Online Conference

Bridging Asia-Pacific and Europe: New Qualifications and Competencies in TVET
Coupling of NQC and TVET Curriculum in SZPT, China

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April 28, 2020
Outline

I. Quick Facts of Shenzhen Polytechnic

II. National Policies on Cooperation between TVET & Enterprises

III. Shenzhen Policies on Cooperation between TVET & Enterprises

IV. SZPT Innovation Ecosystem with Sectors & Employers

V. SZPT’s 9 Approaches to Integration between NQC and Curriculum
I. Quick Facts of SZPT

5 Campuses
- covering 2.12 million square meter in total

28,235 Students
- 23,443 full-time & 4,792 part-time

2033 Full-Time Faculty and Staff
- 217 full professors, 657 associate professors and 408 PhD holders.

16 Schools/Faculties
- 79 programs

Mission
- Supply interdisciplinary, innovative, high-caliber, technical and skilled human resources

Vision
- to make a pioneer in TVET innovation and share Shenzhen Solutions with international TVET community

Indicators
- More than 110,000 graduates
- 14 National Prizes of Education Achievements
- graduate employment rate at 96%, average salary ¥ 5,306
- graduate entrepreneurship rate at 12.7% in 3 yrs
- 10% graduates running their own or family enterprises
- over 2,000 technology transfers (over ¥200m income)
- 1,726 patent licenses
- 74 industrial standards

Leading Status among Chinese TVET Institutions
- Flagship of & Ranking No.1 in 1,423 Higher Vocational Colleges in China
- National Model Higher Vocational Education College
- National Model Entrepreneurship College
- UNESCO UNEVOC i-hub
II. National Policies on Cooperation between TVET & Enterprises
2.1 Policies on TVET Governance

5. Some Opinions on Deepening Integration of Manufacturing and Education (2017)
7. Decision of the State Council on Accelerating the Development of Modern Vocational Education （2014）
2.2 Policies on Engaging Employers in TVET
Task 3: Further promote integration between industries and TVET

“Better the operating mechanism of integration between industries and education; stick to market, service and employment oriented direction; optimize program arrangement, vigorously promote integration between industries and education and cooperation between schools and enterprises, launch pilots of integration between industries and education.”
2.4 National Implementation Program for TVET Reform (2019)

1. Accreditation and Motivation of Employers Engaged in Integration between Industry and Education

“Based on national pilots of integration between industries and education, the accreditation system of employers engaged in this integration shall be established. The combined motivation mix of ‘Finance+ Budget allocation + Land allocation+ Credit’ shall be adopted to those employers accredited. In addition, favorable tax policy would be adopted to those accredited employers.”
2.4 National Implementation Program for TVET Reform (2019)

2. Encourage large enterprises to become TVET provider

“Encourage large enterprises with relevant teaching resources to become TVET providers…… By 2020, 300 national model TVET Groups (Alliances) will be established, engaging medium and small enterprises.”

3. Launch “1+X” pilot project

1 means TVET diploma, X means qualifications in different sectors. Top enterprises in different sectors would be selected to develop, assess and offer special qualifications in certain sector.
2.5 Some Opinions on Deepening Integration of Manufacturing and Education (2017)

Four in One Governance Structure: Government planning, Employer acting as a main role, talents cultivation oriented, alignment of supply and demand by social organizations.

Propelling mechanism of integration between industries and education:

1. **Schools**: Guide different schools or colleges to establish education models in line with industrial needs;

2. **Employers**: motivate employers to invest in integration between industries and education by means of supportive land allocation and financing policy;

3. **Local governments**: launch pilot city project on integration of industries and education, support regions, industries and employers with better resources to implement the project first, encourage the construction by evaluating their performance.
III. Local Policies on Cooperation between TVET & Enterprises
3.1 Shenzhen policy on Employers’ engagement in TVET

“Opinions on promoting employers’ engagement in TVET” by Shenzhen Municipal Government

