Work Based Learning Highly Valued: Dual Vocational Education and Training in Switzerland

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Work Based Learning – International Perspectives
Meeting of the Transatlantic Technology and Training Alliance, TA3
Copenhagen, June 17, 2013
Content

• Factors related to relevance and esteem of VET
• Swiss VET system
• Legal Base, governance, partners
  • How are VET programmes developed?
  • Principles and challenges of the partnership

• Finding a suitable VET programme (individual side)
• Support of learners
• Teacher and trainer education
• Quality assurance
Some Facts and Figures about VET in Switzerland

• VET is the most popular educational option at upper secondary level → 70% choose a VET programme → VET is a valued option!

• VET programmes are offered for around 250 occupations under national regulation (defined occupational profiles, curricula and qualification procedures)

• VET is mostly school-based and work-based (apprenticeships) and takes place in (1) companies, (2) VET schools and (3) industry courses

• 90% of the population attain at least upper secondary education (mostly through VET)
How to Promote Relevance and Esteem of VET?

• Perspective of the individual
• Perspective of the labour market

➔ VET is relevant and valued if educational needs are met from both perspectives

➔ Private-public partnership ensures that the needs of both perspectives are considered
Relevance, Attractiveness and Benefits for VET Learners

• Career guidance and counseling → realistic, conscious decision for a suitable programme at the transition from lower to upper secondary level (general education is often “blindly” followed, decisions are not formed).

• “Gold standard” not only for academic but also for work-based learning. Why is work-based learning attractive and meets the learners’ needs?
  • Learn in authentic working communities = situated learning through participation → key competencies are acquired in the context of their use
  • Learn occupation-specific skills = learn to be fit for purpose → employable skills
  • Learn and earn = be a productive learner and be rewarded for it → motivation

• Successful transition to labour market

• Recognised qualifications: Social and individual return of investment in VET

• Occupational careers and mobility

• Options for higher education
Relevance, Attractiveness and Benefits for Host Companies Offering Apprenticeships or Traineeships

- Productive output of apprentices during training
- Option to hire apprentices as qualified workers after training
- Ensure future expertise, innovation and growth
Factors Related to Relevance and Esteem of VET

• How flexible is the VET system? (permeability VET ←→ general education)
• Are VET programmes developed by building on partnership? Who are the partners? How is the cooperation organised?
• Do VET curricula meet the labour-market needs? How are they kept up-to-date?
• Is career guidance and counseling well developed?
• How do VET schools/colleges interface with workplaces?
• Is general education continued during VET?
• Types of support offered for learners with problems?
• Special measures or offers for gifted learners?
• Education and training of the teachers / trainers? Professional and pedagogical qualification?
• How is teaching / training quality ensured?
VET / PET in the Swiss Education System

2011: 52'094 enrolled

PROFESSIONAL EDUCATION AND TRAINING (TERTIARY-LEVEL B)

- Advanced Federal PET Diploma
- PET college degree
- National PET examinations
- PET colleges

2-year programmes

3 and 4-year programmes

HIGHER EDUCATION (TERTIARY-LEVEL A)

- Master’s degree
- Doctorate

- Bachelor’s degree
- Master’s degree
- Bachelor’s degree

- Universities of applied sciences
- Universities/Federal institutes of technology

- Federal Vocational Baccalaureate
- Specialised Baccalaureate

12'974

18'976

- Federal VET Certificate
- Federal VET Diploma

- Specialised schools
- Baccalaureate schools

60'279

- General education schools

4'026

Vocational education and training

Bridge-year courses

Compulsory education

2011: 234'463 enrolled

06-17-2013 Work Based Learning: VET in Switzerland Scharnhorst
Enrolment in Upper Secondary Level

<table>
<thead>
<tr>
<th>Year</th>
<th>Total VET</th>
<th>Apprenticeships</th>
<th>School-based VET</th>
<th>General education</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>71,900</td>
<td>62,600</td>
<td>9,200</td>
<td>23,600</td>
</tr>
<tr>
<td>2002</td>
<td>69,700</td>
<td>60,100</td>
<td>9,600</td>
<td>24,200</td>
</tr>
<tr>
<td>2003</td>
<td>69,700</td>
<td>59,800</td>
<td>9,900</td>
<td>25,500</td>
</tr>
<tr>
<td>2004</td>
<td>70,100</td>
<td>61,300</td>
<td>8,900</td>
<td>27,500</td>
</tr>
<tr>
<td>2005</td>
<td>70,900</td>
<td>61,700</td>
<td>9,200</td>
<td>28,400</td>
</tr>
<tr>
<td>2006</td>
<td>73,700</td>
<td>65,600</td>
<td>8,100</td>
<td>29,000</td>
</tr>
<tr>
<td>2007</td>
<td>73,400</td>
<td>65,500</td>
<td>7,900</td>
<td>28,700</td>
</tr>
<tr>
<td>2008</td>
<td>76,600</td>
<td>68,400</td>
<td>8,200</td>
<td>28,300</td>
</tr>
<tr>
<td>2009</td>
<td>76,100</td>
<td>68,300</td>
<td>7,800</td>
<td>28,300</td>
</tr>
<tr>
<td>2010</td>
<td>79,500</td>
<td>69,400</td>
<td>10,200</td>
<td>28,600</td>
</tr>
</tbody>
</table>

