Apprenticeship as a model for the future of TVET

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Prof. Dr. Philipp Gonon
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Overview

Content

• Apprenticeship – a „seductive notion“?
• Apprenticeship – concept
• Models of VET
• Elements of a successful VET system
• Conclusion
Views on apprenticeships

- **Politics**: „successful model“, integrating youth in the workplace, also integrating low school performers in education and work.

- **Public opinion**: “Apps” (apprenticeships) help to reduce youth unemployment rates.

- **Critics**: “seductive notion” because of equity issues (social and gender aspect).
Apprenticeship

- **Terms**: „German Model“, apprenticeship model, apprentissage
- **Variation**: „Dual System“, „Trial System“
- **Conceptual background**: Sites of learning, interaction between school and workplace, communication between stakeholders
Apprenticeship modes

• **Learning**: apprenticeship as a mode of learning:
  - imitation of skills and attitudes
  - informal kind of acquiring knowledge
  - practical way of adapting to a workplace

• **Apprenticeship as a specific way of education**: Integration in the workplace and society through occupational (and vocational) training and schooling
Apprenticeship as part of education

- **Tradition**: apprenticeships in most crafts all over the world, in all historical periods, in order to recruit youngsters for continuing the trade

- **20th Century**: Start of a formalized (but mostly separated from the Education System) Vocational Education and Training (VET)

- **21st Century**: Apprenticeships and VET system get close to the education system
## Modernization: perspectives

<table>
<thead>
<tr>
<th>Germany</th>
<th>France</th>
<th>England</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>„Beruflichkeit“</td>
<td>„culture technique“</td>
<td>„Qualification Framework“</td>
<td></td>
</tr>
<tr>
<td>Corporation</td>
<td>School, Administration</td>
<td>„Quangos“</td>
<td>Centre of gravity</td>
</tr>
<tr>
<td>Beruf</td>
<td>„savoir (faire)“</td>
<td>Competences</td>
<td>Units</td>
</tr>
<tr>
<td>Skill-based regulations</td>
<td>science-based curriculum</td>
<td>Learner based modules</td>
<td>Assemblage</td>
</tr>
<tr>
<td>Input</td>
<td>Input</td>
<td>Output</td>
<td>Stiring, Orientation</td>
</tr>
<tr>
<td>Holistic approach</td>
<td>Access, junction</td>
<td>Flexibility</td>
<td>Character</td>
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TVET & apprenticeships („apps“)

- **View I**: TVET as apps should be based on occupations
  integral concept, qualification-based standards

- **View II**: TVET should be released of occupations (and apps)
  organization-based concept, employability orientation
apps & skills

- **View I**: high skill equilibrium
  integral concept, qualification-based standards

- **View II**: skill shortage due to occupational bias, which does not offer enough opportunities to continue in education: gap between vocational and higher education
Prospects of VET, including apprenticeships

- **View I**: VET & apps (apprenticeship) are loosing its importance due to the “knowledge” economy
- **View II**: VET & apps are dying due the idea of university
- **View III**: VET & apps as concept disseminate and hybridize the whole education system
The Rise of modern VET

- 20th Century: Establishment of modern VET
- Relevant school-based learning gets important

*Countries*: England, France, Germany, Austria-Hungary, Russia, Switzerland, and USA make industrial progress

*Rise*: between 1870 till First World War

- Regulation and public schooling for apprentices in order to be competitive and to integrate working class youth
- VET systems as a part of the „organized modernity“ in order to meet the needs of a mass education
Implementing VET

First amendments in order to subsidize schools with an industry and commerce focus and museums for technical, commercial and household education

„Bundesbeschlüsse zur Förderung gewerblicher und industrieller und landwirtschaftlicher Bildungsinstitutionen“ (1884)

„Kaufmännische Berufsbildung“ (1891)

