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# Transferable skills in technical and vocational education and training (TVET): Policy and practice in China[1]

## Abstract

This paper focuses on policies related to transferable skills in the TVET sector of China. It introduces the concept of transferable skills in the Chinese context and related policies of the Chinese government. On the teaching and learning level, Chinese vocational institutes have launched serial reforms to enhance teaching quality and to train students in the area of transferable skills. Teachers' practical skills and vocational qualifications are also given importance in national teacher training. The Chinese government is highly supportive of the development of vocational education, and has placed importance on the training of vocational education teachers. However, vocational education teachers still need to improve their ability to impart transferable skills in TVET.

## Research Background

More and more research is being conducted in the field of transferable skills, given that transferable skills are a critical factor in the holistic development of students. Since the 1990s, China has launched serial reforms to enhance the holistic development of its teachers and students. In addition, the Chinese government and vocational institutions are exploring practical ways to enhance teaching quality on both the policy level and at the teaching and learning level. This paper focuses mainly on the policy of transferable skills at the government level and at the implementation level in TVET institutes. The role and application of transferable skills in the teaching-learning process and in vocational teacher education is also highlighted.

## Methodology

The research exercise uses a variety of methods, including on-site visits and case study analysis. Researchers also conducted qualitative semi-structured interviews with heads of schools and teachers during the on-site visits, in order to obtain direct and accurate feedback from school administrators and teachers. A total of 5 academic staff as well as 19 managers and other staff, such as staff tutors, from 3 vocational schools and 2 vocational colleges in Hunan were interviewed.

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# 1 Concept of transferable skills in TVET and related TVET policies in China

## 1.1 Concept of transferable skills in the TVET sector of China

In China, the concept of transferable skills refers to competencies that are not subject-specific but can be optimally applied to diverse new subjects and fields. Generally people use terms such as "key skills", "core competencies", "soft skills" and "cross-curricular competencies" to express the competencies that are required by society to plan, to anticipate and respond to change, to make decisions, to co-organize the order in which work takes place within a team, and to bring tasks to their conclusion. Employees are also expected to be creative, reflective and innovative (Katharina, 2008).

In Chinese research reports on TVET, many researchers define transferable skills as the competencies required to solve problems, communicate ideas and think creatively. Vocational schools and colleges are encouraged to develop students that are able to adapt to different and changing work and life environments. (Wu, 2006)

Transferable skills are non-technical and non-vocational skills, such as teamwork, self-criticism, problem-solving skills or lifelong learning-skills. These skills, once acquired or developed by the learner, can be transferred into different vocational or non-vocational areas, such as personal or group life. (Fan, 2011)

## 1.2 The incorporation of transferable skills into TVET policy in China

Along with the development of the whole TVET field, the Chinese government has issued several principles and regulations with respect to the building of a modern TVET system. The *Vocational Education Law*, issued in the 1990s, provided legal guidance for the building and development of China's TVET system.

At the end of the 1990s, a key reform policy titled A Decision to Strengthen Education Reform to Promote Quality Education for All-Round Development（中共中央国务院关于深化教育改革全面推进素质教育的决定) was issued by the CPC Central Committee and State Council. The policy emphasized that vocational education should not only teach theoretical knowledge, but also foster proficient vocational skills and transferable skills in students to equip them to meet the changes of society (CPC Central Committee and State Council, 1999).

In 2000, the Ministry of Education (MoE) issued a policy document titled Suggestions on Fostering Talents of Vocational Colleges（教育部关于加强高职高专教育人才培养工作的意见) which emphasized that building a high-quality teaching body will guarantee the development of vocational teaching and education, and speeds up the process of attaining quality education. (MoE, 2000)

In 2002, Central government and MoE held three important national conferences that resulted in the Decision to Promote Vocational Education Reform and Development by the State

Council (国务院关于大力推进职业教育改革与发展的决定) which encourages the integration of production, teaching and learning and research and cooperation in vocational education. Thereafter, the service-orientation, employment-orientation, and the integration of production, learning and research became the basic principle and widely recognized pathway for the development of higher vocational education. These official documents called upon vocational schools to encourage teachers to seek practical work experiences in enterprises (Gov, 2002).

In 2005, the Chinese central government issued an important document entitled A Decision to Develop Vocational Education（国务院关于大力发展职业教育的决定）to promote the development of vocational education (Gov, 2005). This document stated that 1000 demonstration vocational schools and 100 demonstration vocational colleges would receive special government funding, and vocational education teachers would also be supported to enhance their competencies gained in real work environments. Specialized course teachers were required to work in enterprises for two months every two years. Part-time teachers from enterprises were encouraged to teach in vocational institutes and vocational education teachers were also encouraged to obtain professional certificates related to professional sectors.

