European Forum for Vocational Education and Training Conference 2021

Shaping the Future: Sustainable and Innovative VET

Recovering, Resilience and Reimagining TVET within a Lifelong Learning Perspective
TVET Transformation Focus in EU and Global Agenda

2 Interconnected Challenges

Responding to

Climate change

Green Economies

Digital Transformation

Industry 4.0
However, the Sustainability Challenges are Broader

Source: Majumdar, 2018
Gender Pay Gap: Equal Pay for Equal Work

The unadjusted gender pay gap, 2019
(difference between average gross hourly earnings of male and female employees as % of male gross earnings)

Note: For all the countries except Czechia and Iceland: data for enterprises employing 10 or more employees, NACE Rev. 2 B to S (-O); Czechia: data for enterprises employing 1 or more employees, NACE Rev. 2 B to S; Iceland: NACE Rev. 2 sections C to H, J, K, P, Q. Gender pay gap data for 2019 are provisional until benchmark figures, taken from the Structure of Earnings survey, become available in December 2024.

(*) Estimated data.
(*) Definition differs (see metadata)
(*) Break in series
(*) 2018 data.
Source: Eurostat (online data code: sdg_05_20)
The Digital Technology Connects

But also divides
Proportion of households with Internet, OECD countries
Source: ITU database, 2020
Impact of COVID-19 on TVET
Back to school with sanitary protocols but not everywhere

Academic Year 2021-2022
Global Perspective

124 countries have fully opened schools
40% of the total student population across the world are back in school
44 countries have now partially reopened schools
16 countries are still fully closing schools
80 countries have prioritized teacher vaccination
Growing evidence from countries shows that learning losses are real and unequal.

Students from earlier grades and that already-disadvantaged children are often losing the most.

Source: UNESCO, UNICEF, WB, 2021

**Belgium:** evidence from standardized tests implemented before and after the start of the pandemic suggests losses of 0.17 standard deviations for math and 0.19 standard deviations for language (Maldonado and de Witte 2021).

**Netherlands:**
- Data from 8-week school shutdown show a learning loss of 0.08 standard deviations (Engzell, Frey and Verhagen 2020).
- Learning losses were 60 percent larger among students from less-educated homes, fueling concerns of the unequal impact of the pandemic, even in countries with high levels of equality and near universal broadband access. (Engzell, Frey and Verhagen 2020).

**USA:**
- In California, the ELA assessment for fourth graders and eighth graders showed that low-income students experienced a 7 percent decline in the rate of learning compared to a normal year, while their wealthier peers saw a 5 percent increase in the rate of learning (Pier et al. 2021).
- In Texas, only 30 percent of third graders tested at or above grade level in math in 2021, compared to 48 percent in 2019. For reading, 38 percent of third graders tested at or above grade level, compared to 44 percent in 2019. (Texas Education Agency 2021).

**Switzerland:** an 8-week school shutdown showed that primary school students learned more than twice as fast when attending school in person compared to remote learning during school closures (Tomasik, Helbling and Moser 2021).
Beyond the learning losses, the school closures have had many other negative impacts on children and youth in particular on Wellbeing and drop-outs.

Source: UNESCO, UNICEF, WB, 2021

- Wellbeing: A recent meta-analysis of 29 studies including over 80,000 youth shows that depression and anxiety have doubled **globally**, compared to pre-pandemic estimates (Racine et al 2021).

- The Brazilian National Examination of Upper Secondary (Exame Nacional do Ensino Médio, ENEM) for university entry showed the lowest number of applicants since 2007. The number of black, brown or indigenous students declined as a share of the total number of applicants.

- In Colombia, enrollment on TVET programs dropped 50% between 2019 and 2020, reaching 2010 levels. (SIET, 2021)
Globally only **2.9 per cent** of the total global stimulus package amount is allocated to Education and Training.

Source: UNESCO, 2021
### TVET for change

2 interconnected challenges

#### Climate change
- Greening TVET across all Member States
- NQFs Descriptors
- Accreditation Processes

#### Digital Transformation
- Digital Learning - Bridge Digital
- Right to connectivity
- Data identity as right
- Regulate interoperability
Greening Education and Training: Unfinished agenda

Environmental themes and teacher training

36%

Not included in any teacher training

30%

Included in both pre-service and in-service teacher training

19%

Included in pre-service teacher training only

15%

Included in in-service teacher training only

**Students Like Learning Science**

In both grades, liking learning science was strongly associated with higher average achievement. Eighth grade students were less positive about learning science than fourth grade students.