Upper Secondary Level Qualifications

Source: SERI (2013), based on data of the FSO (2012)
Apprenticeships: Practical and Theoretical Learning in Three Environments

- Occupational practice as an apprentice
- Complete and deepen sector-specific skills
- Occupation-related theoretical knowledge
- General education

Company
3 to 4 days per week

Industry Courses
3 to 8 weekly courses

VET School
1 to 2 days per week

Federal VET Certificate (2 years)
or
Federal VET Diploma (3 or 4 years)
Quality of VET Is Essential

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.

It is not enough to insist upon the necessity of experience, nor even on the activity in experience. Everything depends on the quality of the experience which is had.

(John Dewey, Experience and Education)
Adults’ Participation in Formal and/or Non-Formal Education  
(by educational attainment, participation of the 25 to 64-year-old population, 2007)

Source: OECD (2010)
Adults Without Upper Secondary Qualification

- 90% of the population < 25 years with upper secondary qualification → goal: 95% qualified

- 25 to 45 years: 282’000 not qualified (12.6% of employable population)

- VET system provides different options for qualification after age 25 but they are not well enough known

Three main barriers

- Access to target groups and adequate information about ‘second-chance’ VET
- Career guidance and motivation at the beginning of VET
- Coaching and covering for living costs during VET

## VET Qualifications for Adults: Five Options

<table>
<thead>
<tr>
<th>Options with relevant occupational experience</th>
<th>Options without (much) relevant occupational experience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acknowledge qualifications</strong></td>
<td><strong>Obtain qualifications</strong></td>
</tr>
<tr>
<td><strong>Final exam for adults</strong></td>
<td></td>
</tr>
<tr>
<td>FSO, 2010:</td>
<td></td>
</tr>
<tr>
<td>• N = 3'050</td>
<td></td>
</tr>
<tr>
<td>• Success rate = 84.%</td>
<td></td>
</tr>
<tr>
<td>• 4.5% of all VET qualifications</td>
<td></td>
</tr>
<tr>
<td>Validation of prior learning (‘sur dossier’)</td>
<td></td>
</tr>
<tr>
<td>FSO, 2010:</td>
<td></td>
</tr>
<tr>
<td>• N = 465</td>
<td></td>
</tr>
<tr>
<td>• Success rate = 99.8%</td>
<td></td>
</tr>
<tr>
<td>• 0.7% of all VET qualifications</td>
<td></td>
</tr>
<tr>
<td>Shortened VET programme</td>
<td></td>
</tr>
<tr>
<td>Shortened VET programme for adults</td>
<td></td>
</tr>
<tr>
<td>Regular VET programme</td>
<td></td>
</tr>
</tbody>
</table>

**Federal VET Diploma or Certificate**

Adapted from Wettstein (2011, 2012)
Legal Base: VPETA
A Single Framework for All Aspects of VET / PET

Enactment of the VPETA (Vocational and Professional Education and Training Act) in 2004 implied a fundamental reform of the system: **Legislative power for the entire VET / PET system is at the federal level** including

a. **Upper secondary VET** (incl. general education for the Vocational Baccalaureate)
b. **Tertiary B PET**
c. **Job-related CET**
d. **Qualifications, qualification procedures, titles**
e. **Training of VET and PET professionals**
f. Responsibilities and principles related to **career guidance**
g. **Federal funding** to help cover the costs of VET and PET
Cooperation of Stakeholders in VET

Confederation
- Issues national VET ordinances, regulations and guidelines
- Strategic management and development of VET

26 Cantons (States)
- Issue cantonal implementation regulations
- Implement and supervise VET programmes
- Provide occupational, educational and career guidance services

Professional Organisations
- Define the content of VET programmes
- Promote apprenticeships among their members

Companies
- Hire and train apprentices

Apprentices

VET School | Industry Courses | Occupational Practice
Defining and Implementing VET Programmes

Apprentices, Labour Force

Employability at the national and international level for vocational qualifications

Prof. Associations define competencies/content of VET programmes

Cantons (States) implement and supervise VET programmes

Confederation (SERI)

Partnership

Instruments of governance

VET ordinances (with training plans)