In 2010, MoE issued the Secondary Vocational Education Reform and Innovation Action Plan (2010-2012)（中等职业教育改革创新行动计划（2010-2012 年）which established standards and detailed regulations for vocational reform. It emphasized that vocational education should enhance students' comprehensive competencies and benefit their lifelong development, and that vocational education should match the professional standards and actual occupational requirements.

In September 2013, MoE established standards for secondary vocational teachers. These teacher standards emphasized that vocational education should embody a student-centred philosophy and that teachers should cultivate the professional interests, confidence, initiative and creativity of students. Vocation learning should integrate in-school learning and work-based learning, and the development of lifelong skills should be emphasized in order to train the students' practical skills. In the teaching process, teachers should pay more attention to the development of comprehensive competencies, which include innovation, practical skills, self-regulated learning skills etc. In other words, more attention should be paid to transferable skills.

## 2 The inclusion of transferable skills in the teaching-learning process

### 2.1 Vocational courses with learning objectives that include transferable skills

The Secondary Vocational Education Reform and Innovation Action Plan (2010-2012) (中等职业教育改革创新行动计划（2010-2012 年）focused on curriculum reform. It emphasized that curriculum content should meet the needs of China's social and economic development. Course standards should use professional sector standards as points of reference for curriculum development.

Over the past 10 years, MoE has launched a series of reforms in vocational education, such as the Enterprise-School Cooperation Project (校企合作计划), A Project on the Integration of Resources and Cooperation between Eastern and Western Regions（东西部地区资源整合与合作计划）, A Project to Strengthen Secondary Vocational Education Support to Modern Agriculture and the Development of New Villages（中等职业教育支撑现代农业及新农村建设能力提升计划）, Secondary Vocational School Management Competency Enhancement Project (中等职业学校科学管理能力建设计划), Capacity Building Project for School Managers and Dual-Competency Teaching Teams (校长能力和"双师型"教师队伍建设计划), A Project to Reform the Secondary School Programme and Curriculum(中等职业学校专业与课程体系改革创新计划), IT Competency Enhancement Project in Secondary Schools (中等职业教育信息化能力提升计划）and A Mechanism for Executing Secondary Vocational Education Policies (建立健全中等职业教育政策制度执行机制).

In these programs, vocational institutes have been exploring new teaching models to meet the requirements of the labour market. Many institutes have started adopting a practical approach through project-based curriculums which are organized by task items based on a systematic analysis of the authentic working environment. Project-based curriculums have thus become a new trend in curriculum reform for vocational education, with many vocational schools emphasizing that curriculum design for vocational education should meet the needs the industries, be employment-oriented and foster students' comprehensive competencies and transferable skills.

### 2.2 Teaching method reforms that focus on comprehensive competencies and transferable skills

In 2006, MoE issued a guideline titled Some Suggestions on Enhancing the Teaching Quality of Vocational Colleges (教育部关于全面提高高等职业教育教学质量的若干意见) to enhance the quality of higher vocational education. The guideline emphasized that the knowledge and skills taught in schools should have a close relationship with the requirements of real work. Task-oriented teaching and project-based teaching were thus introduced to enhance students' competencies. The policy also required students to intern in enterprises for a period of at least half a year.

The Secondary Vocational Education Reform and Innovation Action Plan (中等职业教育改革创新行动计划) emphasized the importance of reform and innovation in teaching methods. It encouraged schools to explore project-based teaching, case teaching, situated teaching and virtual and simulated teaching, so as to promote the all-rounded development of students. The action plan highlighted the importance of comprehensive competencies and transferable skills for student development.

### 2.3 Student-centred teaching methods in national demonstration schools projects

Since 2006, some national demonstration schools have been exploring student-centred learning approaches, and many national demonstration vocational colleges have implemented new teaching and learning methods to encourage more flexible and diversified approaches.

For example, the teaching of a special course on agriculture was arranged according to the farming seasons. Student-centred teaching-learning methods such as teamwork, discussion and workshops were also introduced to supplement traditional teaching methods.