*Results for eighth grade based on students’ reports about liking integrated science; in countries teaching separate science subjects, students were much less positive about learning chemistry and physics and somewhat less positive about learning biology and Earth science.*

**Student Confidence in Science**

In both grades, being very confident in science was strongly associated with higher average achievement. Eighth grade students were less confident in science than fourth grade students.

*Results for eighth grade based on students’ reports about their confidence in integrated science; in countries teaching separate science subjects, students were less confident in chemistry and physics and somewhat more confident in biology and Earth science.*
Student Confidence in Mathematics

In both grades, being very confident in mathematics was strongly associated with higher average achievement. Eighth grade students were less confident in mathematics than fourth grade students.

Students Value Mathematics

In eighth grade, most students said they value mathematics at least somewhat. Valuing mathematics was associated with higher average achievement.

SOURCE: IEA’s TIMSS 2019
http://timss2019.org/download
Target 4.1: Primary/secondary education completion

Only 5 in 10 young people finishing secondary school in 2018
Only 6 in 10 young people will be finishing secondary school in 2030

Projected completion rates globally in 2030
- 93% in primary
- 85% in lower secondary
- 60% in upper secondary

Even in high income countries
- 9% will not complete secondary

Source: GEM Report team estimates and projections.
Target 4.5: Equity

The greatest disparities are based on wealth

Disparities by wealth

Among the poorest:
- **85** in high-income
- **64** in upper-middle-income
- **19** in lower-middle-income
- **11** in low-income countries

Complete upper secondary for every 100 among the richest

Source: World Inequality Database on Education.
WORLD ECONOMIC OUTLOOK UPDATE JULY 2021
GROWTH PROJECTIONS BY REGION
(PERCENT CHANGE)

**World**
- **2020**: -3.2%
- **2021**: 6.0%
- **2022**: 4.9%

**UNITED STATES**
- **2020**: -3.5%
- **2021**: 7.0%
- **2022**: 4.9%

**EURO AREA**
- **2020**: -6.5%
- **2021**: 4.6%
- **2022**: 4.3%

**MIDDLE EAST AND CENTRAL ASIA**
- **2020**: -2.6%
- **2021**: 4.0%
- **2022**: 3.7%

**EMERGING AND DEVELOPING ASIA**
- **2020**: -0.9%
- **2021**: 7.5%
- **2022**: 6.4%

**LATIN AMERICA AND THE CARIBBEAN**
- **2020**: -7.0%
- **2021**: 5.8%
- **2022**: 3.2%

**SUB-SAHARAN AFRICA**
- **2020**: -1.8%
- **2021**: 3.4%
- **2022**: 4.1%

Note: Order of bars for each group indicates (left to right): 2020, 2021 projections, and 2022 projections.

IMF.org/social
EU

Analysis:
- Highest unemployment: Greece, Spain, Italy, Lithuania, and Sweden
- Lowest unemployment: Czech Republic, Poland, Germany, the Netherlands, and Hungary
- Decreasing unemployment: Greece, Italy, France, and Poland
- All other states included in this analysis have an increasing unemployment trend

Note:
- Some EU countries have been excluded from the graph in order to more clearly show the data range; most EU countries score between 5 and 8 percent in total unemployment
Future of Jobs and Skills: High wage jobs-
High Occupation Transition

In the post-COVID-19 scenario, occupation transitions may increase by as much as 25 percent across countries compared to before the pandemic.