**Subsidy policy:**

Students in secondary vocational education can enjoy the municipal government subsidy for their internship in enterprises for **12 months**, students in higher vocational education enjoy the subsidy for **6 months**. The subsidy rate is 650 RMB each month. The employers who offer internship and practice base to TVET students can be awarded subsidy of 300 RMB for each student.
IV. SZPT’s Innovation Ecosystem with Sectors and Enterprises
4.1 Innovation Ecosystem with Sectors and Enterprises

**Jointly Develop High-Quality Programs**

**Jointly Develop Curriculum Standards**

**Jointly Build an Effective Faculty Team**

**Jointly Establish R&D Centers**

**Jointly Develop Qualifications/Certificates**

**Jointly Offer I&E Education**

**Jointly Deliver Enterprises-Ordered Class and Skills Training**

**Jointly Go Global**

**Jointly Steer Programs**

**Jointly Develop High-Quality Programs**

**Jointly Develop Curriculum Standards**

**Jointly Build an Effective Faculty Team**

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**Jointly Go Global**

**TVET Innovation Ecosystem**

**Industrial Schools**
4.2 Innovation Ecosystem with Sectors and Enterprises

**11 Industrial Schools Established**

- Huawei ICT School
- ARM Intelligent Hardware School
- Alibaba School of Digital Trade
- BYD School of Applied Technology
- Ping An School of Finance and Technology
- Yuto School of Graphic Communications
- CMG Maritime Silk Route School
- Tagen School of Civil Engineering
- Shuibeij Jewelry Design School
- Meituan Digital Life School
V. SZPT’s 9 Approaches to Integration between NQC and Curriculum
V. SZPT’s 9 Approaches to NQC Integration

5.1 Jointly steer programs

Program Production-Learning-Research-Application Steering Committee: Chairman and members are composed of industry and enterprise managers or experts, governmental officials, reviewing the program syllabus and curricula syllabus, offering internships and scholarship, advising the development of programs.
In 2020, **80** programs were offered, among which **40** programs were for four pillar industries in Shenzhen, accounting for **50%**, and **23** programs were for emerging industries or future industries, accounting for **29%**.

**Program Set-up based on the pillar industries and emerging industries**

Distribution of programs offered based on the four pillar industries and emerging industries in Shenzhen
### V. SZPT’s 9 Approaches to NQC Integration

#### 5.2 Jointly Develop High-Quality Programs

Develop "2+8+N" program clusters and program standards together with **Huawei, Ping An, Alibaba** and other enterprises.
V. SZPT’s 9 Approaches to NQC Integration

5.2 Jointly Develop High-Quality Programs

- **Shenzhen Polytechnic** and **Huawei**
  - Develop program together
  - Develop curriculum together
  - Train students together

Serve the needs of the ICT industry precisely

**Coupling of Curricula and NQC, Producing market-oriented graduates**

**National Outstanding Prize of Education Achievement**
Transform technical standards of Huawei, Ping An and BYD etc. into curriculum standards, further develop them into learning resources, producing 200 textbooks.
5.4 Jointly Build an Effective Faculty Team

1. Formulating standards
   Recruitment standards & standards for new teachers, program directors and tutors from enterprises

2. Employing enterprise experts as teachers
   111 teachers recruited from enterprises in the last 5 years

3. Offering work based training for teachers
   2,563 teachers engaging in work based training in the last 5 years

4. Building 21 “Mixed” teaching teams
   21 mixed teaching teams with technical experts from enterprises

V. SZPT’s 9 Approaches to NQC Integration

very popular with more than 8 million students/trainees
V. SZPT’s 9 Approaches to NQC Integration

5.5 Jointly Establish R&D Centers

1. Institute of Advanced Materials
2. New Energy Automotive Technology Research Institute
3. Institute of Applied AI Technologies for Guangdong-Hongkong-Macau Greater Bay Area
4. Intelligent Manufacturing Technology Research Institute
5. Institute of Intelligent Science and Engineering
6. Internet of Things Research Institute
7. New Generation Communication Network Research Institute
8. Institute of Marine Medicine
9. Institute of Urban Ecology and Environmental Technology
10. Institute of Image Engineering and Communication Technology
V. SZPT’s 9 Approaches to NQC Integration