The student-centred teaching and learning process – which includes stages such as informing, planning, deciding, realizing, controlling and evaluating – as has been practiced in these demonstration schools and colleges are as follows: (1) teachers design teaching contents in accordance to teaching objectives, and (2) based on student-centred approaches, teachers then prepare teaching resources such as notes and worksheets, PowerPoint slides, websites, blogs, and teaching courseware. This development indicates that many demonstration schools' teaching and learning have been influenced by action-orientation learning theory. Thereby, students learn via teamwork as well as individual work with the teachers' assistance, e.g. using an action-oriented learning model. In such a student-centred process, students have opportunities to use and practice their transferable skills.

# 3 Implications for policy and practice in vocational teacher education

## 3.1 The practical skills and vocational qualifications of teachers are given importance in national teacher training

In 2009, the Chinese government launched the National Teacher Training Plan (中小学教师国家级培训计划) (NTTP), the first major national teachers' programme promulgated by MoE and the Ministry of Finance (MoF). This programme is an important initiative to improve the overall quality of teachers in primary schools, junior middle schools, high schools and vocational secondary schools, especially those from rural primary and secondary schools. Projects under the NTTP include the Project of Exemplary Teacher Training (PETT) (中小学教师示范性培训项目) and the Project of Rural Key Teacher Training (PRKTT) (中西部农村骨干教师培训项目) in central and western China (Bao 2012). In 2012, a total pf 334,000 teachers attended the PETT programme, and 816,000 teachers were involved in the PRKTT programme (see Figure 1).

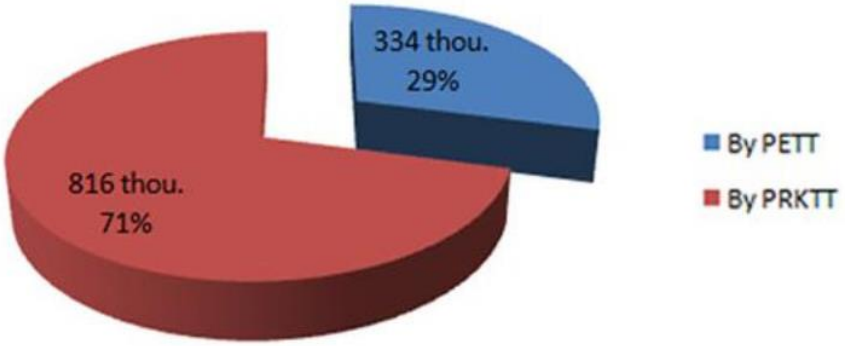


Figure 1：Number of teachers trained under NTTP in 2010

As previously mentioned the NTTP project also included secondary vocational school teachers' training. In TVET, the programme focuses on enhancing teacher skills by encouraging teachers to acquire practical vocational skills through experiences gained in world of work. In 2013, this programme (see Table 1) trained 14,500 qualified vocational teachers across 37 provinces and core cities (Beijing, Tianjin, Shanghai, Guangzhou, Chongqing). 900 teachers were given the opportunity for overseas training and 9000 teachers, below the age of 35 and with more than two years work experience, underwent internships in large enterprises to enhance their practical skills. (MOE 2013)

Table 1: **2013 Vocational teachers trained under the National Education Teacher Train ing Project (NTTP)**

| Training Programme | Higher vocational college teachers | Vocational secondary school teachers |
|---|---|---|
| National Training | 4500 | 10000 |
| Overseas Training | 500 | 400 |
| Internships in Enterprises | 5000 | 4000 |

### 3.2 Pedagogical skills and IT systems as major factors for effective teacher training

Generally, teacher training is designed by training colleges or universities, and all parts of training programmes are delivered by local teachers/trainers, mainly in lecture format. However, in some training programmes, such as in overseas training, other formats such as semi-structured lectures, workshops and team learning are implemented. Action- oriented methods[2] are also used in some seminar discussions. Since new training objectives oriented to vocational competencies have been recognized by MoE and regional policy makers, subsequent training programmes have begun to recognise that teachers should expand their professional knowledge and pedagogical skills, and strengthen their awareness of environmental protection, team work, personal communication and other transferable competencies.

With regards to online training, there is a lack of effective interactive learning platforms to guide the discussion and interaction among trainees after the completion of their training. In addition, some rural schools have relatively poor access to information technology. There is also a lack of online information platforms for the government and training institutions. In 2002, MoE co-designed an education platform for teachers, which mainly provides distance-learning support to primary and middle school teachers and is a part of the rural regional vocational school teacher network. This new distance learning system includes the provision

[2] Action-oriented learning is a form of problem-based learning which goes further by emphasizing the importance of the authenticity of the problem(s) being worked on and the fact that that none has the solution in advance. The problems should preferably be non-technical, and evaluation should focus on whether the solutions work rather than the extent to which students arrive at a pre-determined optimum solution.

of in-service training and pedagogical support for national teacher training. (Bao 2012) In 2012, 11% of all teachers were trained through face-to-face lectures while 89% were trained through distance training.

