Education disrupted – education rebuilt
Covid 19 and the impact on education and training
EfVET Conference – Andreas Schleicher
• 1.5bn students (and their parents) learned over the last months that learning is not a place but an activity, work-based learning hit particularly hard

• Remote learning has become the lifeline for learning but doesn’t address the social functions of education and training

• Access, use and quality of online resources amplify inequality

• Accreditation at stake

• Huge needs for just-in-time professional development

• But lots of highly innovative learning environments emerging!
Reality of unemployment during pandemic

Bad Is Unemployment? ‘Literally Off the Charts’

By Nelson D. Schwartz, Ben Caselman and Ella Koeze
May 8, 2020

-20,500,000
Jobs lost in April

New Covid-19 Layoffs Make Job Reductions Permanent

As companies brace for years of pandemic-related disruption, thousands of furloughed workers are told they won’t be coming back
Economically difficult times

OECD unemployment rate

% of labour force

- Single-hit scenario
- Double-hit scenario

COVID-19 crisis

Retraining needs

• COVID-19 crisis:
  – Limits job mobility and labour migration
  – Made some sectors and occupations non-viable
  – Heightened unemployment, reduced income and increased uncertainty, which has also led social and political unrest

• COVID-19 crisis also:
  – Increased skills demand for some sectors and occupations
  – Gave opportunity to re-build our future economy
Professions with vocational qualifications have formed the backbone of economic and social life during the pandemic.
Adults with an upper secondary vocational qualification are more likely to be employed than those with a general one…

Employment rates of 25-34 year-olds, by educational attainment and programme orientation (2019)

- Upper secondary or post-secondary non-tertiary (vocational orientation)
- Below upper secondary
- Upper secondary or post-secondary non-tertiary (general orientation)
- Tertiary
...but the employment advantage doesn’t translate into earnings

Relative earnings of adults with an upper secondary or post-secondary non-tertiary education compared to earnings of adults with below upper secondary education, (2018)
Quality learning has its price

Total expenditure on educational institutions per full-time equivalent student, in vocational and general upper secondary education programmes (2017)
It is the work-based component that increases alignment between education and work, but that the pandemic has put at stake.
Work experience while studying increases employment prospects

Employment rate of 25-34 year-olds who attained vocational upper secondary or post-secondary non-tertiary education, by type of work experience while studying (2016)
However, only one in three VET students participate in combined school- and work-based programmes on average.

Figure B7.6

Distribution of upper secondary vocational students by type of vocational programme (2018)
Looking forward – Covid 19 and beyond

1. Provide more flexible and resilient vocational training

2. Increase the use of technology in education and training

3. Focus more on training in more future-proof sectors and occupations

4. Enhance broader range of cognitive, social and emotional skills
1. More flexible and resilient means for reskilling

- Vocational education and training, including apprenticeships
  - Allow training breaks, extensions and modularisation.
  - Provide part-time, weekend or online courses and in-company training.
  - Support employers that offer apprenticeships

- Fast-track licensing and recognition of prior learning
  - Direct access to qualification exams
  - Modular training to top-up partially missing skills

- Rapid retraining
  - Essential jobs
  - Targeting workers who already had some relevant skills helped to keep training times short.
    - Short medical training to laid-off workers in the airline industry
    - Retrain hospitality workers to care for the elderly

- Training while on reduced working hours
  - Training while on short term work scheme to improve the viability of their current job or improve the prospect of finding a new job
Using new technologies
Capital flows and digitalisation of education

Education is still at an early technology adoption stage, with comparatively low market capitalisation.

Sources: HolonIQ, World Health Organization, Goldman Sachs, Standard & Poors. All figures are rounded estimates based on source research.
Venture capitalists have invested USD 7B in 2019, up from USD 2B in 2014 – mainly from China.