5.5 Jointly Establish R&D Centers

Public Technical Service Platforms

1. Software Quality and System Security Testing Center
2. Ultra-wideband Mobile Communication Technology Service Center
3. Collaborative Innovation Service Center for Informatization in the New Era
4. Reliability Detection Center of Electronic Information Materials
5. New Energy Automotive Electronics Testing Center
6. Jewelry Inspection and Technical Service Center
7. Modern Printing and Packaging Standardization Development and Application Center
8. BIM Public Technology Service Center
9. Food Safety Biochemical Analysis and Testing Center
10. ......
V. SZPT’s 9 Approaches to NQC Integration

5.6 Jointly Develop Qualifications/Certificates

**Introduced**
- 71 International Qualifications

**Jointly developed**
- Developed 10 qualifications with Alibaba, BYD, etc.

**Engaged**
- In development of 6 “X” skills certificates

Embedding qualification standards into program curricula and quality assurance system.
V. SZPT’s 9 Approaches to NQC Integration

5.7 Jointly Offer I&E Education

5 interdisciplinary learning centers established with well-known enterprises e.g. Alibaba, serving for practical teaching and learning, innovation research and development, and business incubation.

- Cross-Border E-Commerce Learning Center
- BIM Learning-Research-Application Center
- Big Data and Artificial Intelligence Learning Center
- Virtual Reality Learning Center
- Product innovation Interdisciplinary E-Learning Center
V. SZPT’s 9 Approaches to NQC Integration

6. Jointly Offer I&E Education

- **Enlightenment Education**: Courses for all students (8,000 students per year).
- **Preparatory Education**: 132 courses per year for students with an interest in innovation and entrepreneurship.
- **Professional Education**: For 50 entrepreneurial student teams that start and operate a business.
- **Practical Education**: Seven courses per year for prospective student entrepreneurs.

**The Progressive Innovation and Entrepreneurship Education Model**
Modern Apprenticeship in collaboration with BYD, Yutong, Tianjian and other enterprises by setting up enterprise campuses, recruiting and training more than 8,000 students.
V. SZPT’s 9 Approaches to NQC Integration

5.8 Jointly Deliver Enterprises-Ordered Class and Skills Training

10 Sectors
Upskilling of labor force for industrial transformation

180,000 Trainees
Skills training

100,000 People
Qualification assessment

2019
V. SZPT’s 9 Approaches to NQC Integration

5.9 Jointly Go Global

6 TVET centers established in four countries

- **In Malaysia**
  - Set up a TVET Center and 2 Chinese Language and Culture Centers

- **In Germany**
  - Set up a TVET Center

- **In Ukraine**
  - Set up a TVET Center

- **In Bulgaria**
  - Set up a TVET Center

Jointly Go Global with International Enterprises

Skills training for countries and regions along the "Belt and Road"

In collaboration with China Merchants Group and other top enterprises
V. Innovation Ecosystem with Sectors and Enterprises

8. Jointly Go Global

Establish TVET Centers to Share SZPT Solutions

<table>
<thead>
<tr>
<th>Date</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Dec. 2013</td>
<td>Shenzhen Polytechnic-Malaysia University of Science and Technology Chinese Language &amp; Cultural Center established</td>
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<tr>
<td>Oct. 2016</td>
<td>Shenzhen Polytechnic-Politeknik Sultan Salahuddin Abdul Aziz Shah Chinese Language &amp; Cultural Center established</td>
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<tr>
<td>May 2018</td>
<td>Partners Agreement between Shenzhen Polytechnic (SZPT) and Universiti Teknikal Malaysia Melaka (UTeM) signed for the establishment of a TVET Center in UTeM</td>
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V. Innovation Ecosystem with Sectors and Enterprises

8. Jointly Go Global

Offer Program & Curricula Training to Support Teacher Professional Development

Sept. 2018
7-day skills training program on Cross-Border E-Commerce offered in Institute Sinaran by SZPT teachers specialized in economics

Oct. 2018
ICT skills training offered in UTeM by SZPT teachers specialized in communication technologies
Welcome to Shenzhen Polytechnic, China

UNESCO-UNEVOC I-hubs