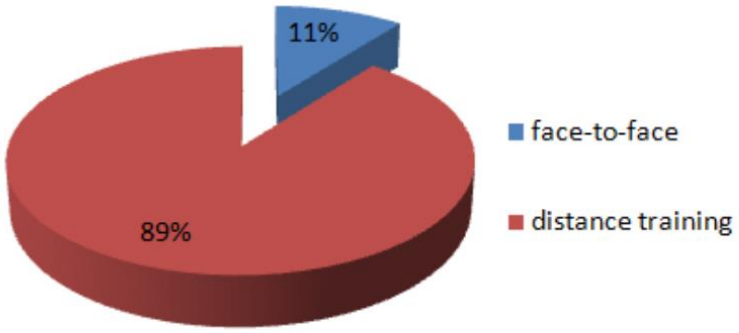


Figure 2: Teachers trained through face-to-face and distance training in 2012

# 4 Key findings

## 4.1 The Chinese government has been strongly supporting the development of vocational education but it remains the 'second' option

The Chinese government has been actively supporting the development of vocational education over the last 20 years. In 2012, there were 9,762 vocational secondary schools in total. Entering students numbered 5.97 million, and enrolled students numbered 16.9 million. There were 1297 vocational colleges, with 2.55 million entering students and 7.6 million enrolled students (MoE 2012). From the 1990s, the central government has formulated a number of policies and regulations on the development of vocational education, and has supported these initiatives with substantial financial commitment. From 2006 to 2010, the government invested 10 billion Yuan into National Exemplary Projects on Vocational Colleges (国家示范性高职项目). Of this investment, 0.5 billion Yuan was used to train vocational secondary school teachers, 2 billion Yuan was used to finance higher demonstration colleges, and 4 billion Yuan was used to finance the tuition fees of students from low-income households (Liu 2011).

However, when compared with the funding allocated to general higher education, funding for vocational education is still lower. In addition, parents prefer to send their children to academic universities rather than vocational colleges. One reason for that might be that in many vocational colleges, there is still too much emphasis on the theory of specialized courses, and teachers still pay too much attention to narrow subject-specific skills instead of transferable skills. There is thus no clear connection between what is learnt at vocational colleges and the requirements of the labour market.

### 4.2 The training of vocational education teachers is crucial to the quality of vocational education

Teachers in vocational colleges should not only have deep theoretical knowledge but also strong practical abilities to guide students through workplace-related learning environments and help them solve problems that can be encountered in enterprise practices. To be able to achieve that, vocational education teachers should constantly expand their knowledge base.

In many vocational schools, teachers are not adequately trained, and many of them are inexperienced in enterprise practices. China's modern vocational education was developed relatively late. Traditionally, Chinese society has regarded theoretical knowledge as being more important than practical knowledge. In some schools, students spend much more time on theoretical learning, and foundation course teachers disproportionably outnumber those teaching specialized are unable to put their knowledge into practical use makes the development of higher vocational education more difficult.

To respond to this reality, MoE and MoF have set preferential policies and measures to encourage teachers to attend in-service training and to pursue advanced studies so as to become "dual-competency" teachers. Notably, the Chinese government has been urging teachers to learn through close cooperation with enterprises, so that they can get access to the training base to improve their skills and thereby "master many skills while specializing in one". Teachers are also encouraged to take vocational skills-related qualification exams in order to attain the corresponding credentials.

From 2011 to 2015, MoE will select 450,000 vocational education teachers to attend a range of teacher training programmes, based on region, age, service time, subject taught, teaching experience and teaching performance. Of these teachers, 50,000 will attend national training for 12 weeks (including 4 weeks of enterprise internship), which will cover the topics of professional knowledge and skills, vocational education theory and teaching methods. MoE will send 2,000 teachers, selected on the basis of outstanding performance, for 8 weeks of overseas training in order to learn advanced professional teaching methods and course development techniques. In addition, 20,000 vocational secondary school teachers, who under the age of 35, will be sent for a six-month enterprise internship, with modern apprenticeship being defined as the main training approach for young teachers. Training methods employed in the programmes include site visits, skills training workshops and topical lectures (MoE 2013).

