Beijing VET Qualification Framework Reform for Lifelong Learning—A Bridge Between Workplace Learning and School Education?

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Part 1: Background
Introduction

• About my work: Institute for Vocational and Adult Education (IVAE) at Beijing Academy of Educational Sciences (BAES), we provide consultation and academic support to Beijing Municipal government, local education authority and vocational colleges in Beijing, also I am the coordinator for international exchanges and cooperation in my institution.

• About this presentation:
  • 1. VET school education vs. Workplace learning: school education still the major place to train student and less attention for workplace learning.
  • 2. the pilot study can show some basic problems Chinese vocational education are facing
  • 3. VET schooling itself need to improve in structure under the umbrella of lifelong learning
Population
Pollution
Education
Part 2: Beijing VET Qualification Framework Reform

why?
1949-2015 vocational education students number

- Vocational school
- Vocational college
Rethink of VET education


Education (school) -> Transfer from school to work (VET) -> Work (industry system)

First step: Education (school)
Second step: Transfer from school to work (VET)
BVQF Reform Logic: TT → TD/RT → RD

TT (Typical Task)

TT1

TT2

TTx

Step2-1

Step2-2

Step2-x

TD (Typical Duty)

RT (Real Task)

RD (Real Duty)

knowledge

experience

Emotion

Behavior

communication
<table>
<thead>
<tr>
<th>Age</th>
<th>Grade</th>
<th>Ph.D.</th>
<th>Master's</th>
<th>Bachelor's</th>
<th>High School Diploma or Secondary Professional School Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Kindergarten</td>
<td>25</td>
<td>Master's Program (2-3 years)</td>
<td>18</td>
<td>Secondary Professional School (3 years)</td>
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<td>Senior Middle School (3 years)</td>
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<td>6</td>
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<td>16</td>
<td>Junior Middle School (3 years)</td>
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<td>7</td>
<td>Primary School</td>
<td>21</td>
<td>Undergraduate (4-5 years)</td>
<td>15</td>
<td>Higher Education Professional School (2 years)</td>
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<tr>
<td>8</td>
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<td>20</td>
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</tr>
</tbody>
</table>

*Doctoral Program (3 years)*
Beijing VET Qualification Framework under the structure of lifelong learning concept.

Continuing education

Graduate School

Junior Middle School

Senior Middle School

VET Level 1

VET Level 2

VET Level 3

VET Level 4

VET Level 5

VET Level 5+

undergraduate

Workplace Learning

Beijing VET Qualification Framework

under the structure of lifelong learning concept

Continuing education
Part 2: Beijing VET Qualification Framework Reform

How?
The BVQF reform timetable

- **Preparation**
  - 2006.1
  - 2010.9

- **Research**
  - 2011.1
  - 2011.3
  - 2011.4

- **Implementation**
  - 2011.5~6
  - 2011.7

- **End of pilot**
  - 2014.6

- **Implementation**
  - 2011.9

- **End of pilot**
  - 2014.6

- **The 18 pilot VET school are approved by committee of experts**

- **The pilot study demonstration**

- **Selecting the pilot school and college**

- **Research**

- **Preparation**

- **Implementation**

- **End of pilot**

- **Implementation**
Choose pilot majors of BVQF reform

- Software technology
- Marketing sales
- Biological technology
- Auto manufacturing
- Mechanical and electrical integration technology
- Modern logistics
- Communication technology
- Animal husbandry and veterinary
- Tourism management

- Digital media
- Security management
- Automotive technical service
- Railway transportation
- Network technology
- Architecture and decoration
- Garden landscape
- Jewels processing, appraisal and marketing
- Elderly service
BVQF reform key points

- Industry
- Occupation warehouse
- Occupation analyze
- Career pathway
- Level 1
- Level 2
- Level 3
- Level 4
- Level 5
- Level 5+