„Hauswirtschaftliche Berufsbildung“ (1895)
### Vocational education in trades

#### Expenditures and Subsidies for trade schools and institutions

<table>
<thead>
<tr>
<th>Canton</th>
<th>Population (1880)</th>
<th>Expenditures SFr.</th>
<th>Subsidies Fr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zürich</td>
<td>317 600</td>
<td>174 558</td>
<td>92 740</td>
</tr>
<tr>
<td>Bern</td>
<td>532 200</td>
<td>60 486</td>
<td>29 640</td>
</tr>
<tr>
<td>Genf</td>
<td>101 600</td>
<td>165 863</td>
<td>82 432</td>
</tr>
<tr>
<td>Neuenburg</td>
<td>103 700</td>
<td>71 750</td>
<td>21 050</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2 846100</td>
<td>616 603</td>
<td>256 651</td>
</tr>
</tbody>
</table>
VET contracts & examinations

- Examinations 1880: 36 apprentices
  
  1900: 1402
  
  1914: 7600

- Contracts 1900:
  
  37 961 male and 14 906 female apprentices

  Rank:

  (1) Textiles
  (2) Construction
  (3) Metal & machines industry

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## Effects of legislation

### Cantons with and without legislation for apprentices (1905)

<table>
<thead>
<tr>
<th>Canton</th>
<th>Number of apprentices</th>
<th>Trade &amp; Industry</th>
<th>Commerce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cantons with legislation</td>
<td>26 152</td>
<td>20 569</td>
<td>4 477</td>
</tr>
<tr>
<td>Incl. Zürich</td>
<td>6 636</td>
<td>5 051</td>
<td>1 407</td>
</tr>
<tr>
<td>Incl. Neuchâtel</td>
<td>1 982</td>
<td>1 675</td>
<td>269</td>
</tr>
<tr>
<td>Incl. Genève</td>
<td>1 648</td>
<td>357</td>
<td>82</td>
</tr>
<tr>
<td>Cantons without</td>
<td>9 142</td>
<td>7 225</td>
<td>1 661</td>
</tr>
</tbody>
</table>

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Primary school and work

Modern vocational oriented schooling: France as rolemodel

Reform of Drawing

Introduction of Manual Work in Schools:

• *Since 1880* Manual work in **France** mandatory
• „Travaux manuels“ in order to enhance the dexterity of children
• Prework-education in order to improve the industrial performance of a country
France as role model for VET

Armand Freiherr von Dumreicher (1881):
„National Welfare as a Result of Education“

• Educational Policy in an Industrial State has to establish vocational institutions, especially specialized vocational schools

• Traditional apprenticeships are „not sufficient anymore“
Écoles des Arts et Métiers

• „Enseignement professionnel“ is systematically organized
• „Orientation nouvelle“ is the result of specific industrial needs
• The origin is the École polytechnique
• Technical „Bildung“ as suitable way for the industrial age
Pattern of technical „Bildung“

**First year**: „Rotation“ of youngsters between Iron, Wood, Steam und Mechanics (4 hours a day)
- Instruction in subjects: Mathematics, Drawing, Physics, Chemistry and Repetition of the elementary subjects of Primary School

**Second year**: Choice of the occupation

**Third year**: Flexible qualification in order to move from one workplace to the other

*Aimed for elite workers*
Switzerland and „ateliers publiques“

Karl Bücher: „Such VET schools are the future“ (1879)

- Strong support for work-based schools like in France (1884 ff.)
- Trade
- Teachers
- Foundation of such public „work-schools“: Berne, Winterthur, Zürich
- Further development of specialized schools for watchmakers: Neuchâtel, Jura
Role model II: Kingdom of Württemberg

• Liberal markets instead of protection (Ferdinand von STEINBEIS)
• Central office for economic policies (Stuttgart)
• Broad Establishment of „continuation schools“ with a vocational focus for agriculture, trade, industry, commerce and household
Meeting different vocational needs

Building a set of diverse vocational institutions and measures

- „Verein für Socialpolitik“: „Combined learning“ (1875)

Switzerland:
- „Preisschrift Hug/Boos“ (1881)
- „Gutachten Bendel“ (1884)
- Swiss association of trades 1895: Apprenticeship in the workplace combined with schooling (Survey)
Normalisation of VET & apprenticeships

