Finnish Institute for Educational Research, FIER

- A national centre for educational research, established in 1968
- A multidisciplinary research institute based at the University of Jyväskylä
- Mission: to develop education through scientific research
- Research areas:
  - Educational systems and society
  - Education and the world of work
  - Learning, teaching and learning environments
Contents: Learning from VET in the Nordic Countries

I Why to learn from Nordic countries?
What is the common framework for VET in the Nordic countries?

II Nord-VET:
transitions to the world of work and to higher education
From VET in the Nordic countries: what can we learn about that?

III Challenges for research and the future of IVET in the Nordic countries
Why to learn from Nordic countries, why is VET important

- Participation in education supports
- Social inclusion, cohesion
  - Reduces unrest in society
- Enhances individual and societal well-being
  (relevancy of skills in short-long term perspective)
Why to learn from Nordic countries?

- "Nordic countries have developed well-organised labour markets, consensual political cultures and universalist welfare states that have given priority to goals related to equal opportunities and social inclusion" - Jorgensen (2012)

- They represent a universalistic transition regime, where individuals are given educational and social benefits relatively independently of their household members’ resources. State-supported inter-generational independence makes them different from Anglo-Saxon and Mediterranean countries’ regimes. (Gallie & Paugam 2000, Walther 2009).
Why to learn from “universalist welfare states”? They are on the top!

- **In happiness**: Top ten countries in UN’s Ranking of Happiness
- **In innovation**: Bloomberg
- **Life expectancy**: WHO 2013 (all in top 30; Norway, Sweden top 10)
- **Life satisfaction high**: (all in top ten, OECD 2012)
- **Confidence in national government**
- **Lowest infant mortality rates**: (OECD Data)
- **Smaller differences in income inequality** (than OECD average; all in top ten)
- **Educational expenditure (in top ten)**: (Eurostat 2014)

Why to learn from Nordic countries?
UN’s Ranking of Happiness

Figure 2.2: Ranking of Happiness 2013-2015 (Part 1)
Why to learn from Nordic countries? Happiness

Dystopia: a hypothetical benchmark country against which each country was compared

(GDP = Gross domestic product, an estimate for the economic performance of a country, does not consider inflation rates or costs of living)
Bloomberg's Global Innovation Index 2013

1. United States
2. South Korea
3. Germany
4. Finland
5. Sweden
6. Japan
7. Singapore
8. Austria
9. Denmark
10. France
11. Netherlands
12. Ireland
13. Norway
14. Russia
15. Belgium
16. Luxembourg
17. Canada
18. United Kingdom
19. Slovenia
20. Iceland

Determining factors:
- R&D intensity
- Productivity
- High-tech density
- Researcher concentration
- Manufacturing capability
- Tertiary efficiency
- Patent activity

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Koulutuksen tutkimuslaitos - Finnish Institute for Educational Research
Among the World Richest Countries (among 185, 2015)

✧ According to GDP (PPP), i.e. gross domestic product (GDP)
✧ based on purchasing power parity PPP, which takes into account the relative cost of living and the inflation rates of the countries


What else do Nordic countries have in common?
Baltic sea: Geography and history

- Kalmarunionen 1397-1523
- King of Sweden, Gustav Vasa 1523- >Swedish independence
- Denmark-Norway 1524
- Sweden-Norway 1814-1905
- Finland part of Sweden until 1808: (Götaland, Svealand, Norrland and Österland).
  and part of Russia 1809-1917, Until independence in 1917
- World war II

Map from 1880

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**Side-step: Nordic dimension in the Finnish culture**

- Swedish-speakers in Finnish population has decreased from 13% (in 1900) to ->6% (in 2013)

- Until recently the size of Swedish-speaking minority (5.4% in 2014) has been as big as other minorities in sum, ->around 300 000

- Emigration to Sweden: in 1960s and 1970s in particular;
  - -> 440 000 Finns or children of Finns in Sweden (in 2008), if grandparents counted 675 000
Relations to European Union: population, currency

✧ Denmark: member since 1973
  » (population: 5 659 715, DKK)

✧ Finland: member since 1995
  » (population: 5 471 753, euro)

✧ Sweden: member since 1995
  » (population: 9 747 355, SEK)

✧ Norway: joined the European Economic Area in 1994
  » (population: 5,214,900 NOK)
Common challenges with respect to VET:

✧ Globalisation,
✧ Knowledge society,
✧ Changing job requirements (hybrid combinations of skills, temporary, precarious, out-sourced jobs as a result of global chains of production?)
✧ Robotisation, automatisation, digitalisation
✧ What is the role of VET with respect to marginalisation vs. social cohesion

✧ Nordic countries share: High level of education
Persons aged 30-34 yrs with ISCED 5-6, 2010, %

EUROSTAT
New directions in the global era of production?