Training course design
Teaching and curriculum implementation
Evaluation

Result
BVQF establishment
The BVQF reform Process

1. Demanding analysis

- Production worker: 31%
- Equipment repairman: 29%
- Equipment maintenance: 14%
- Technician: 8%
- Sales: 11%
- Manager: 7%
- Technicians: 8%
- Sales: 11%
- Production workers: 31%

Research report based on different company

By Beijing Polytechnic
2. Establish the Occupation Warehouses

- BVQF reform is conducted by VET school cooperation together with industry and enterprises, analyze the professional types, structures, and features in-depth, establish career structure models, and divide the level rationally according to the classification system, and finally form the trial reform of "occupation warehouse".
## Establish occupation warehouses

<table>
<thead>
<tr>
<th>Levels</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>5+</th>
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</thead>
<tbody>
<tr>
<td>R&amp;D</td>
<td>Biopharmaceutical researchers</td>
<td></td>
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<tr>
<td></td>
<td>Biopharmaceutical research assistants</td>
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<tr>
<td>Biotechnology production</td>
<td>Genetic engineering worker</td>
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<td></td>
<td>Biological products worker</td>
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<td></td>
<td>Senior pharmaceutical preparation workers</td>
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<td></td>
<td>Separation &amp; Purification</td>
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<td></td>
<td>Cell culture worker</td>
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<td></td>
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<tr>
<td></td>
<td>Pharmaceutical preparations</td>
<td></td>
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<td></td>
<td>Microbial fermentation</td>
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<td></td>
<td>Solution preparation</td>
<td></td>
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<tr>
<td>Sample preparation</td>
<td>Drug chemist Engineer</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Senior Drug chemist</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Drug chemist</td>
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<td></td>
<td>Advanced chemical inspector</td>
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<tr>
<td></td>
<td>Strain breeding worker</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intermediate chemical inspector</td>
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</tbody>
</table>

The diagram illustrates the levels and skills required for various roles in biotechnology and production. Arrows indicate the progression from simple to hard skills to product.
3. Setting the standards

- Vocational education standard is the objective reflection of social (industry, enterprise) demands for education process, and is the organic integration of national vocational qualification standards, enterprise employment standards, school education standards and evaluation.

- VET Level standard is a standard system, in which every level has its clear boundary and also a reasonable cohesion with others.
4. Description of the ability of each level

A、Social Abilities

1. safety, 2. legal, 3. environmental protection, 4. compliance, 5. responsibility, 6. economic, 7. communication and cooperation

B、Operation abilities

1. the ability to understand and implement enterprise production technical specifications and standards
2. the ability to understand and use production tools
3. the ability to master and use working methods
4. the ability to complete production tasks (1)、(2)、(3)

C、Development abilities

1. learning ability (master new technology, new information and new policy)
2. Information ability (information collection and handling application ability, information technology skills)
3. Management ability (strategic thinking, planning and design, organization, coordination, execution)
4. Innovation ability
## 4. Description of the ability of each level

<table>
<thead>
<tr>
<th>Level</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Able to correctly express information</td>
<td>Able to listen and clearly express information</td>
<td>Can be concise, effective communication</td>
<td>Ability to communicate with analysis tools</td>
<td>Can encourage two-way communication</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Can correctly express what they want to say, can correctly convey the content of others to say; Body language and expression of the same intention</td>
<td>Have basic English proficiency; Can encourage others to take the initiative to communicate; Be able to actively and objectively listen, do not interrupt each other; At any time with each other check the correctness of communication information, such as duplication, interpretation</td>
<td>Have basic English proficiency; Can encourage others to take the initiative to communicate; Be able to actively and objectively listen, do not interrupt each other; At any time with the other check the correctness of communication, such as duplication, interpretation; Communication can be concise and clear</td>
<td>Have basic English proficiency; Can encourage others to take the initiative to communicate; Be able to actively and objectively listen, do not interrupt each other; At any time with the other check the correctness of communication, such as duplication, interpretation; Communication can be concise and clear</td>
<td>Have intermediate level of English; Can encourage others to take the initiative to communicate; Be able to actively and objectively listen, do not interrupt each other; At any time with the other check the correctness of communication, such as duplication, interpretation; Communication can be concise and clear; Can communicate effectively with effective tools; To the relevant data, case, information to support communication</td>
</tr>
</tbody>
</table>
5. Design the learning path
6. Design TOPIC of vocational education