20th century:

• Daily based mandatory schooling for all apprentices (8 to 9 hours, 3 or 4 year apprenticeships)
• International observers spoke of a fascinating model which is able to produce „capable workmen“ and „good citizens“ („Model Kerschensteiner“- see below)
Legitimization and further development of a dual model

„Gesetz über die berufliche Ausbildung“ 1930 (1933)

- First overall legislation in Switzerland
- Mandatory Schooling
- Written apprenticeship contract
- Examinations for basic and further vocational education
- Balance of power between cantons, state and associations
First examination for Masters in agriculture, 1945
## Apprenticeship contracts 1938-1961

### Total of Contracts for apprentices

<table>
<thead>
<tr>
<th>Year</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>44,510</td>
<td>13,905</td>
<td>58,415</td>
</tr>
<tr>
<td>1948</td>
<td>59,124</td>
<td>17,096</td>
<td>76,220</td>
</tr>
<tr>
<td>1955</td>
<td>61,069</td>
<td>20,606</td>
<td>81,675</td>
</tr>
<tr>
<td>1961</td>
<td>88,376</td>
<td>31,074</td>
<td>119,450</td>
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</tbody>
</table>
Development of apprenticeship contracts (from 50 000 to 160 000)
Stagnation on a high level

2005: 70 000 new entrances in VET
2008 77 000
2009 73 000
The Rise of a modern VET system

- All over Europe and in the USA a new kind of VET is rising in the 20th Century
- Specific national conditions helped to establish specific models
- Challenges today:
  to make the system run the employers play a central role,
  still strong trade bias, choices of parents and youngsters,
  permeability and parity of esteem
W. D. Greinert: VET systems

- **State** plays only a *marginal role for VET Qualifications* - liberal model (England)

- **State** *plans, organizes and controls VET* - state-driven model (France)

- **State** delivers the framework and support for *VET* - mixed model (Germany)
Th. Deissinger: VET systems

- **Occupation** plays only a *marginal role for VET Qualifications* - liberal model (England and France, most Anglo-Saxon countries, Japan) - Modular approach

- **Occupation** is the organizing principle for *VET* - It delivers a curriculum, (Germany, german-speaking regions), the didactics and methods of learning and the institutional setting: actors negotiating and organising VET - Holistic approach
Ph. Gonon: Modes of vocational schooling

- **Model Diderot** (France)
  „L‘apprentissage à l‘école“

- **Model Kerschensteiner** (Germany)
  Vocational schools as support or completion of training

- **Model Dewey** (USA)
  High school as a preparation for work and life
Diderot 1767
H. Steedman and C. Trampusch & M. Busemeyer: models of VET

- **Germany (dual VET)**
  Dual VET is demand-oriented, broadly accepted and gives access to professional careers

- **England (modern apprenticeships)**
  VET & apprenticeship is often seen as second best solution

- **LME & CME (liberal & coordinated market economies)**
  VET depends on Welfare-State, liberal market economies do not support as much VET
  LME as anglo-saxon framework for the development of skills versus CME based on social partnership & corporatist way of VET provision
## VET: perspectives

<table>
<thead>
<tr>
<th>Author</th>
<th>Perspective</th>
<th>Examples</th>
<th>Contrast</th>
<th>Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deissinger</td>
<td>Connectivity with occupations</td>
<td>Germany</td>
<td>England</td>
<td>(France)</td>
</tr>
<tr>
<td>Gonon</td>
<td>Degree of <em>vocational</em> schooling</td>
<td>France</td>
<td>USA</td>
<td>Germany</td>
</tr>
<tr>
<td>Greinert</td>
<td>Grade of state-intervention</td>
<td>France</td>
<td>England</td>
<td>Germany</td>
</tr>
<tr>
<td>Steedman</td>
<td>Demand-Supply</td>
<td>Germany</td>
<td>England</td>
<td>(Austria)</td>
</tr>
<tr>
<td>Trampusch</td>
<td>Welfare regime: liberal or coordinated</td>
<td>England</td>
<td>Germany</td>
<td>Switzerland</td>
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</tbody>
</table>
Rauner & apprenticeships