Source: HolonIQ, January 2019
EdTech expenditure

Advanced Education Technology Expenditure, 2018 and 2025 estimate, USD Billions

Source: HolonIQ, January 2019
Many online and distance learning and other innovative approaches such as AR, VR and AI were created, adapted and expanded.
Learning analytics

- Learning analytics helps educators personalise learning
  - in real time
  - as a reflective tool
- Data come from sensors, learning management systems and digital activities of learners
  - When should you shift to a new activity?
  - Are you losing the attention of learners?
  - How do you structure instruction time (lecture, small group, discussion, assessment, practice, etc.)?
  - Which students do you talk to and support the most?
Assessments and exams

New types of assessments through simulations and games
Adaptive assessments
Hands-on assessment in vocational settings
Increasing reliability of machine rating for essays
Predictive models may disrupt the exam model
Blockchain in accreditation

- Verification of degrees and credentials
- Development of digital degrees
- Secure and trustworthy transfer of academic records
- Lowers risks of privacy breach (given its decentralised nature)
Reconcile skill demand with individual career aspirations
3. Reconcile skills demand and career aspirations

• Forecasting economic demand requires not just data projection, but also stakeholder engagement
• For the short-term, rapid retraining in essential jobs
• For the long-term, focus more on sectors that have increasing skills demand (mostly higher skilled jobs, such as IT, BT, health and care, green sectors)
• Matching and recruitment support
• Providing career guidance and advice
4. The kind of things that are easy to teach are now easy to automate, digitize or outsource.
TWO EFFECTS OF DIGITALISATION

Tasks without use of ICT

Non routine tasks

Routine tasks

Tasks with use of ICT
TWO EFFECTS OF DIGITALISATION

Non routine tasks, Low use of ICT
Non routine tasks, High use of ICT

Routine tasks, Low use of ICT
Routine tasks, High use of ICT
Education won the race with technology throughout history, but there is no automaticity it will do so in the future.

Inspired by “The race between technology and education” Pr. Goldin & Katz (Harvard)
Skills to manage complex digital information

% 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80
55-65 Level 2 55-65 Level 3
Level 2 Level 3

Young adults (25-34) Older adults (55-65)

Finland Sweden Singapore Denmark
Netherlands Norway New Zealand Japan
Germany Greece Chile Poland
Lithuania Kazakhstan

Russian Federation² Slovak Republic
Hungary Slovenia
United States 2012/2014 Israel
Northern Ireland (UK) Ireland

OECD average United States 2017

Skills to manage complex digital information
Older adults (55-65)
Young adults (25-34)
ADDITIONAL RETURNS TO SKILLS IN DIGITAL-INTENSIVE INDUSTRIES

Source: OECD Science, Technology and Industry Scoreboard 2017, Statlink: http://dx.doi.org/10.1787/888933617472
See: Grundke et al. (2018), Which skills for the digital era? Returns to skills analysis
ICT USE and NON-ROUTINE INTENSITY ENHANCE FORMS OF LEARNING

EXPECTED EFFECT OF INCREASE FROM 50th TO 75th PCTILE OF DIGITAL EXPOSURE ON PROBABILITY OF LEARNING AT LEAST ONCE A WEEK

We used to learn to do the work, now learning is the work
We used to learn to do the work, now learning is the work.

From: Primary and secondary education  
Tertiary: specialise  
Job: Same sector

To: ECEC  
Primary and secondary education  
Tertiary: transversal  
Job  
Job  
Job  
Job  
Job

Adult upskilling and reskilling

Retire and pension
BUT: LOW-SKILLED ARE LESS LIKELY TO PARTICIPATE IN TRAINING

SHARE OF WORKERS WHO PARTICIPATED IN ON-THE-JOB TRAINING IN THE PREVIOUS YEAR BY EDUCATION LEVEL (%)

Willingness to participate in adult learning is low

Adults not willing to participate, % of 25-64 year-olds, 2012/2015

- Participated, but does not want to participate (more)
- Did not participate, and does not want to participate

Firms as learning environments

- How is the additional funding shared between Governments, employers and beneficiaries?
- What are the incentives?
- Who sets the standards?
- How are the levels of skills recognised?
- Who trains the trainers?
The digital transformation expands and diversifies education, training and learning opportunities.

The certification of skills becomes increasingly important: employers need clear signals on workers’ skills.

Firms are increasingly testing skills on their own while relying less on diplomas. How to certify skills and who should be in charge of it?

Preferred option: Independent regulated systems for skills certification?
Governance challenges

- New forms of work: fewer taxes raised
- Ageing societies: higher expenditure in health and pensions
- Decentralised information: less control
- Link between education and jobs weakened: the role of Governments risks been diminished
- Need to predict rapid changes in skills demands and respond to them
Thank you

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– All publications
– The complete micro-level database

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