- BBC 26 March 2015:

- “German sportswear firm Adidas has outlined a turnaround plan that includes making some of its goods in Europe rather than Asia. —It said it was testing automated production units that would speed up manufacturing and allow customers to personalise their purchases.”

- What the changes will make to labour demand in the North?
Common challenges: skills forecasts up to 2025, CEDEFOP 2015


<table>
<thead>
<tr>
<th></th>
<th>Denmark</th>
<th>Finland</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 passed by</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth in</td>
<td>business, other services, non-marketed services and construction</td>
<td>business and other services</td>
<td>non-marketed (mainly public sector services)</td>
</tr>
<tr>
<td>Demand for high-level qualifications</td>
<td>49% (2025) vs. 38% (2013)</td>
<td>37% (2025) vs. 39% (2013)</td>
<td>51% (2025) vs. 38.5% (2013)</td>
</tr>
<tr>
<td>Expected GDP growth</td>
<td>1.7% (2015), 2% (2016)</td>
<td>0.6% (2015), 1.1% (2016)</td>
<td>2.4% (2015), 2.7% (2016)</td>
</tr>
</tbody>
</table>
Common challenges for Nordic countries skills forecasts up to 2025, CEDEFOP
From agricultural to industrial society, and service society

How to answer the demand for 21st century skills

- career and life management skills
- critical thinking,
- problem-solving,
- communication,
- collaboration,
- creativity,
- innovation,
- initiative and self-direction
- as well as digital literacy: information, media and ICT literacy (Trilling & Fadel 2009).

- Shift from individual to contextual conceptions of skills

- Demand for transversal skills;

- planning,
- communicating,
- coordinating,
- controlling and evaluating

(Winch 2013, 2015).

<table>
<thead>
<tr>
<th>Focus of skills conception</th>
<th>Work activities demand solving of problems, which are</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROUTINE</td>
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<tr>
<td></td>
<td>NOVEL</td>
</tr>
<tr>
<td></td>
<td><strong>INTRAPRENEURIAL SKILLS</strong></td>
</tr>
<tr>
<td></td>
<td>ability to work effectively in immediate work context</td>
</tr>
<tr>
<td></td>
<td><strong>SYMBOLIC ANALYTICAL SKILLS</strong></td>
</tr>
<tr>
<td></td>
<td>ability to apply specific form of expertise</td>
</tr>
<tr>
<td></td>
<td><strong>POLYCONTEXTUAL SKILLS</strong></td>
</tr>
<tr>
<td></td>
<td>ability to mediate between forms of expertise</td>
</tr>
<tr>
<td></td>
<td><strong>INTELLECTIVE SKILLS</strong></td>
</tr>
<tr>
<td></td>
<td>ability to mediate between symbolic data</td>
</tr>
<tr>
<td></td>
<td><strong>BOUNDARY CROSSING SKILLS</strong></td>
</tr>
<tr>
<td></td>
<td>ability to operate effectively in different contexts</td>
</tr>
</tbody>
</table>

**INDIVIDUAL**

- **KEY SKILLS**
  - literacy,
  - numeracy,
  - ICT

**CONTEXTUAL**

- **KEY QUALIFICATIONS**
  - using of
  - technical
  - socio-cultural
  - participative
  - competence

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Quite a lot of challenges: how to meet them? What should VET be? School for Wizards?
Transitions from compulsory education?
FINLAND: direct transition to VET increased 2005–2012

![Bar chart showing the percentage of students transitioning directly to VET from upper secondary general education and upper secondary vocational education, with data from 2005 to 2012. The chart indicates an overall increase in direct transitions to VET over the years.](chart.png)
Reasons behind increased participation in VET, in Finland:

- Development of VET towards the world of work during the last decade; adoption of on-the-job learning and skills demonstrations,
- Skills competitions, like the annual Finnish National Skills Competition 'Taitaja'; improved prestige
- International exchange programmes, language-teaching!
- Eligibility to higher education that VET offers,
- Enhanced higher education opportunities: establishment of universities of applied sciences in the 1990s
- Individualised study programmes, enhanced provision of VET as part of inclusive youth policies in order to keep youth active—provision of VET as part of welfare state policy aiming to equality
- VET students are organized; SAKKI
Bridges: Transitions to the world of work and HE?
Employment by age group and educational level, %; 2012

<table>
<thead>
<tr>
<th>Education and age group</th>
<th>Finland (FI)</th>
<th>Denmark (DK)</th>
<th>Norway (NO)</th>
<th>Sweden (SE)</th>
<th>Germany (DE)</th>
<th>United Kingdom (UK)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low (ISCED 0–2)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25–39</td>
<td>60.1</td>
<td>67.3</td>
<td>65.7</td>
<td>62.8</td>
<td>56.6</td>
<td>57.0</td>
</tr>
<tr>
<td>40–64</td>
<td>53.7</td>
<td>61.3</td>
<td>63.0</td>
<td>65.9</td>
<td>54.7</td>
<td>55.6</td>
</tr>
<tr>
<td><strong>Medium (ISCED 3–4)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25–39</td>
<td>78.0</td>
<td>83.2</td>
<td>84.5</td>
<td>84.7</td>
<td>80.1</td>
<td>78.2</td>
</tr>
<tr>
<td>40–64</td>
<td>71.8</td>
<td>76.9</td>
<td>79.8</td>
<td>82.5</td>
<td>74.5</td>
<td>76.0</td>
</tr>
<tr>
<td><strong>High (ISCED 5–6)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25–39</td>
<td>85.0</td>
<td>88.3</td>
<td>90.8</td>
<td>87.6</td>
<td>88.7</td>
<td>88.7</td>
</tr>
<tr>
<td>40–64</td>
<td>83.6</td>
<td>84.6</td>
<td>89.8</td>
<td>88.5</td>
<td>86.1</td>
<td>82.3</td>
</tr>
</tbody>
</table>

Adopted from EACEA P9, 2012, p. 178; Note: In Finland, the ISCED 4 includes specialist vocational qualifications and further vocational qualifications; see also Virolainen, M., & Stenström, M.-L. (2014).
Why do not Finnish VET graduates succeed in finding employment when compared to other Nordic countries?
## Comparison of Nordic countries on the way to 2020

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Finland</th>
<th>Sweden</th>
<th>Norway</th>
<th>Denmark</th>
<th>EU 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment of those with IVET qualifications, 20-34 years (ISCED 3-4)</td>
<td>79%</td>
<td>85%</td>
<td>80%</td>
<td>89%</td>
<td>79%</td>
</tr>
<tr>
<td>Unemployment, 20-34 years</td>
<td>10%</td>
<td>11%</td>
<td>5%</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>Employment, 20-64 years</td>
<td>73%</td>
<td>80%</td>
<td>80%</td>
<td>76%</td>
<td>68%</td>
</tr>
<tr>
<td>Share of early school leavers</td>
<td>9%</td>
<td>7%</td>
<td>14%</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td>Not in education, employment or training (NEET), 18-24 years</td>
<td>13%</td>
<td>10%</td>
<td>8%</td>
<td>8%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Cedefop: Country statistical overviews update 2014; On the way to 2020: data for vocational education and training policies

8.6.2016
Figure 2.1. **Employment is low compared to other Nordics**

A. Men

- Age 70-74: -25
- Age 65-69: -20
- Age 60-64: -15
- Age 55-59: -10
- Age 50-54: -5
- Age 45-49: 0
- Age 40-44: 5
- Age 35-39: 10
- Age 30-34: 15
- Age 25-29: 20
- Age 20-24: 25
- Age 15-19: 30

B. Women

- Age 70-74: -25
- Age 65-69: -20
- Age 60-64: -15
- Age 55-59: -10
- Age 50-54: -5
- Age 45-49: 0
- Age 40-44: 5
- Age 35-39: 10
- Age 30-34: 15
- Age 25-29: 20
- Age 20-24: 25
- Age 15-19: 30