• **Transitions**: Advantage of apps: transitions are smoother

• **Theory & Practice**: all education needs a phase of appliance and socialisation

• **Governance**: Apps are most adaptive, if there is a central stirring and incentives are given for enterprises
„dual model“

• Term was coined in recommendations by a German advisory board in the year 1964. The regulation of trade and the establishment of continuation schools was determined as „dual system for the education and training of apprentices“ (Deutscher Ausschuss für das Erziehungs- und Bildungswesen 1964, p. 68).

• Today most occupational learning, besides workplace learning and attendance in schools includes a third place which is part of this arrangement: some kind of initial skill training outside production and schools: answer to flexibility needs
## Advantages and problems

<table>
<thead>
<tr>
<th>Pro</th>
<th>Contra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Learning in a real work situation</td>
<td>Work is not always as insightful for personal intellectual growth</td>
</tr>
<tr>
<td>Immediate Confrontation with technological aspects</td>
<td>Too specific kind of learning, lack of general knowledge</td>
</tr>
<tr>
<td>Youth meet very early the world of work</td>
<td>Classroom learning with peers is not very important</td>
</tr>
<tr>
<td>Low youth unemployment</td>
<td>Demographic curves and economic up and downs shorten attractive offers for apprenticeships</td>
</tr>
<tr>
<td>Shared costs, industry is much involved in</td>
<td>Low investment in innovative and cost-intensive apprenticeships</td>
</tr>
<tr>
<td>State is only active where necessary</td>
<td>Lack of coherent education policy</td>
</tr>
<tr>
<td>Experience-driven kind of learning</td>
<td>Partly uneffective and unnecessary elements of learning</td>
</tr>
</tbody>
</table>
“Sonderweg“ of dual VET countries

- Low rates of academic education - still an important part of youth remains in VET and continues in vocationally based further education
- Smooth transition into work, even for higher education (universities of applied sciences, dual academic pathways)
- Still high, but diminishing inclusion rates for strong and also for weak learners

  this raises the question of *adaptability, flexibility and permeability* of apprenticeships
Pahtwaybound charateristics of dual VET systems

- Start: arts and crafts, trade tradition
- Modern dual VET:
  - Answer to the so called „social question“
  - Economic policy for trade
  - Links to the education system through teachers and other stakeholders (associations)
  - Public examinations
  - Take off with industry (boost after Second World War)
  - Stagnation due to the rise of the service or knowledge economy
• „Scholarisation“ and formalisation of VET
• (Loosley) Coupling systems of education and economy:

Basis are defined standards, traditionally defined through occupational tasks:

– Occupational tasks are constructivist, i.e. open for change; modification in order to meet new challenges are possible

– Occupational tasks are defined as education and training opportunities, i.e. require teaching and learning practice
• VET meets several and divergent interests from the business community, from education, from society
• VET is public (public private partnership)
• VET is part of the education system
• VET combines specific and general knowledge
• Occupation as a central focus for VET
• Close link to the enterprises, economy and economic policy
• VET opens career paths
Future of apprenticeships

• Why does it work in Switzerland?
• Incentives for employers
• Political structures
• Corporations who revise permanently
• Shared competences
• Permeability within the system
• Challenges
• EQF
• Loss of occupational culture
• Prestige of higher education
Essentials for modern apprenticeships

- **Functionality**: it must make sense
- **Permeability**: an open system which gives access to higher education
- **Flexibility**: Apps are most adaptive to changing contexts in education & work
- **Governance**: balance of diverse views
- **Legitimacy**: Expert view, parental choices, recruiting practices
References

Deissinger, Th: Beruf als organisierendes Prinzip der Berufsbildung. Eusl 1996
Gonon, Ph: The Quest for modern vocational education. Berne 2009
Rauner, F. et al. (2009): Steuerung der beruflichen Bildung

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