Quality standards and indicators

Funding and innovation
Step 1: Analyses

- Activity analysis
- Occupational development analysis

Preparation and development

Implementation

Start new VET programme

Labour market/society today and tomorrow
Analyses: Overview

Activity analysis

Workshop 1
- Describe activities

Workshop 2
- Categorize activities

Workshop 3
- Describe the future

Workshop 4
- Analyse training and occupation

Documentation

Occupational development analysis

Activity profile

Occupational development profile, measures
Analysis of Current Occupational Activities: Young Professionals Describe Situations
Example of a Situation  
(for Federal VET Diploma in Gardening)

<table>
<thead>
<tr>
<th>Title</th>
<th>Planting plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Properly planting plants</td>
</tr>
</tbody>
</table>
| Action                     | 1. Marking surfaces  
2. Digging plant holes or tilling the soil  
3. Fertilising the soil and mixing in soil enhancers  
4. Covering and watering plants  
5. Attaching to sticks  
6. Write reports on action taken |
| Product                    | Properly planted plants |
| Participants               | Depends on workload |
| Responsibility             | Gardener, site supervisor |
| Material                   | Soil enhancer, fertiliser, sticks, string |
| Tools                      | Shovel, space, pickaxe, possibly power shovel, utility vehicle |
| Workplace, duration        | Frost-free period |
Situated Professional Competencies

Knowledge
= theoretical knowledge
→ understanding

Know-how
= practical skills
→ practice, mastery

Attitudes
= social and personal competencies
Classification of Occupational Activities in Workshops with Experts
Experts Categorise Activities

1. All occupational activities
2. Similar occupational activities
3. Groups of occupational activities

Orientation A

Orientation B
Analysis of the Future Based on Megatrends (External Factors)

- Demographic trends
- Globalisation and climate change
- Maintaining health and performance
- Research and development
- Modern working environments and new working methods
Analysis of Internal Factors

- Analysis of strengths and weaknesses of VET programme and the occupation itself:
  - Classroom instruction at VET school
  - Work-based training at host company
  - Qualification procedure
  - Image and basic general conditions of VET programme, career prospects

- Identification of areas in need of improvement and measures to be taken

- Adaptation of qualification profile on the basis of expected developments and measures

  → Qualification profile V1.0
## Result of the Analyses: Qualification Profile

(Excerpt of the qualification profile for Federal VET Diploma in Gardening)

<table>
<thead>
<tr>
<th>Area of Competence</th>
<th>Professional Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Consultation and sales</td>
<td>Advise customers</td>
</tr>
<tr>
<td></td>
<td>Take orders</td>
</tr>
<tr>
<td></td>
<td>Sell products and services</td>
</tr>
<tr>
<td></td>
<td>Write reports and delivery receipts</td>
</tr>
<tr>
<td>Delivery and service</td>
<td>Deliver products</td>
</tr>
<tr>
<td></td>
<td>Perform services</td>
</tr>
<tr>
<td>Operational maintenance</td>
<td>Supervise production facilities and equipment</td>
</tr>
<tr>
<td></td>
<td>Carry out maintenance work</td>
</tr>
<tr>
<td></td>
<td>Dispose of material in an environmentally sound fashion</td>
</tr>
<tr>
<td>Planting and seeding</td>
<td>Rework plant and crop surfaces</td>
</tr>
<tr>
<td></td>
<td>Plant plants</td>
</tr>
<tr>
<td></td>
<td>Create grasslands and meadows</td>
</tr>
<tr>
<td></td>
<td>Prepare pots for planting</td>
</tr>
</tbody>
</table>
## Connecting Competencies With Resources

<table>
<thead>
<tr>
<th>Area of Competence</th>
<th>Professional Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation and sales</td>
<td>1. advise customers 2. take orders 3. sell products and services 4. write reports and delivery receipts</td>
</tr>
<tr>
<td>Delivery and service</td>
<td>1. deliver the products 2. perform services</td>
</tr>
<tr>
<td>Operational maintenance</td>
<td>1. supervise production facilities and equipment 2. carry out maintenance work 3. dispose of material ecologically</td>
</tr>
</tbody>
</table>

### R (Knowledge):
- Knows names of plants and flowers in 2 languages

### R (Skill):
- High ability to communicate

### S (Attitude):
- Sense of responsibility
Step 2: Preparation and Development

Joint reform commissions

- VET ordinance
- Qualification procedure
- Training plan
- Qualification Profile

Preparation and development

Implementation

Start new VET programme

Labour market/society today and tomorrow

Analysis
Joint Commissions to Prepare VET Training Plans and Ordinances

At least, the following actors have to be represented:

- **Professional organisation(s)** → operative lead
  - Trade Association / Employer association
  - Employee organisation (social partners) if existant

- **State Secretariate for Education, Research and Innovation (SERI)** → strategic lead