### 4.3 Teachers do not pay enough attention to transferable skills in the teaching and learning processes

China is a large country with substantial regional diversity. In some provinces, such as Guangdong and Jiangsu, vocational education is relatively more developed than in the other regions, whereas in some less developed provinces, there is still much scope for the development of vocational education.

For this study, researchers interviewed 5 academic staff from 3 vocational schools and 2 vocational colleges in Hunan. It was observed that, in the teaching and learning processes, more than 50% of the teachers spent more than 80% of their teaching time in lectures. There were few opportunities for interaction between teachers and students. In addition, teachers seldom prepared material on self-regulated learning for students. While the vocational schools encouraged task-based learning, work-based learning and project-based learning in principle, in the actual teaching and learning process, few teachers used these teaching methods and preferred instead to focus on text-based knowledge and theory. It was found that few teachers recognized the importance of teaching transferable skills to students, and thus seldom prioritised transferable skills in their course design and teaching process. Based on teachers' comments, some students prefer practical course and work-based learning while they feel bored in theoretical courses.

# 5 Discussion: Further considerations for transferable skills research in China

## 5.1 The nature of empirical assessment in transferable skills research

In the last 20 years, Chinese government and MoE highlighted transferable skills in many policy documents. However, transferable skills are difficult to assess and measure according to the empirical criteria of objectivity, reliability, and validity. Transferable skills develop in an interactive process and are dependent on personal and situational characteristics. They manifest themselves as latent, individual dispositions in concrete situations and are often identifiable only in these specific situations. Hence, the challenges of empirical research in the field of transferable skills lie in accounting for this situation-specificity while integrating the personal and situational side into the measurement and evaluation of competences and considering the interactions among the personal and the situational aspects as well (Maag Merki 2008). The area of assessment of transferable skills therefore needs further research in the Chinese context.

## 5.2 The relationship between domain-specific competencies and transferable skills

The concept of transferable skills is based on the idea of identifying competencies that are not subject-specific but formal in nature, and thus can be optimally applied to diverse new subjects and fields (Wang 2006). In practice, however, this objective has proven difficult to achieve. In the context of research on teaching and learning, it has been demonstrated that the more general a learning strategy is, the more limited its contribution to solving challenging educational and intellectual problems. Given the situation-specific character and limited trans-situational consistency of transferable skills, we must also expect to encounter the same situation-specific character outside specific learning areas. It must be assumed that transferable skills are linked to content-related aspects of learning. As for domain-specific competencies, they cannot achieve universal applicability to all areas of life and individual competencies are at most applicable to domains that share similarities in structure or content. Therefore, it will be important to find out the domain-specific functions of each competence in

relation to its transferable skills. In the teaching and learning process, some Chinese teachers are exploring ways of integrating work process knowledge into an entire working task. Thus, students' transferable skills can be fostered through the working process. However, further research is needed on the relationship between domain-specific competencies and transferable skills for teachers to be able to better adapt their teaching practices.

### 5.3 The role of teacher training policy and enterprise involvement in promoting transferable skills in TVET

The teaching and learning of transferable skills mainly takes place during the teaching and learning process. However, national policies focus on the macro or meso level, and hardly reach the micro level of teaching and learning (and hence that of transferable skills). If these top-down level policies are to play a role at the micro level, teacher training programmes which focus on vocational competencies and transferable skills should be established. The training of vocational teachers cannot be limited to domain-specific competencies and knowledge, or a single skill-set. Teachers should be trained in the entire work process and gain the transferable skills through authentic work tasks. Thus, they can apply these skills in their teaching practices.

In addition, the quality of vocational education depends on the cooperation of enterprises and schools. The Chinese government should create a supportive policy framework and environment that is conducive to such partnerships between schools and enterprises. Currently, some local governments have issued regulations on enterprise-school cooperation aimed at encouraging enterprises to get involved in vocational education. As a result, enterprises are currently playing a more active role in the areas of school administration, curriculum development, financial support, providing consultancies for the development of policies, as well as monitoring and evaluation. Enterprise-school cooperation can offer opportunities for teachers to foster their transferable skills through their involvement in both the industry and academia. It is assumed that this involvement will have a positive effect on the transfer of these skills to students through improved pedagogies.

To sum up, teacher policies need to be translated into practice through improved teacher training programmes that focus on vocational competencies and transferable skills. In addition, industry - vocational school cooperation can, not only improve the overall quality of vocational education, but also be beneficial for teachers' transferable skills and their ability to impart them in their students. Given their importance, these two areas should receive greater focus and could benefit from further research in the Chinese context.

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