- Phase is a physical and chemical concept. According to the difference of existing material forms and distribution, a system is divided into phases. A phase has the same physical and chemical properties and can be distinguished with the rest of the system.

- "Phase" used in vocational education means a professional career education teaching system which can be divided into several units like content, function, method. These units can be parallel or stacked:
  - Reflecting the teach-learn-do combination feature in kind,
  - Presenting the enterprise training standards, school education standards, students' mind and body development fusion feature in content,
  - Reflecting the characteristics of behavior field, the study field, learning situation, the cycle of behavior field in structure.
Design **TOPIC** of vocational education

- **Training Object Phase In Class**, **TOPIC**
- The whole process of learner-centered teaching, studying, training, and do designed according to the specific production project to (professional) design task.
- **TOPIC** is completed in school, which is bigger than learning area in German and equivalent to learning field + enterprise training modules.
- **TOPIC** solves the standardization of vocational education and realized zero distance between enterprise's requirement and standard.
- **TOPIC** is the basic unit of vocational education and also the practical teaching organization plan.
- **TOPIC** exists with and digital multimedia forms.
<table>
<thead>
<tr>
<th>Level 5</th>
<th>![Level 5 Image]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 4</td>
<td>![Level 4 Image]</td>
</tr>
<tr>
<td>Level 3</td>
<td>![Level 3 Image]</td>
</tr>
<tr>
<td>Level 2</td>
<td>![Level 2 Image]</td>
</tr>
<tr>
<td>Level 1</td>
<td>![Level 1 Image]</td>
</tr>
</tbody>
</table>

Design **TOPIC** of vocational education
3. Pilot projects of VET Level Framework to be argued

Design **TOPIC** of vocational education

Cattle and cow disease prevention

Animal disease prevention and control

Poultry and poultry disease prevention

Pet care

**Animal and veterinary medicine**

Beijing Agricultural Vocational Colleague
7. Quality Monitoring And Evaluation

- Establish student training quality monitoring system, including student training quality monitoring index, the method of obtaining the student training quality monitoring information and data, the using of student training quality monitoring results.

- Establish student training quality evaluation system, from the evaluation of every teaching project to every level of evaluation standards, factors methods. Form a scientific and strict quality management, monitoring and evaluation system.
Seven Steps to achieve good vocational education

1. Demanding analysis
2. Establish the occupation warehouses
3. Setting the standards
4. Description of the ability of each levels
5. Design the learning path
6. Design TOPIC of vocational education
7. Quality Monitoring And Evaluation
Part 2: Beijing VET Qualification Framework Reform

Result
The result of BVQF

- Enroll vocational students only 1 year (2011), the programme end in 2014.
- The evaluation is not process as planned, no students can get the qualification issued by government or any committee.
- The vocational schools/colleges did a very good survey of the industry.
- The relation between schools/colleges and industry are much more closed than before, the teachers and skill workers are exchanged quite often. We provide funding for this kind of exchanges.
- The students have chance to learn skills need in the working place, and the workers have chance to go back to school for further training.
Some reasons for the BVQF not to continue

- Low students number
- Supporting policy is not enough (committee, funding, student learning outcome)
- Workplace learning is not easy to mobilize (motives, policy, funding)
- Culture is still degree first
- The whole design is complex.
- No national example to follow.
Modern apprenticeship
VET system building
VET groups
Employer engagement
Community engagement
Thank You!

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职业教育与成人教育研究所