## Access to HE: Denmark, Norway

<table>
<thead>
<tr>
<th></th>
<th>VET and eligibility to HE</th>
<th>HE opportunities for VET graduates</th>
<th>Participation in HE after VET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark (DK)</td>
<td>10% complete double qualification in VET (apprenticeship route) +/-15%/cohort participate in HHX, HTX (business and technical gymnasium)</td>
<td>short-cycle programmes main destination (sub-Bachelor level), mostly vocational academies i.e. ‘Ehrversakademier’</td>
<td>6.4% (2006) slightly decreased participation since 2001</td>
</tr>
<tr>
<td>Norway (NO)</td>
<td>50-51% general university/college admission certificate</td>
<td>-dependent on educational field; in some fields students have to return to upper secondary education for another school-based year in order to qualify for HE-post-secondary vocational education “fagskoler”</td>
<td>16% in the field of technical and industrial production continue to fagskoler (field where highest participation rate)</td>
</tr>
</tbody>
</table>

Source: Nord-VET country reports, see: [http://nord-vet.dk/country-reports/](http://nord-vet.dk/country-reports/)
## Access to HE: Sweden, Finland

<table>
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<th>HE opportunities for VET graduates</th>
<th>Participation in HE after VET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sweden (SE)</strong></td>
<td>post-secondary VET</td>
<td>45-50 of age cohort continue in some HE variance from field to field; health care VET 25-35%; electricity 23%; service sector 13% transition from independent schools higher than other; decreased participation since 2011</td>
</tr>
<tr>
<td>67% of vocational students are qualified for HE, possible to combine studies enabling access to HE in VET programmes</td>
<td>Higher vocational education “Yrkeshögskola”</td>
<td></td>
</tr>
<tr>
<td><strong>Finland (FI)</strong></td>
<td>Universities of applied sciences</td>
<td><strong>share of applicants with VET background to UAS:</strong> young 27% (2013); adults (2013) 44% **share of entrants with VET background varies from field to field: 17-80% **general upp. s. route advantage: 5-8% more gain entrance to UAS **Traditional science universities: VET graduates 0-13% depending on field</td>
</tr>
<tr>
<td>general eligibility to HE via VET (around 65% of entrants completed VET)</td>
<td>Traditional science universities</td>
<td></td>
</tr>
</tbody>
</table>

Source: Nord-VET country reports, see: [http://nord-vet.dk/country-reports](http://nord-vet.dk/country-reports), except for **Hintsanen et al. 2016**
### HE system’s differences: adults who have attained tertiary education, by type of programme and age group (OECD 2015, p. 41)

<table>
<thead>
<tr>
<th>Education and age group</th>
<th>Finland (FI)</th>
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<th>Germany (DE)</th>
<th>United Kingdom (UK)</th>
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</thead>
<tbody>
<tr>
<td><strong>Short cycle</strong></td>
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<tr>
<td>25–34</td>
<td>0</td>
<td>4</td>
<td>14</td>
<td>10</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>55–64</td>
<td>17</td>
<td>4</td>
<td>9</td>
<td>11</td>
<td>1</td>
<td>11</td>
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<tr>
<td><strong>Bachelor’s</strong></td>
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<tr>
<td>25–34</td>
<td>26</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>14</td>
<td>31</td>
</tr>
<tr>
<td>55–64</td>
<td>7</td>
<td>18</td>
<td>16</td>
<td>9</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td><strong>Master’s</strong></td>
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<td></td>
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</tr>
<tr>
<td>25–34</td>
<td>14</td>
<td>15</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>55–64</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>
Completion of tertiary education qualifications (ISCED 5 and 6)
In tertiary education, 20-39 years
<table>
<thead>
<tr>
<th>Participation in initial VET</th>
<th>Transitions to HE via VET</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td></td>
<td></td>
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<tr>
<td>Norway</td>
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<td>Sweden</td>
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</tr>
<tr>
<td>Finland</td>
<td></td>
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</tr>
</tbody>
</table>
Lessons to learn

✧ From model-borrowing to context sensitive benchmarking, understanding the embeddedness, dependence and connections of VET models`characteristics in the local education system

✧ Paying attention to the success of dominant fields of production in the global competition and world economic development
Different approaches to equality promoted in policies

✧ Natural, libertarian position: no interest, let it be (society of castes)

✧ Equal opportunities: detection of talents, measuring of talents,

✧ Equal treatment: the same basic education

✧ Equal achievement: positive discrimination, support systems, formative assessment underlined