**Increase in the number of workers needing to change occupation between pre- and post-COVID-19 scenarios by 2030**

<table>
<thead>
<tr>
<th>Country</th>
<th>Increase in number of workers needing to change occupation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>28</td>
</tr>
<tr>
<td>Germany</td>
<td>21</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>14</td>
</tr>
<tr>
<td>China</td>
<td>13</td>
</tr>
<tr>
<td>France</td>
<td>12</td>
</tr>
<tr>
<td>Japan</td>
<td>11</td>
</tr>
<tr>
<td>Spain</td>
<td>7</td>
</tr>
<tr>
<td>India</td>
<td>0</td>
</tr>
</tbody>
</table>

**Occupation transitions in post-COVID-19 scenario, % of 2030 workforce**

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<td>Spain</td>
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<tr>
<td>India</td>
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**Occupation transitions in post-COVID-19 scenario, million**

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<td>India</td>
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1. Individuals need to transition occupation if they are in an occupation that was not declining labor demand relative to 2030 baseline. The pre-COVID-19 scenario includes the effects of eight trends: automation, rising incomes, aging populations, increased technology use, climate change, infrastructure investment, rising education levels, and marketization of unpaid work. The post-COVID-19 scenario includes all pre-pandemic trends as well as accelerated automation, accelerated e-commerce, increased remote work, and reduced business travel.

2. Job transitions remain flat pre- and postpandemic because of fewer services jobs available into which low-wage construction workers could transition. Excludes transitions among farm workers; if farm jobs are included, transitions fall pre-pandemic compared to postpandemic as there are fewer transitions to secondary and tertiary sectors.

Source: McKinsey Global Institute analysis
Robotisation is uneven across sectors and countries.

### The Countries With The Highest Density Of Robot Workers

Installed industrial robots per 10,000 employees in the manufacturing industry in 2019*

<table>
<thead>
<tr>
<th>Country</th>
<th>Level in 2017</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Korea</td>
<td>710</td>
<td>855</td>
<td>364</td>
<td>346</td>
</tr>
<tr>
<td>Japan</td>
<td>308</td>
<td>346</td>
<td>346</td>
<td>277</td>
</tr>
<tr>
<td>Germany</td>
<td>240</td>
<td>228</td>
<td>228</td>
<td>212</td>
</tr>
<tr>
<td>Sweden</td>
<td>192</td>
<td>211</td>
<td>211</td>
<td>187</td>
</tr>
<tr>
<td>United States</td>
<td>157</td>
<td>191</td>
<td>191</td>
<td>177</td>
</tr>
<tr>
<td>Italy</td>
<td>112</td>
<td>165</td>
<td>165</td>
<td>165</td>
</tr>
<tr>
<td>Belgium/Luxembourg</td>
<td>97</td>
<td>187</td>
<td>187</td>
<td>187</td>
</tr>
<tr>
<td>China</td>
<td>137</td>
<td>177</td>
<td>177</td>
<td>177</td>
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<tr>
<td>France</td>
<td>161</td>
<td>165</td>
<td>165</td>
<td>165</td>
</tr>
<tr>
<td>Canada</td>
<td>129</td>
<td>161</td>
<td>161</td>
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</tr>
</tbody>
</table>

* Selected countries
Source: International Federation of Robotics
Ease of doing business is also uneven across-countries

EU Overview
TVET Agenda

Knowledge, Skills, Value and Attitudes for individuals to learn, work and live
- Target populations that have had limited access to skills / Inclusion
- Entitlements to Lifelong learning (LLL) opportunities for adults and the elderly
- Experience new training modalities, including through digital technology
- Prepare for jobs of the future: digital economy, creative industries, health and care

Knowledge, Skills, Value and Attitudes for economies to transition towards sustainable development
- Countries: need to align their skills agenda with economic transitions and labour market needs (new jobs)
- Private sector: central in expressing skills needs, work-based learning (WBL), investing in skills, recognizing, certifying and valuing the skills acquired

Knowledge, Skills, Value and Attitudes for inclusive and resilient societies
- More participatory governance of institutions and programmes, and encouraging young people to engage in public affairs
- Foster a culture of LLL
- the renewal of training content, skills and pedagogies including problem-based education, collaboration and civic competencies, scientific and digital and information literacy etc.
TVET Agenda

Lifelong Learning Journey
- Connecting Learning Spaces
- Understand the Learning experience
- Assessing and Recognize Learning: Micro-credentialing, stacking and interoperability
- Linking learners with relevant learning opportunities
- Culture of Lifelong Learning

Key actors
- Learners, teachers, managers
- Governance actors
- Providers

Enabling Multi-layers factors
- Quality assurance and technology-driven standards
- Funding and Partnerships
- Compliance and integration
- Interoperability
Thank you

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