- **Cantons** (Swiss Conference of Cantonal VET/PET Agencies)

- Pedagogical consultant

- Association of vocational teachers

A third of the members of the commission are from the French or Italian parts of Switzerland
Development of the Training Plan: Occupational competencies for the Three Learning Sites

**Planting plants**

<table>
<thead>
<tr>
<th>Host company</th>
<th>Industry courses</th>
<th>VET School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners plant plants properly in accordance with situation at hand</td>
<td>Learners apply different planting techniques</td>
<td>Learners describe various planting methods used for different applications and plant properties</td>
</tr>
</tbody>
</table>
Step 3: Implementation

Drafting implementation documents
Providing basic/continuing training to:
- VET teachers
- VET trainers
- Industry course instructors
- VET examiners
- If necessary, public officials

Preparation and development

Labour market/society today and tomorrow

Start new VET programme

Implementation

Analysis
Fundamental Assumptions
Competence-Based Training

Highly qualified workers

Competence-based training

Competence-based training and examinations

Competence-based approach used by VET teachers, trainers and examiners

Competence-based approach used by VET teachers, trainers and examiners

Competence-based principles (VET ordinance, competence profile, training plan, examinations, etc.)

Sound analysis of current and future realities (activity profile, occupational development profile, etc.)
Partnership: Principles and Challenges

• Partnership between the Confederation, the cantons and professional organisations relies on consensus and cooperation.

• Lengthy process of policy making and reform with extensive consultation (but relatively smooth and quick implementation).

• Monitoring to adapt to changes in the labour market is necessary → Commissions for Quality and Development (for each VET ordinance) which include all partners and meet regularly.

• It needs effective leadership to ensure that the consensus principle does not become a formula for inertia.
Means to Foster Constant Dialogue and Quality

- **e.g. Annual apprenticeship conference to discuss**
  - The state of the apprenticeship market, review existing instruments, decide on necessary adjustments,
  - current challenges and specific measures,
  - selected topics of quality development, define quality standards.

- **Define priorities** that concern all partners (since 2012):
  Increase participation in MINT-professions, promote second-chance education, more efficient use of the potential of migrants, strengthen PET

- **Quality charta**: (1) self-responsibility, (2) cooperation, (3) free choice of methods of quality assurance, (4) information exchange

- **Good practice pool** (internet platform of the SERI)
  Access to new and existing practices for quality assurance

- **Quality newsletter** (issued by the SERI)
Helping to Find a Suitable VET Programme

• Career choice – a «family project»

• Information about occupational careers
  - in compulsory school (grades 7 to 9)
  - by professional associations and companies
  - in regional career guidance centres

• Individual counseling in career guidance centres

• Pre-vocational aptitude tests

• «Trial weeks» in companies
Choosing a Suitable VET Programme

• Get to know your interests and strengths
• Compare your interests and competencies with occupational profiles and VET requirements
• Get to know promising occupations more closely
• Decide for a VET programme
• Search for an apprenticeship position (or enrol in a school-based VET programme)
• Prepare yourself for your VET programme
Outcome of Apprenticeship Recruitment Process by Year

Source: Apprenticeship Survey, Link Institute
Types of Support and Special Offers

VET schools:

- Different types of remedial courses
- Additional, free courses

Individual support for successful completion of apprenticeship (cognitive, psycho-social, coaching of host companies)

Case Management:

- Support for at-risk learners with multiple difficulties (2.5 to 3%)
- Federal concept (and funding) for cantonal case management systems
Pedagogical Qualification of VET Teachers and Trainers

### Teachers at VET Schools

**Vocational Instruction**
- PET or UAS Diploma, 6 months of practice

  - Full-time **1800 h** (60 ECTS)
  - Part-time **300 h** (10 ECTS)

### Trainers in Industry Courses

- **PET Diploma, 2 years of practice**

  - Full-time **600 h** (20 ECTS)
  - Part-time **300 h** (10 ECTS)

### Trainers in Host Companies

- **VET Diploma, 2 years of practice**

  - **100h** (3 ECTS)/ 40h course for instructing apprentices

### General Education

**Federal Vocational Baccalaureate (FVB)**

**Examination Experts**

- VET/PET Diploma, several years of practice

Courses at SFIVET for pedagogical and methodical aspects of examinations
SFIVET Principles of Teacher Training

- Integrating practice and pedagogical studies
- Taking up current topics of the students in the course modules
- Expert coaching and monitoring of the students at their VET school
- Visiting other VET institutions and schools
- Working with personal portfolios
- Studying with interactive learning platforms
- Assessing of transfer, showcasing of final study projects
Forms of Quality Development and Ensurance

- Quality assurance in VET schools
- QualiCarte – quality assurance in host companies

- Development projects
- Evaluation projects
- Monitoring
- Research
Thank you for your attention!

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