✧ Equal social fulfilment: individual characteristics, individualised instruction, individual support

Busemeyer (2015) on theories which explain institutional diversity of education and training systems

✧ Neo-institutionalism: path dependency – members’ interest creates stasis (does not explain change)

✧ Classical power resources: political coalitions between organisations and parties decide on institutions and resources
  ✧ (does not explain coalitions across party interests)

✧ Partisan theory: coalitions seeked across traditional parties
  ✧ (no attention to planning and decision-making processes)
Busemeyer’s 2015 suggestions for modification of theories

✧ Attention not only to policy aims but also processes where aims are defined and negotiated

✧ Need to take existing institutional context as a starting point

✧ Temporality: educational reforms take time, results not seen immediately

✧ Long-term changes demand long-term commitment
Globalisation, internationalisation -> virtual markets
Present challenges and the future of the Finnish IVET

- Diverse student population: from ambitious Skills competitors, completors of double qualifications to second chance students (youth guarantee) - pedagogical development
- Dropping out, decreased from 13% (in 2000/2001) to 9% (in 2012)
- Recession -> financing of VET
- Restructuring of the network of upper secondary education providers and regional accessibility
- Reorganisation of adult and youth education
- Urbanisation: curriculum renewal
- Immigration: language studies
Share of foreign citizens in EU-27 countries (%) in 2011
VET – a stairway to respected job positions as skilled workers/professionals, and good working life, responsible agency; what can be done?
Learning from the Nordic countries: where attention is needed in sum

✧ Long term policy commitment to educational aims:
  ✧ inclusion, cohesion, life-long learning

✧ Individualised educational demands (changes in the world of work, career changes) and demands in guidance counselling

✧ Differentiated higher education and global educational market

✧ Attention still needed in constructing/enhancing life-long learning opportunities, clear linkages to adult and further education and access to HE

✧ Demand for communities of practice which develope vocational education, and guidance at the workplace, collaboration with the world of work on national, regional, and school level
Learning from the Nordic countries: where attention is needed in sum

✧ Fragmentation of educational markets vs. demand & creation of communities of practice which develop vocational education, and guidance at the workplace, collaboration with the world of work on national, regional, and school level and guidance counselling

✧ ->Teacher education; development of workplace guidance

✧ educational planning, curriculum development and the revision of study places on both the general upper-secondary level and the higher education level

✧ Transitions to higher education: how to make them smoother
Transparency of education systems, deconstruction of barriers for participation

- study places, training places
- guidance
- individual support
Methodological challenges for future research

✧ Age of big data? Need to develop better opportunities for statistical comparison

✧ -> longitudinal time series comparison
✧ Categorisation changes…

✧ How to regard dominant fields of production vs. global competition
✧ Number of study place vs. age cohort
✧ Number of unemployed/education of unemployed/age cohort
✧ Length of unemployment & education
Challenges for the age of big data

✧ completion of upper secondary education should be related to information about age groups and vocational/general education division of the graduates
✧ transitions from upper secondary education to tertiary education from both the vocational and general upper secondary education, information would be needed by age group, former education and the number of qualifications completed
✧ employment, more longitudinal panel groups should be available for comparison, and knowing the number of qualifications completed by those who are employed and unemployed would be helpful.
✧ Regional data to picture regional disparities

✧ See also Virolainen, M., & Stenström, M.-L. (2014).
COUNTRY REPORTS

Links to reports: **Historical emergence of VET in Nordic Countries:**

- The historical emergence of VET in Denmark
- The historical emergence of the Swedish model of VET
- The historical emergence of Finnish VET
- The historical emergence of Norwegian VET

Links to reports: **The current state of four challenges for VET**

- Denmark: The current state of the challenges for VET 2014
- Sweden: The current state of the challenges for VET 2014
- Finland: The current state of the challenges for VET 2014
- Norway: The current state of the challenges for VET 2014

Report 1c: **Recent reforms and innovations in VET**

- Denmark: Innovations in VET in Denmark
- Sweden: Innovations in VET in Sweden
- Finland: Innovations in VET in Finland
- Norway: Innovations in VET in Norway
References

References, continued

- http://dx.doi.org/10.1787/eag-2015-en
- OECD (2016)

- NORD-VET country reports: http://nord-vet.dk/country-reports/
Thank you for your interest!

ktl.jyu.fi/en