and problems

- Research shows that companies are not active in this process.
- There exists commonly an “unrequited love” situation in which businesses are indifferent on one side while schools are eager on the other (Fan, 2010).
- A survey of the Central Institute of Vocational and Technical Education (CIVTE) showed that these are the most important factors that affected their initiative in the cooperation:
  - lack of concrete measures to implement the policy,
  - the challenge for the enterprises to undertake the security risks of the interns,
  - the vocational school students being not able to meet the enterprises’ requirements,
  - lack of public recognition of the enterprises in the cooperation” cooperation (Wang, 2008).
ERC analysis of school-enterprise cooperation by IVAE Beijing and University of Bremen

- Two parties vary significantly in the degree of acceptance of the cooperation, and on item “cooperation planning”.
- Cooperation inputs is higher than the evaluation of outputs.
At a stage of reflection:
Target of cooperation is comparatively clear, yet it is quite controversial in the “radiation” and “achievements obtained” of the cooperation.
Achievements and problems

Researches on the learning results of internships demonstrate that:

- what the students do in this period plays an important role in their competence development.
- Some students were assigned to work on the assembly line, what they got from it was at best “enhanced discipline and endurance”.
- They failed to learn enough knowledge and skills for the future, but become cheap labors instead.
- However, if the students are able to do some professionally demanding work, their gains will be enormous.
Relationship between occupational competence and the “frequency of participating in the important work” of secondary vocational school & vocational college students

If is able to frequently participate in the important work of the workshop in internship, a secondary vocational school student’s competence can even surpass that of a vocational college student (FG IBB Bremen, 2009).
Despite some achievements, China has not established an operational system and long-term mechanism of school-enterprise cooperation. This is reflected in the following aspects:

- Lack of institutional guaranty at both national and regional levels;
- Lack of coordination and administration mechanisms for school-enterprise cooperation;
- The enterprises are not enthusiastic about school-enterprise cooperation;
- Schools lack ability to cooperate
Lack of institutional guaranty

➢ The institutional construction on school-enterprise cooperation has not yet been put on the legislative agenda, although the government attaches great importance to school-enterprise cooperation.

➢ Official documents are not legally binding enough for either schools or businesses.

➢ The government does not have a promotion mechanism for the enterprises and adequate protection for the interests of both parties.

➢ In the implementation of national policies, the local authorities did not formulate workable administrative measures accordingly, did not provide corresponding service.

➢ Some current administrative mechanisms the schools have also restricted the further development of school-enterprise cooperation.
Lack of coordination and administration mechanisms

- School-enterprise cooperation involves businesses, schools, sector organizations and governmental departments.
- The administration of school-enterprise cooperation is not only the function of education department; it also involves departments of economy, labor, finance, taxation and so on.
- However, except for the education sector, there aren’t any mechanisms responsible for the school-enterprise cooperation.
Enterprises are not enthusiastic about cooperation

- Enterprises get involved in VET only at a superficial level by means of hiring graduates or donating funds, and hardly take part in the teaching process.
- Some enterprises even take school-enterprise cooperation as a solution to meet their urgent needs for hands.
- Personal factors played an important role. It is likely to affect the sustainable development of the cooperation.
- The policies that encourage cooperation tend to have problems in implementation; enterprises cannot get compensation for their cost to raising their reputation;
- There is an obvious difference between the reality and the enterprises’ comparatively high expectation of the schools’ education level and third party coordination service.
Schools lack ability to cooperate

- Most of vocational schools lack experience.
- They are used to the closed-door model of running a school. Rather than consider school-enterprise cooperation as a breakthrough point for improving the training quality.
- Some vocational schools just use it as a solution to the shortage of resources and insufficiency of employment channels resulted from increased enrollment.
- Teaching staff are generally lacking in competence to offering services to businesses.
- Graduates have insufficient skills and capacities have affected the attractiveness of vocational schools to enterprises.
THANK YOU FOR YOUR KIND ATTENTION

Prof. Dr. Zhiqun ZHAO
E-mail: zhiqunzhao@263.net

Institute Vocational and Adult Education
Faculty of Education
Beijing Normal University
Beijing, P.R. China
www.bnu.edu.cn